

# ARCHITECTURAL RECORD



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**COVER:**  
Statler Center, Los Angeles. Sketch by Holabird & Root and Burgee, architects for the project. Model photos by Hedrich-Blessing Studio

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# THE RECORD REPORTS

## NEW LOOK AT 1951 CONSTRUCTION: VOLUME ESTIMATE UP

*Decline from Record 1950 Put at 18 Per Cent as Dodge Officials Revise*

*Outlook; Views on Nature of Building Pattern Also Reappraised*

F. W. DODGE estimates of construction volume for 1951 as published in ARCHITECTURAL RECORD last November have been revised slightly upward as a result of recent developments in the defense mobilization program.

Thomas S. Holden, president, and Clyde Shute, head of the statistical and research division of Dodge, also revised their viewpoints as to the nature of 1951 construction. It is the direction of their revision, an outlook for more construction rather than less, that is regarded as significant, rather than the size of the change.

They now expect a total decline of 18 per cent rather than the 19 per cent previously expected, as compared with the record-breaking construction volume of 1950. They anticipate that the recently ordered restrictions on commercial building will be more than compensated by increases in manufacturing plant, power plant, direct military building and civil defense construction.

The November estimate of 1951 residential building was not changed.

An optimistic view is taken by Messrs. Holden and Shute as to the status of the construction industry beyond 1951. They think that 1951 may well prove to be a transition year toward the close of which the country will have geared itself into a defense economy that will be able to support increased construction volume in future years.

Text of the revised estimate is as follows:

RECENT DEVELOPMENTS in the defense mobilization program have led us to review the construction estimates for 1951 which we made and published in November 1950 and to make certain revisions in the figures. The result of this reappraisal of the year's construction prospect is an indicated change in the

(Continued on page 260)

**TABLE 1: ESTIMATED PHYSICAL VOLUME OF BUILDING**

(in accordance with contract records for 37 eastern states; figures in millions of sq ft)

BUILDING CLASSIFICATION	YEAR 1950 ACTUAL	YEAR 1951 ESTIMATE	PERCENTAGE CHANGE
Commercial .....	122	70	- 43
Manufacturing .....	115	180	+ 57
Educational and Science .....	111	109	- 2
Hospitals and Institutional .....	45	40	- 11
Public .....	9	7	- 22
Religious .....	29	20	- 31
Social and Recreational .....	24	6	- 75
Miscellaneous Nonresidential .....	28	35	+ 25
<b>Total Nonresidential .....</b>	<b>483</b>	<b>467</b>	<b>- 3</b>
Residential .....	828	540	- 35
<b>Total Building .....</b>	<b>1311</b>	<b>1007</b>	<b>- 23</b>

**TABLE 2: ESTIMATED NUMBERS OF NEW DWELLING UNIT STARTS**

(in thousands)

	YEAR 1950 ACTUAL	YEAR 1951 ESTIMATE	PERCENTAGE CHANGE
Dodge contract award basis .....	703	450	- 36
BLS estimate basis .....	1396	850	- 39

**TABLE 3: ESTIMATED DOLLAR VOLUMES OF BUILDING AND ENGINEERING PROJECTS**

(in accordance with contract records for 37 eastern states; figures in millions of dollars)

CLASSIFICATION	YEAR 1950 ACTUAL	YEAR 1951 ESTIMATE	PERCENTAGE CHANGE
<b>TOTAL</b>			
<b>(PRIVATE AND PUBLIC OWNERSHIP)</b>			
Nonresidential .....	5182	4959	- 4
Residential .....	6741	4236	- 37
<b>Total Building .....</b>	<b>11,923</b>	<b>9195</b>	<b>- 23</b>
Public Works and Utilities .....	2578	2750	+ 7
<b>Total Construction .....</b>	<b>14,501</b>	<b>11,945</b>	<b>- 18</b>
<b>PRIVATE OWNERSHIP</b>			
Nonresidential .....	3284	2773	- 16
Residential .....	6408	3844	- 40
<b>Total Building .....</b>	<b>9692</b>	<b>6617</b>	<b>- 32</b>
Public Works and Utilities .....	399	425	+ 7
<b>Total Construction .....</b>	<b>10,091</b>	<b>7042</b>	<b>- 30</b>
<b>PUBLIC OWNERSHIP</b>			
Nonresidential .....	1898	2186	+ 15
Residential .....	333	392	+ 18
<b>Total Building .....</b>	<b>2231</b>	<b>2578</b>	<b>+ 16</b>
Public Works and Utilities .....	2179	2325	+ 7
<b>Total Construction .....</b>	<b>4410</b>	<b>4903</b>	<b>+ 11</b>

All three tables revised as of January 23, 1951.



Main entrance to the Glass Center will be reached via "bridge" across man-made pool

## CORNING'S GLASS CENTER MARKS CENTENNIAL YEAR

A BUILDING that in its own design demonstrates the varied uses of glass and its wide range of qualities is being constructed at Corning, N. Y., to provide "the world's most comprehensive facilities for research and education in glass."

Glass and steel will make the exterior walls of the two-story structure, and glass will be used also for parts of the roof, interior walls, floors and divisions.

Harrison and Abramovitz of New York are architects for the Glass Center, which has been envisioned by Corning Glass Works as a forward-looking commemoration of its 1951 centennial. Completion is expected this summer. Cost has been estimated at \$2,500,000.

A reference library, a museum and a factory for Steuben Glass, Inc., subsidiary of Corning Glass Works, will be provided in the new building. The Steuben plant will have galleries from which

spectators can observe the whole process of producing hand-blown glass, from furnace to finishing room. It was designed to be converted to defense purposes if necessary.

## LEVER OPENS PROGRAM OF EXPANSION IN ST. LOUIS

CONSTRUCTION of a \$5 million synthetic detergent plant and warehouse will mark the initiation by Lever Brothers Company of a major construction program on a 27-acre site at Pagedale, in St. Louis County, Mo.

The long-range plan will make the site one of the country's largest and most complete manufacturing centers for detergents, vegetable shortening and margarine.

The plant will include three major buildings — a six-story processing unit, a three-story structure for packaging

the product and an electric sub-station.

Construction and engineering are under contract to the Bechtel Corporation, with supervision by Lever's production vice president, W. H. Burkhart, and the Lever engineering staff.

## COLLABORATION AIDED IN JOINT COMMITTEE REPORT

PRINCIPLE AND PRACTICE both got attention in the report published last month by the Joint Committee of the Design Professions.

The report includes a general statement of the principles of collaboration and a series of outlines spelling out who does what on building projects of various types: housing projects, airfields, institutions, government buildings and industries.

The work of preparing the report was done by a joint committee of the American Institute of Architects, American Institute of Electrical Engineers, American Institute of Planners, American Society of Civil Engineers, American Society of Landscape Architects and American Society of Mechanical Engineers. The committee was established last summer, with Roy F. Larson, Philadelphia architect, as chairman of its executive group.

By writing a new set of rules for governing relations among construction designers, the committee sought to "free creative energies now wasted when the right specialist doesn't get into the job at the proper time to make his full contribution, or when empty controversy disturbs good working relations."

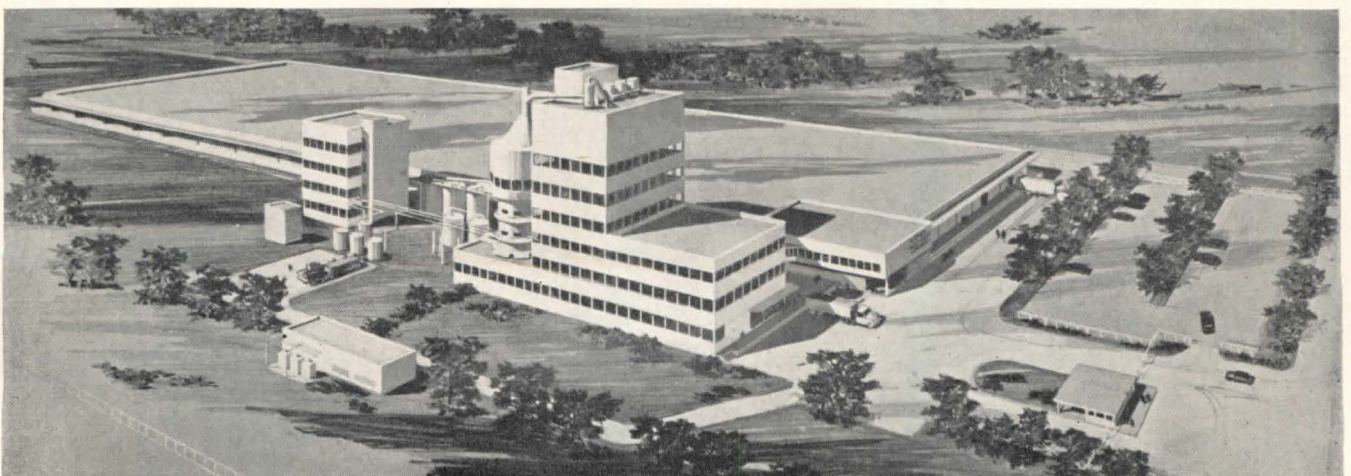


Photo of rendering shows first unit of Lever Brothers program. Warehouse connects with plant, will be central distribution point

Collaboration among specialists within the professions of architecture and engineering has long needed clarification, but this was the first authoritative attempt at comprehensive organization of work upon which several professions may be engaged. The committee traced the problem to bigger and more complex building jobs and to educational specialization.

One of the things the drafting group discovered was that putting together the work of several designers is a job all by itself. They point out that while the "center of gravity" on a complex building design job may usually deter-

mine which of several design professions has the coordinating responsibility, clients may sometimes get better results if the coordination job is given to the designer most experienced at coordination, even if his share in a particular undertaking is not the largest. To succeed fully, all designers who collaborate must work together from the beginning, and their working relations should be close and continuous, the report advises, adding that responsibility for collaboration cannot be delegated to subordinates.

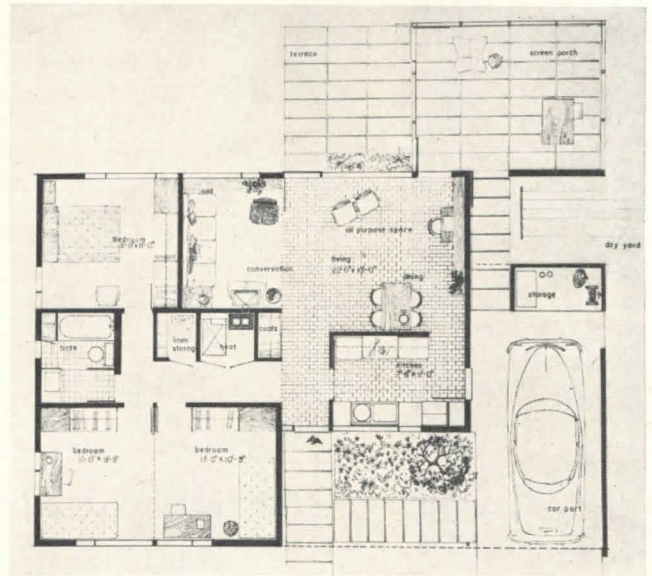
The report now goes to the individual professional societies for further con-

sideration and endorsement. Then it will be printed and made generally available. Outlines on additional types of construction may be added later.

The report-drafting group included Mr. Larson; the late A. D. Taylor, Cleveland, American Society of Landscape Architects; S. Logan Kerr, Philadelphia, American Society of Mechanical Engineers; and Joseph Ehlers, Washington representative of the American Society of Civil Engineers. Others on the Joint Committee were Frederick P. Clark, New York, American Institute of Planners; A. F. Brinckerhoff, American Society of Landscape Architects.



First prize design in the *Magazine of Building*—N.A.H.B. competition was commended by the jury for using materials and developing space to the best advantage. Other elements which the jury felt gave it overall superiority were: accessibility of entrance to all major rooms; location of bedrooms so that all have cross-ventilation; central location of utility rooms; location of fireplace on opposite side of wall from heating unit, "a large contribution toward the economical construction of the entire home"



## ARCHITECTS OFFER IDEAS TO HOME BUILDERS AT CONVENTION SESSION ON COMPETITION DESIGNS

SEEMINGLY UNDETERRED by Regulation X, thousands of home builders jammed Chicago hotels for the annual convention of the National Association of Home Builders. Talk in the exhibition halls was that they were placing orders for all sorts of equipment soon to become scarce.

Architects had a chance to display their wares at one general session on design, at which were presented the winning entrants in the house competition jointly sponsored by the N.A.H.B. and *The Magazine of Building*. Several architects were present on the speakers' platform to explain various features in the designs, and to speak generally for innovations in home planning.

The competition was planned to stimulate interest in creation of better homes in the medium-price brackets, and to bring about closer working relationships between architects and operative builders. Both parties in this pre-arranged flirtation were inclined to a certain coyness, both recognizing the natural gap between advanced design and public acceptance, though the architects especially were anxious to give it a try.

The lag in public acceptance was the subject of some discussion, until it became almost a note of apology. Cy Williams, a builder member of the jury, said plainly that builders would criticize the designs as too advanced, that the jury

recognized this problem but was also mindful of the need to look ahead toward acceptance of the newer ideas—flat roofs and so on.

Clarke Daniel, builder and moderator of the panel for this session, emphasized this note with particular reference to the wartime economy: "Great strides in structural design of the home will be made during this rearmament period. It is on research and design that the home building business must rely heavily for the next few years. Out of the difficulties of wartime economy come great pressures that help overcome traditionalism, 'stick pat-ism' and 'just won't learn-ism.'"

(Continued on page 258)



At Great Lakes Seminar: John N. Richards, A.I.A. regional director; Karl Schwartz, chairman of program; William Demarest Jr.; Donald Compton, president, Indiana Chapter A.I.A.

## 75 ARCHITECTS AT SEMINAR FOR GREAT LAKES DISTRICT

SEVENTY-FIVE ARCHITECTS from Michigan, Ohio, Kentucky and Indiana attended the seminar arranged by the Great Lakes District of the American Institute of Architects for January 19-20 in South Bend, Ind.

The meeting featured three seminars and a report from Regional Director John Richards.

Mr. Richards, who was just back from a meeting with President Ralph Walker and the regional directors, urged strong and positive cooperation with the defense effort and brought his hearers up to date on A.I.A. activities.

"Advances in Modular Coordination" was the topic of an illustrated talk in one of the seminars by William Demarest Jr., secretary for modular coordination in the Department of Education and Research of the A.I.A.

Other seminars featured new adaptations of synthetics and plastics; developments in the fastening field; and new concepts of mass sanitary facilities.

Tom Stritch, head of the Department of Journalism at the University of Notre Dame, invited the architects to consider "remarkable similarities" to the new architectural forms in contemporary development of other forms — literature as well as sculpture and painting.

## NO PANIC OVER FREEZE AT VIRGINIA A.I.A. MEETING

VIRGINIA CHAPTER, American Institute of Architects, held its winter meeting in

Below: Marcellus Wright Jr.



Richmond January 18-20, close on the heels of the National Production Authority order regulating construction of commercial buildings.

Surprisingly enough, little strong reaction to the new restrictions was reported. The feeling was that most commercial building in Virginia either was well under way or had been scared off already by material restrictions. Most architects in the state seemed to expect only slight additional inconvenience from the commercial building order.

Scheduled feature of the meeting was a joint session with regional Public Housing officials and their architects at a session on building costs presented by the PHA. The conference gave the architects a crowded day of intensive lecturing on "Planning, Design and Construction for Economy." Commissioner John Thomas Egan presided during part of the day.

A resolution that the chapter offer its services as a body to civil defense

## STRESS LIVING STANDARDS AS CRITIQUE FOR HOUSING

EMPHASIS ON THE NEED for maintaining and raising standards of livability in spite of problems coming from allocation of materials and substitutions was the major theme of the two-day conference on housing sponsored by Southwest Research Institute in Washington last month.

One of the highlights of the conference was the presentation of awards to Charles M. Goodman as "architect of the year" and Robert C. Davenport, president of Hollin Hills, Inc., as "builder of the year." The awards were made for the housing development "Hollin Hills," in Fairfax County, Virginia (ARCHITECTURAL RECORD, May 1950).

Eight other housing developments received the commendation of the architectural board of review. Architects of the projects cited, together with the locations of the projects, are:

David Runnells — Kansas City; Prof. Eugene Sternberg — Denver; Petroff and Clarkson — Waldwick, N. J.; Ain, Johnson and Day — Los Angeles; Twitchell and Rudolph — Sarasota; Cocke, Bowman & Yorke — San Antonio; Huson Jackson — Freeport, L. I.; Chiarelli and Kirk — Seattle.

planning authorities was among the developments of the business sessions. Architects were also advised that they may participate in the state's million dollar war memorial competition, which now meets A.I.A. standards.

Louie L. Scribner of Charlottesville was elected president of the chapter for 1951, succeeding Marcellus Wright Jr. of Richmond, who has held the post for the past two years. Mr. Wright was elected a director of the chapter.

Charles C. Justice of Richmond and Orin M. Bullock of Portsmouth were moved up to vice president and secretary from their former positions as secretary and treasurer; and Robert L. Brown of Roanoke became treasurer.

Honorary memberships in the chapter were presented at the meeting to Mary Wingfield Scott of Richmond, and Frederic A. Fay, landscape architect and director of Richmond's slum clearance program and low-cost housing projects.

NEWS FROM WASHINGTON by Ernest Mickel

**Large-City Bomb Shelter Policy Is Still Debated; Architects Urged to Economize on Metals in Design; Credit Restrictions Extended to Commercial Buildings as Licensing System Begins; Defense Housing Bill Under Fire; Dispersal Proposals Weighed**

PUBLICATION of a new booklet on construction of a simple type of backyard shelter, expected weeks ago, is being held up pending formulation of an overall policy on the question of bomb shelters for designated target (large-city) areas. The investigations of various phases of bomb shelter construction carried on at Lehigh University, Bethlehem, Pa., evidently will be relied upon heavily in drafting the policy for advice on nationwide shelter building.

When all reports of those surveys are correlated, and an overall policy is decided upon by top officials, a definitive manual will be issued by the FCDA. This, it is understood, will cover small and large shelters alike, above- and below-ground defense construction.

No one knows the answers now, one agency spokesman candidly admitted. The large city areas have their own problems, unique in comparison with the rest of the country. "We don't want to plunge headlong into any overall plan without sufficient previous study," the defense agency said.

Information that is considered to be the "last word" on materials and methods of construction most suitable for both underground defense area construction and for the strengthening of existing buildings is being assembled. Meanwhile, FCDA has urged local community authorities to make their own surveys of defense needs and some of these are now going forward. This recognizes the fact that requirements for bomb shelter types will differ widely in various locations.

When will the decision on overall policy be made and issued? No one seems to know that either, specifically. One agency official opined it would be "one of the earliest" decisions within FCDA as soon as that comparatively new organization

has been shaken down to a firm operating level.

Meanwhile, Civil Defense Administrator Millard Caldwell asked each state governor and authorities in U.S. possessions to take steps by March 1 which "would place civil defense activities throughout the nation on a firm footing."

These moves were suggested:

1. The passage of adequate state civil defense legislation.
2. The appointment of a thoroughly competent, fulltime director of civil defense, with a capable staff.
3. The appropriation of the needed funds for civil defense activities.

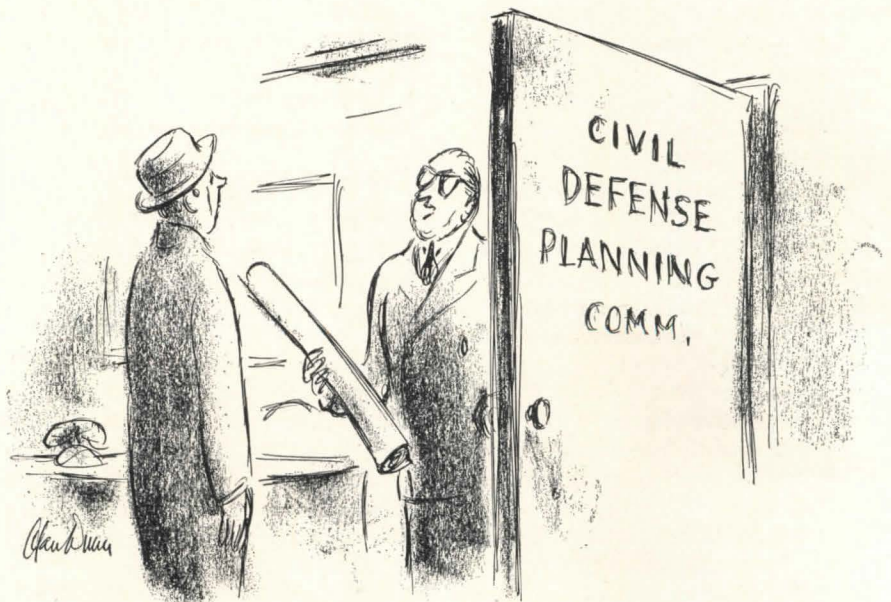
4. The establishment of an operating civil defense agency in every community in each state and territory and the District of Columbia.

By April 1, Administrator Caldwell would like to see each state and territory have in full operation a program of recruitment for civil defense volunteers in all categories, and fire and police auxiliaries fully integrated. At the same time, he asked that FCDA in Washington be kept fully informed of state and territory activities.

He said: "A sound national civil defense program in being is as necessary to our national security as armies, planes and tanks. The military services have the responsibility for warding off attacks on our homeland and striking back at the enemy. Civil defense must save lives, reduce the impact of an enemy attack and keep essential production going in order to supply the armed services. It is essential that civil defense be given a top priority in the legislative programs of the states and territories."

The construction of bomb shelter areas is considered one of the most vital phases of the complete civil defense program. This was indicated by the action of Congress in authorizing expenditure of \$2250 million as federal aid to help local communities prepare their structures and bombproof existing buildings. There

(Continued on page 16)



— Drawn for the RECORD by Alan Dunn

"It's 'No' on your idea of a combined atom bomb shelter and wine cellar——"

WASHINGTON

(Continued from page 15)

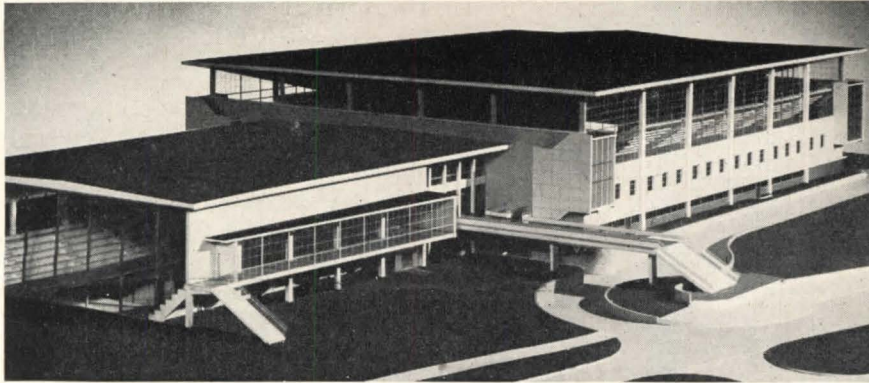


Photo of model: memorial gymnasium for University of British Columbia, Vancouver, now under construction. Architects for the project are Sharp & Thompson, Berwick, Pratt

NEWS FROM CANADA by John Caulfield Smith

**Record 1950 Reviewed as C.C.A. Holds Convention**

NEARLY 900 DELEGATES to the 33rd annual convention of the Canadian Construction Association met recently at Quebec City to survey the progress of their industry and to assess the impact made on it by defense needs.

President Robert Drummond keynoted the convention with his warning that prophecy, always risky, "is especially so today."

The meaning of 1950 to the construction industry was explored in the reports of many speakers. Collectively, their remarks recalled three main developments:

1. A new record, both in dollar value and physical volume.
2. A rise in costs.
3. A switch in emphasis, with the defense category gaining dominance.

Construction contract awards compiled by MacLean Building Reports Ltd. totaled \$1½ billion, a 34 per cent increase over 1949, indicating an above-average carry-over into 1951.

However, figures on the value of work put in place invariably exceed those on contract awards. Government estimates for the total value of construction completed by contractors and governments, companies and individuals working on their own account during 1950 amount to \$3.1 billion, or 15 per cent more than the total for 1949.

This increased volume greatly affected availability of materials and manpower

and the level of construction costs. Perhaps only half of the 15 per cent increase in dollar value referred to represents an increase in physical volume.

For the first five months of 1950, as throughout the entire year of 1949, average materials prices declined moderately and the brightening supply picture eliminated expensive on-site delays and helped offset rising labor costs.

Reappearance of shortages and delays and wage increases in the construction, manufacturing and transportation industries from June onwards were reflected in higher on-site labor and material costs. Although these rises were tempered by improved techniques and exceedingly keen competition, average construction costs are now from 10 to 15 per cent higher than a year ago.

**Changed Emphasis**

Major problem ahead is that of executing a tremendous defense construction program on top of record-breaking civilian demand for construction of all kinds. The projected \$1¼ billion defense program, together with increased shipbuilding, freight car and allied requirements, will place additional demands on construction materials and equipment, foreshadowing serious shortages. Certain controls affecting basic materials have already been imposed by the government.

The C.C.A., reflecting its feeling that cutbacks and controls are a negative approach to the problem, pledged

(Continued on page 252)

was no cash for these outlays, however, until Congress enacted the new appropriation laws.

The United States Chamber of Commerce has issued a policy statement on the civil defense program. Existing structures, it said, should be adapted for civil defense protection whenever possible and construction of new bomb shelters held to a minimum.

The Chamber pointed out the urgent need for training of personnel and for the development of civil defense programs at the local level immediately. In no event, the organization feels, should the federal share of cost be more than 50 per cent.

**Design Theme: Save Metals**

Necessity was focusing skills of architects and engineers across the nation on the problem of economizing on metals in design.

Building materials were affected again in National Production Authority orders prohibiting certain specific uses of copper and aluminum. These complemented earlier limitation orders curtailing the amounts of aluminum, copper, zinc, tin and other metals which may be used in the production of building materials (among other items).

As the "temporary" freeze on commercial construction ended on February 15, an inevitably fluid materials situation remained the only clue to the kind of interpretation the National Production Authority would apply to the licensing system set up by its January order amending M-4.

Out of the horse's mouth there was the statement of J. L. Haynes, director of the Building Materials Division of the NPA, at the National Association of Home Builders' convention in Chicago.

"Architects and engineers would be well advised to spend quite a bit of time on economy of metals in design — the advantages of the use of standard types and sizes cannot be overemphasized."

Mr. Haynes, whose division is one of five in the NPA's Facilities and Construction Bureau, headed by Frank

(Continued on page 18)



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Jacksonville District  
Post Office Box 4970  
Jacksonville, Florida  
Florida east of St. Marks River

District Engineer  
Mobile District  
Post Office Box 1169  
Mobile 7, Alabama  
Tennessee west of 87th meridian, Holston Ordnance Works and Cambria Range, Tennessee; Alabama; Mississippi; Fort Benning and Lawson AFB, Georgia; and Florida west of St. Marks River

District Engineer  
Charleston District  
33 Customhouse  
Charleston 1, South Carolina  
South Carolina exclusive of Fort Jackson

District Engineer  
Tulahoma District  
Post Office Box 2091  
Tulahoma, Tennessee  
Arnold Engineering Development Center, Tennessee

Division Engineer  
**SOUTHWESTERN DIVISION**  
1114 Commerce Street  
Dallas 2, Texas

District Engineer  
Tulsa District  
Post Office Box 61  
Tulsa 2, Oklahoma  
Oklahoma and northern fringe of Texas, including panhandle

District Engineer  
Little Rock District  
300 Broadway  
Little Rock, Arkansas  
Arkansas and Louisiana north of and including Sabine, Natchitoches, Rapides, La Salle, Catahoula and Concordia Counties

District Engineer  
Galveston District  
Post Office Box 1229  
Galveston, Texas  
Southern Texas except extreme western area and Louisiana south of Sabine, Natchitoches, Rapides, La Salle, Catahoula and Concordia Counties

District Engineer  
Fort Worth District  
1127 Texas and Pacific Building  
Fort Worth, Texas  
Central Texas

District Engineer  
Albuquerque District  
Post Office Box 1538  
Albuquerque, New Mexico  
New Mexico and western area of Texas, principally south of New Mexico line

Division Engineer  
**GREAT LAKES DIVISION**  
1660 East Hyde Park Boulevard  
Chicago 15, Illinois

District Engineer  
Chicago District  
520 Merchandise Mart  
Chicago 54, Illinois  
Wisconsin, Illinois and all Indiana except Floyd, Clark and Jefferson Counties

District Engineer  
Detroit District  
65 Cadillac Square  
Detroit 26, Michigan  
Michigan

Division Engineer  
**OHIO RIVER DIVISION**  
Post Office Box 1159  
Cincinnati 1, Ohio

District Engineer  
Louisville District  
Post Office Box 59  
Louisville 1, Kentucky  
Kentucky and three counties in Indiana: Floyd, Clark and Jefferson; also Montgomery County, Ohio

District Engineer  
Huntington District  
Madison Avenue and 8th Street W.  
Huntington, West Virginia  
Ohio except Montgomery County; and West Virginia

Division Engineer  
**MISSOURI RIVER DIVISION**  
Post Office Box 1216  
Omaha 1, Nebraska

District Engineer  
Omaha District  
1709 Jackson Street  
Omaha 2, Nebraska  
Wyoming, Colorado, North Dakota, South Dakota, Nebraska, Iowa and Minnesota

District Engineer  
Kansas City District  
10 East 17th Street  
Kansas City 8, Missouri  
Kansas and Missouri

Division Engineer  
**SOUTH PACIFIC DIVISION**  
Oakland Army Base  
Oakland 14, California

District Engineer  
Los Angeles District  
Post Office Box 5180  
Metropolitan Station  
Los Angeles, California  
Southern part of California and Arizona; Lincoln and Clark Counties, Nevada

# DIRECTORY OF GOVERNMENT CONSTRUCTION OFFICIALS

## SOUTH PACIFIC DIVISION ARMY CORPS OF ENGINEERS (CONTINUED)

District Engineer  
San Francisco District  
Post Office Box 3050  
Rincon Annex  
San Francisco 19, California  
Central part of California; Nevada except  
Lincoln and Clark Counties, and Utah

District Engineer  
Sacramento District  
1209 8th Street  
Sacramento 8, California  
Northern part of California

District Engineer  
Manila District  
APO 928  
c/o Postmaster  
San Francisco, California  
Philippine Islands

Division Engineer  
**NORTH PACIFIC DIVISION**  
10th Avenue and Washington Street  
Portland 5, Oregon

District Engineer  
Seattle District  
4735 East Marginal Way  
Seattle 4, Washington  
Washington, Oregon, Idaho and Montana

District Engineer  
Alaska District  
Anchorage, Alaska  
Alaska

## NAVY DISTRICT PUBLIC WORKS OFFICERS

Capt. Kenneth A. Godwin, CEC, USN  
First Naval District  
495 Summer Street  
Boston 10, Massachusetts  
Maine, New Hampshire, Vermont, Massachusetts, Rhode Island

Capt. Martin W. Kehart, CEC, USN  
Third Naval District  
Federal Office Building  
90 Church Street  
New York 7, New York

Connecticut; New York; northern part of  
New Jersey, including county of Monmouth  
and all counties north thereof except Mercer

Capt. P. M. Jeffords, CEC, USN  
Fourth Naval District  
Building # 1, Navy Yard  
Philadelphia, Pennsylvania

Pennsylvania; southern part of New Jersey,  
including counties of Mercer, Burlington,  
Ocean, and all counties south thereof; Delaware; Ohio

Capt. W. O. Hiltabidle, CEC, USN  
Fifth Naval District  
Naval Station  
Norfolk, Virginia

Maryland, except Anne Arundel, Prince  
Georges, Montgomery, St. Marys, Calvert,  
and Charles Counties; West Virginia; Virginia,  
except Arlington, Fairfax, Stafford,  
King George, Prince William, and Westmoreland  
Counties and the City of Alexandria;  
Kentucky

Capt. Carl W. Porter, CEC, USN  
Potomac River Naval Command  
Naval Gun Factory  
Washington, D. C.

Potomac River up to the Great Falls; the  
District of Columbia; the counties of Prince  
Georges, Montgomery, St. Marys, Calvert,  
and Charles in Maryland; and Arlington,  
Fairfax, Stafford, King George, Prince William,  
and Westmoreland Counties, and the  
City of Alexandria in Virginia

Capt. Horace B. Jones, CEC, USN  
Severn River Naval Command  
Annapolis, Maryland  
County of Anne Arundel, Maryland

Capt. Walter T. Eckberg, CEC, USN  
Sixth Naval District  
Naval Base  
Charleston, South Carolina  
South Carolina, Georgia, North Carolina,  
Florida, Alabama, Mississippi, Tennessee

Capt. William B. Howard, Jr., CEC,  
USN  
Eighth Naval District  
Building 16, U. S. Naval Station  
(Algiers) New Orleans 14, Louisiana  
Louisiana, Arkansas, Oklahoma, Texas, New  
Mexico

Cdr. Madison Nickols, CEC, USN  
Ninth Naval District  
Naval Training Center  
Great Lakes, Illinois  
Michigan, Indiana, Illinois, Wisconsin, Minnesota,  
Iowa, Missouri, North Dakota, South  
Dakota, Nebraska, Kansas, Colorado, Wyoming

Capt. Ira P. Griffin, CEC, USN  
Tenth Naval District  
Navy Number 116  
Fleet Post Office  
New York, New York  
Caribbean Area

Capt. Charles R. Johnson, CEC, USN  
Eleventh Naval District  
Public Works Building  
San Diego, California

Arizona, Clark County in Nevada, southern  
part of California, including counties of  
Santa Barbara, Kern, and San Bernardino  
and all counties south thereof

Capt. Howard F. Ransford, CEC, USN  
Twelfth Naval District  
Federal Office Building  
San Francisco, California

Utah; Nevada, except Clark County; northern  
part of California, including counties of  
San Luis Obispo, Kings, Tulare, Inyo, and  
all counties north thereof

Capt. Arthur C. Eberhard, CEC, USN  
Thirteenth Naval District  
U. S. Naval Station  
Seattle 99, Washington  
Washington, Oregon, Idaho, Montana

Capt. Wallace B. Short, CEC, USN  
Fourteenth Naval District  
Navy Number 128  
Fleet Post Office  
San Francisco, California  
Hawaiian Islands and islands to westward,  
including Midway, Wake, Kure, Johnston,  
and Sands Islands, and Kingman Reef

Capt. Oscar L. Carlson, CEC, USN  
Fifteenth Naval District  
Box P, Navy Number 121  
Fleet Post Office  
New York, New York  
Panama Canal Zone

Capt. William F. Wesanen, CEC, USN  
Seventeenth Naval District  
Kodiak, Alaska  
Alaska and Aleutians

## CAA REGIONAL AND DISTRICT OFFICES

### REGION ONE

Chief, Airports Division  
Civil Aeronautics Administration  
Federal Building  
New York International Airport  
Jamaica, Long Island, New York

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 29  
Augusta State Airport  
Augusta, Maine

District 1 — Maine, New Hampshire, Vermont

District Airport Engineer  
Civil Aeronautics Administration  
2200 U. S. Custom House  
Boston 9, Massachusetts  
District 2 — Massachusetts, Connecticut,  
Rhode Island

District Airport Engineer  
Civil Aeronautics Administration  
112 State Street, Room 1112  
Albany, New York  
District 3 — New York

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 214  
Harrisburg State Airport  
New Cumberland, Pennsylvania  
District 4 — Pennsylvania

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 3187  
New Castle County Airport  
Wilmington 4, Delaware  
District 5 — Delaware, Maryland, New  
Jersey

**REGION ONE CONTINUED**

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 1616  
625 East Main Street  
Richmond 3, Virginia  
District 6 — Virginia

District Airport Engineer  
Civil Aeronautics Administration  
Kanawha County Court House  
Charleston, West Virginia  
District 7 — West Virginia

**REGION TWO**

Chief, Airports Division  
Civil Aeronautics Administration  
50 7th Street, N.E.  
Atlanta 3, Georgia

District Airport Engineer  
Civil Aeronautics Administration  
Old Post Office Building  
Montgomery, Alabama  
District 1 — Alabama

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 146  
International Airport  
Miami 48, Florida  
District 2 — Florida

District Airport Engineer  
Civil Aeronautics Administration  
A. G. Rhodes Building  
78 Marietta Street, N.W.  
Atlanta 3, Georgia  
District 3 — Georgia

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 1727  
Building 334, Jackson AFB  
Jackson 114, Mississippi  
District 4 — Mississippi

District Airport Engineer  
Civil Aeronautics Administration  
Room 124, U. S. Custom House  
Wilmington, North Carolina  
District 5 — North Carolina, South Carolina

Airports Division  
Civil Aeronautics Administration  
Capital Airport  
Post Office Box 1085  
Columbia, South Carolina  
District 5 — Sub-Office for South Carolina

District Airport Engineer  
Civil Aeronautics Administration  
Army Building 104  
Berry Field  
Nashville, Tennessee  
District 7 — Tennessee

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 4764  
San Juan, Puerto Rico  
District 8 — San Juan, Puerto Rico

**REGION THREE**

Chief, Airports Division  
Civil Aeronautics Administration  
O'Hare Field  
Chicago International Airport  
Park Ridge, Illinois

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 1827  
Room 303, Federal Building  
Minot, North Dakota  
District 1 — North Dakota

District Airport Engineer  
Civil Aeronautics Administration  
Room 420, Commerce Building  
4th and Wabasha Streets  
St. Paul 1, Minnesota  
District 2 — Minnesota

District Airport Engineer  
Civil Aeronautics Administration  
638 State Street  
Madison 3, Wisconsin  
District 3 — Wisconsin

District Airport Engineer  
Civil Aeronautics Administration  
Room 301, Elks Building  
509 South 6th Street  
Springfield, Illinois  
District 4 — Illinois

District Airport Engineer  
Civil Aeronautics Administration  
360 Massachusetts Avenue  
Indianapolis 4, Indiana  
District 5 — Indiana

District Airport Engineer  
Civil Aeronautics Administration  
Bowman Field  
Louisville 5, Kentucky  
District 6 — Kentucky

District Airport Engineer  
Civil Aeronautics Administration  
209 South High Street  
Columbus 15, Ohio  
District 7 — Ohio

District Airport Engineer  
Civil Aeronautics Administration  
407-11 North Washington Avenue  
Lansing 30, Michigan  
District 8 — Michigan

**REGION FOUR**

Chief, Airports Division  
Civil Aeronautics Administration  
Post Office Box 1689  
Fort Worth 1, Texas

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 1397  
Adams Field  
Little Rock, Arkansas  
District 1 — Arkansas

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 2311  
Harding Field  
Baton Rouge, Louisiana  
District 2 — Louisiana

District Airport Engineer  
Civil Aeronautics Administration  
Post Office 959  
Radio Plaza, 208 East Marcy Street  
Santa Fe, New Mexico  
District 3 — New Mexico

District Airport Engineer  
Civil Aeronautics Administration  
Room 406, Municipal Building  
Oklahoma City, Oklahoma  
District 4 — Oklahoma

District Airport Engineer  
Civil Aeronautics Administration  
1310 Congress Avenue  
Austin, Texas  
District 5 — East Texas

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 1592  
Municipal Airport  
Big Spring, Texas  
District 6 — West Texas

**REGION FIVE**

Chief, Airports Division  
Civil Aeronautics Administration  
2311 City Hall  
Kansas City 6, Missouri

District Airport Engineer  
Civil Aeronautics Administration  
2705 City Hall  
Kansas City 6, Missouri  
District 1 — Missouri

District Airport Engineer  
Civil Aeronautics Administration  
2705 City Hall  
Kansas City 6, Missouri  
District 2 — Kansas

District Airport Engineer  
Civil Aeronautics Administration  
215 Jewett Building  
9th and Grand  
Des Moines 9, Iowa  
District 3 — Iowa

District Airport Engineer  
Civil Aeronautics Administration  
411 Trust Building  
Lincoln, Nebraska  
District 4 — South Dakota, Nebraska

District Airport Engineer  
Civil Aeronautics Administration  
Stapleton Airfield  
Denver 7, Colorado  
District 5 — Colorado, Wyoming

**REGION SIX**

Chief, Airports Division  
Civil Aeronautics Administration  
5651 West Manchester Avenue  
Los Angeles 45, California

District Airport Engineer  
Civil Aeronautics Administration  
5651 West Manchester Avenue  
Los Angeles 45, California  
District 1 — South California (south of Fresno)

District Airport Engineer  
Civil Aeronautics Administration  
206 Appraisers Building  
630 Sansome Street  
San Francisco 11, California  
District 2 — North California (Fresno and north)

District Airport Engineer  
Civil Aeronautics Administration  
707½ West Thomas Road  
Phoenix, Arizona  
District 3 — Arizona

District Airport Engineer  
Civil Aeronautics Administration  
Salt Lake City Municipal Airport # 1  
CAA Building  
Salt Lake City, Utah  
District 4 — Utah

# DIRECTORY OF GOVERNMENT CONSTRUCTION OFFICIALS

CAA

## REGION SIX CONTINUED

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 49  
Room 3, Second Floor  
319 North Carson Street  
Carson City, Nevada  
District 5 — Nevada

## REGION SEVEN

Chief, Airports Division  
Civil Aeronautics Administration  
Exchange Building  
2nd and Marion Streets  
Seattle 8, Washington

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 3224  
CAA Building  
Boeing Field  
Seattle 8, Washington  
District 1 — Washington

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 157  
Montana Building  
Helena, Montana  
District 2 — Montana

District Airport Engineer  
Civil Aeronautics Administration  
460 North High Street  
Salem, Oregon  
District 3 — Oregon

District Airport Engineer  
Civil Aeronautics Administration  
Post Office Box 2618  
1412 West Idaho Street  
Boise, Idaho  
District 4 — Idaho

## REGION EIGHT

Regional Administrator  
Civil Aeronautics Administration  
Post Office Box 440  
Anchorage, Alaska

## REGION NINE

Chief, Airports Division  
Civil Aeronautics Administration  
Post Office Box 4009  
Honolulu 12, T. H.

## ATOMIC ENERGY COMMISSION

### Operations and Area Officers

Manager	AEC Field Division Directors	Principal Operating Contractor
A. Tammaro, Manager Chicago Operations U. S. Atomic Energy Comm. P. O. Box 6140-A Chicago 80, Illinois	J. E. Armstrong Director, Division of Engineering	University of Chicago (Argonne National Laboratory)
* David F. Shaw, Manager Hanford Operations U. S. Atomic Energy Comm. P. O. Box 550 Richland, Washington	John I. Thomas Chief Engineer, Office of Engineering and Construction	General Electric Co.
L. E. Johnston, Manager Idaho Operations U. S. Atomic Energy Comm. P. O. Box 1221 Idaho Falls, Idaho	Allan C. Johnson Chief, Engineering and Construction Division	American Cyanamid Co. & Phillips Petroleum Co.
W. E. Kelley, Manager New York Operations U. S. Atomic Energy Comm. P. O. Box 30, Ansonia Station New York 23, New York	Donald C. Moore Director, Staff Engineering Division	Associated Universities, Inc. (Brookhaven National Laboratory)
R. W. Cook, Manager Oak Ridge Operations U. S. Atomic Energy Comm. Oak Ridge, Tennessee	Ned Williams Director of Production and Engineering	Carbide and Carbon Chemicals Division Union Carbide & Carbon Corp. and Monsanto Chemical Company
K. A. Dunbar, Manager Kentucky Area Office Oak Ridge Operations Paducah, Kentucky	Robert J. Brown Chief, Construction- Engineering Division	Carbide and Carbon Chemicals Division, Union Carbide & Carbon Corp.
Carroll L. Tyler, Manager Santa Fe Operations U. S. Atomic Energy Comm. P. O. Box 1539 Los Alamos, New Mexico	Reuben E. Cole Director, Office of Engineering-Construction	University of California and Sandia Corporation
Jon D. Anderson, Manager Schenectady Operations U. S. Atomic Energy Comm. P. O. Box 1069 Schenectady, New York	Stanley W. Nitzman Chief, Construction and Engineering Division	General Electric Co.
Jesse C. Johnson, Manager Raw Materials Operations U. S. Atomic Energy Comm. Washington 25, D. C.	George G. Gallagher Deputy Assistant Manager, Domestic Procurement	None
** Curtis A. Nelson, Manager Savannah River Operations Municipal Auditorium Augusta, Georgia	George H. Christensen Chief, Construction, Engineering & Production	E. I. duPont de Nemours and Company

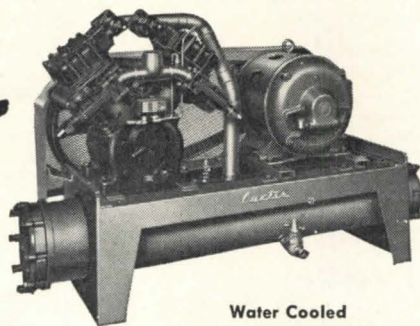
\* On engineering and construction matters, address: Manager, Design and Construction Divisions, General Electric Nucleonics Project, Richland, Washington.

\*\* On engineering matters address: Manager, Design Division, E. I. duPont Company, Wilmington, Delaware. On construction matters: Manager, Construction Division, same company.

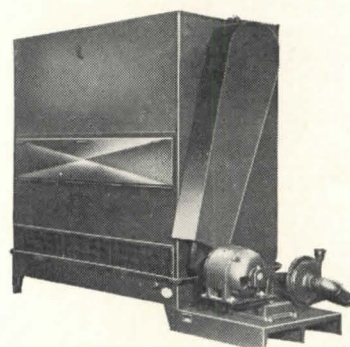
*Specify* **CURTIS AIR CONDITIONING**  
with **CONFIDENCE**

*Here's Why ...*

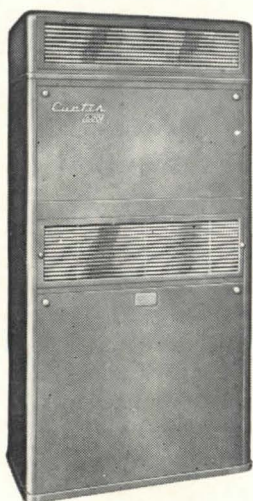
- Many years of outstanding performance records have given Curtis units an earned reputation for trouble-free operation.
- There are 97 years of successful engineering and manufacturing experience "built in" all Curtis equipment.
- Curtis packaged units are completely assembled, eliminating expensive on-the-job labor.
- No expense has been spared in building Curtis units . . . yet they're competitively priced.
- Curtis units will handle any air conditioning or refrigeration requirement.
- A new 1951 Curtis Architects Manual will be sent upon request to licensed architects. Use your own letterhead, please.



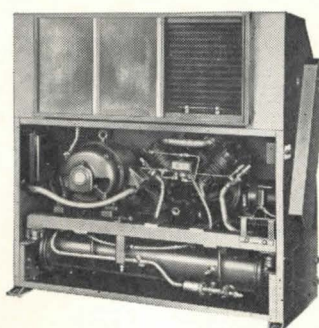
Water Cooled  
Condensing Units  
—through 40 Tons



Evaporative condensers to  
match—cooling towers—  
and air handling units



2, 4, 6, 8 Ton—  
Packaged Types



Central Type—  
10-15 Ton

97 Years of Successful Manufacturing

*See the Curtis  
Catalog in*

**Sweet's  
Architectural  
File**

R-51-4

**Curtis**

**Curtis Refrigerating Machine Division**  
of Curtis Manufacturing Company  
1986 Kienlen Avenue, St. Louis 20, Missouri

## THE RECORD REPORTS

WASHINGTON (Cont. from p. 16)

Creedon, spoke in a panel discussion on the outlook for supply and distribution of building materials in 1951.

Mr. Haynes described as "really worth praying for" the kind of production increase which would make it possible for a lot of the defense effort to be put on top of the national economy rather than taken out of it. Here he was echoing a favorite theme of Defense Mobiliza-

tion Director Charles E. Wilson, who, as Mr. Haynes reminded his hearers, has been quoted as saying that among our needs for the defense of America today there are three things: production, production and production.

"In the coming months," said Mr. Haynes, "you will probably see quite a bit of emphasis on conservation through simplification and standardization of

product lines. For example, I hope, because of fuel savings, that we can continue to afford metal weatherstrip, but the manufacturers and ourselves are both agreed that a lush selection of types and sizes is no longer warranted."

### Credit Controls Expanded

On the eve of the inauguration of NPA's licensing system for commercial construction, the Federal Reserve Board acted to expand its original Regulation X, which curbed residential construction credits, to include commercial buildings as well.

The Board amended Regulation X to limit loans permitted for the building of commercial structures to 50 per cent of the value of the property, with "value" defined as the bona fide sales price in the case of a sale or "the appraised value as determined in good faith by the lender extending credit."

"Essential" building, including structures necessary for production, was exempted.

The 50 per cent limitation was also applied on all repair, enlargement, alteration and reconstruction jobs on existing commercial buildings if the cost of the improvement exceeds 15 per cent of the building's appraised value.

Exemptions included credits for schools, hospitals, churches, public utilities and property constructed for use by the government or any political subdivision.

Also exempt are buildings for use by mining or manufacturing businesses or for various farm uses if more than 80 per cent of the floor space of the new building is used for production.

### Wanted: M-4 Permits

Architects and engineers as well as contractors had another item of required reading after the M-4 permit applications became available late in January.

The application form (NPAF-24) could be obtained at all Department of Commerce field offices, but could be filed only at the regional offices.

As a general rule, the 14 regional offices and four district offices enumerated by the NPA were authorized to make decisions on and issue permits for construction not in excess of \$1 million. Applications on projects involving larger sums were to be referred to Washington.

(Continued on page 20)

# philippine mahogany

low cost  
tropical  
hardwood  
for  
RESIDENTIAL  
and  
COMMERCIAL  
USE



#### PANELING

For luxurious interiors at low cost, specify Philippine Mahogany—the most beautiful and practical of fine tropical hardwoods.



#### FIXTURES

Mantles, doors, cabinets, staircases and other fixtures of Philippine Mahogany add character and prestige to all types of buildings.



#### TRIM

Natural, or in a wide range of lustrous finishes, Philippine Mahogany trim is beautiful—permanent, will always complement any style interior, any decorative scheme.

Beautiful Permanent Economical

JUST OFF  
THE PRESS  
LARGE  
4-COLOR  
BOOKLET ON  
PHILIPPINE  
MAHOGANY



#### SEND FOR YOUR FREE COPY TODAY!

This new 12-page booklet, in full color, shows many actual installations of Philippine Mahogany in both homes and commercial buildings.

Other available literature includes:

4-color folder showing 12 beautiful finishes, including finishing specifications.

Booklet giving technical data on finishing.

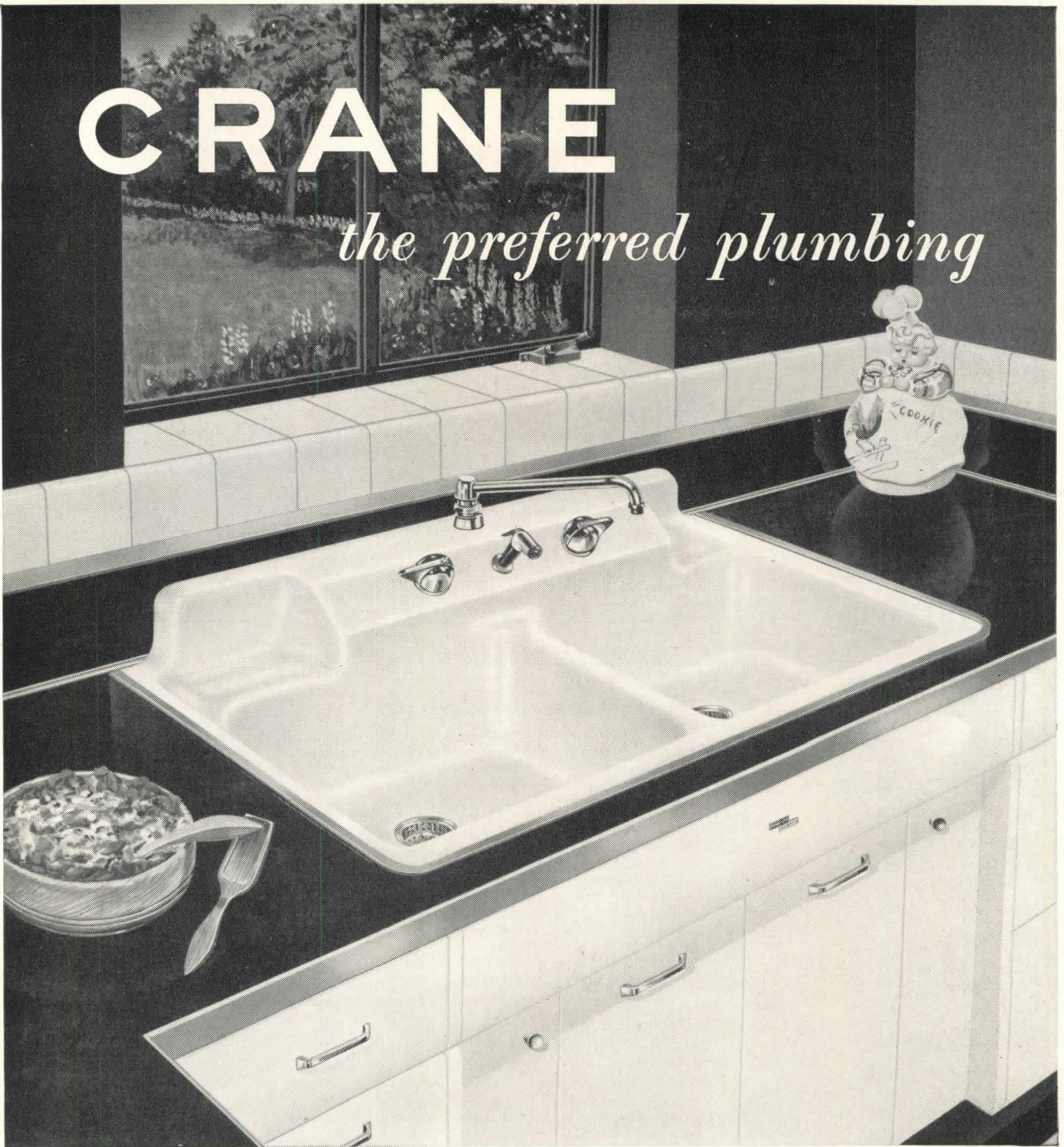
16-page folder showing many interesting uses of Philippine Mahogany.

PHILIPPINE MAHOGANY ASSOCIATION, INC.  
111 West Seventh Street, Los Angeles 14, California



# CRANE

*the preferred plumbing*



**ALL-AMERICAN COUNTER-TOP SINK.** One-piece construction of porcelain enameled cast iron—in white and eight Crane colors. Two 8-inch deep basins, 17" x 15½". Four-inch high back. Chromium-plated trim includes *Dial-ese* controls, swinging mixing spout, retractable hose spray. Overall size: 38" x 22". Consult your Crane Branch or Crane Wholesaler.

# CRANE

CRANE CO., GENERAL OFFICES:  
836 S. MICHIGAN AVE., CHICAGO 5  
PLUMBING AND HEATING  
VALVES • FITTINGS • PIPE

## THE RECORD REPORTS

The same group of offices also had been authorized to act on all "hardship" cases. "Hardship" was being defined as a situation in which the construction process was not legally commenced under terms of M-4, but where it actually had progressed to such an extent that, if halted, undue hardship and substantial unrecoverable financial loss would be caused. Immediate processing of peti-

### WASHINGTON (Cont. from p. 18)

tions in such cases was authorized early in February, but those involving larger jobs were still being forwarded to Washington.

#### Form Lists 22 Questions

Somewhat formidable in its listing of 22 general questions, the four-page form is divided into five major sections and carries these general instructions: Form

NPAF-24 is to be used in making application for a permit to commence construction for those buildings or structures in List "B" or to request an exception to Order M-4 which will permit commencement of construction of those buildings, structures or projects in List "A" or in List "B." One original signed copy of this form should be filed with supporting papers with the Regional Office of the Department of Commerce having jurisdiction in the area where the project is to be built.

List A refers to the amusement, recreational and entertainment categories specifically banned in M-4, and List B



**NO SPECIAL TOOLS**, no wetting or tape needed for this revolutionary new vinyl plastic.



**STRETCHES IN EVERY DIRECTION.** Work is tacked without wrinkles or creases.



**WILL NOT BAG OR WRINKLE**—work is smooth for the life of the upholstery.

## Now—Upholster with Elastic Ease!



**EASES AWAY DIFFICULT PROBLEMS.** Elastic Naugahyde flows into the curved back—stretches to a perfect fit, result: Unbelievably fine work, even on furniture with severe curves.

### NEW! REVOLUTIONARY E-L-A-S-T-I-C U.S. NAUGAHYDE!

- makes difficult jobs easy
- makes new designs possible
- reduces costs — no waste — less labor

U. S. Elastic Naugahyde took five years to develop — has been thoroughly pre-tested on hundreds of upholstery problems, for almost two years!

**PROVEN!** It EASES into beautifully smooth results with little trouble. It stays permanently soft and pliant. Production line stacked patterns can be cut with electrical knives. Resists scuffing, tearing, weather. Will not crack or flake. Impervious to oils, greases, gasolines, alkalis. Washes with soap and water. Our greatest NAUGAHYDE!

**IDEAL** for difficult jobs: Chairs, sofas, reclining rockers, formerly so complicated to tailor.

**PRACTICAL** for outdoor furniture, automobile or yachting upholstery.

**BEAUTIFUL** with the "Everlasting" color and endurance of Naugahyde!

**COMBINES** special elastic supporting fabric and elastic plastic coating.

**COLORS** on order and 5 stock colors; 30 to 40 yard rolls; 47 inches wide.

Compatible with U. S. Kylon Foam; may be used without a barrier.



**LOOK FOR THIS LABEL**



**UNITED STATES RUBBER COMPANY**

COATED FABRICS DEPARTMENT • MISHAWAKA, INDIANA

### Goals for Architects

In his letter to all members of the American Institute of Architects after NPA imposed restrictions on commercial construction, President Ralph T. Walker had this to say:

"We architects will have two new tasks. We must help our owners satisfy the licensing requirement by proving necessity in order that work may proceed. But equally important, we must explore the inventive use of materials in structures, so as to save materials in short supply. Our job then is to endeavor to construct well and permanently.

"I know you will show the courage and initiative the times require, and, with both, you and the profession as a whole will come through surprisingly well."

covers those types of commercial structures affected by the amendment.

The administering agency carried its emphasis on material supply into the application form itself. Those asking for permission to build commercial structures are required to list total quantities of specified building materials and equipment their project and any auxiliary facilities would require. In doing this, such items as flashings, gutters, downspouts, heating ducts, heat pipes, water pipes, gas pipes, etc., are converted to tons or pounds of basic metals in order to give NPA a clearer picture of demand to be placed upon available supply.

Under the heading "Building Materi-

(Continued on page 22)



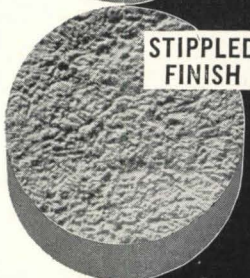


# Thorsealing can be Beautiful

WHISK  
BROOM



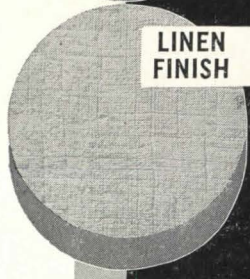
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WASHINGTON

(Continued from page 20)

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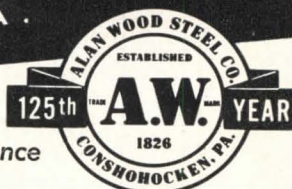
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als," specific quantities are called for in each of these 10 categories: steel shapes and piling, steel plates, steel sheets, concrete reinforcing steel, Portland cement, lumber (dimension), plywood (softwood), hard board, gypsum board and other wall board. Under "Building Equipment," NPA requires the applicant to list quantities his proposed structure would require of these items: steel pipe, CI soil pipe and fittings, electric outlets (switches, receptacles, etc.), metallic conduit, lighting fixtures, plumbing fixtures, steel furnaces or boilers, CI boilers and water heaters.

**Regulation X Relaxations**

Meanwhile, the demand for many of these items, as they are used in housing, was about to be increased in certain designated areas through the relaxation of Regulation X credit restrictions by the Housing and Home Finance Agency and the Federal Reserve System. This move was directed at getting more new housing construction quickly in those localities where increased military or industrial activity due to the defense effort has created a pressing demand.

Regions immediately under consideration for lifting the lid a bit to encourage more new home building included San Diego, California, and the South Carolina area selected by the Atomic Energy Commission for construction of its H-bomb materials plants. Federal Housing Administration had investigators in each of these places to ascertain the need for slacking off the credit curb.

In testimony to the Banking committees, given in connection with the multi-billion dollar defense housing bill, Housing Administrator Raymond M. Foley said some form of housing relief might have to be given quickly to those areas which were obviously defense areas. Much of the testimony given on the housing measure has indicated that acute housing shortages are developing in many places in the country right now. These critical conditions cannot wait, it was said, for enactment of the new housing measure and its later application. There seemed to be general agreement that an immediate relaxation of Regula-

tion X on a selective regional basis would provide the best answer to the problem now.

Private builders, on the other hand, called for this as the most effective method of providing needed housing accommodations rapidly. The Board of Directors of the National Association of Home Builders, at the recent Chicago convention, issued a policy statement which contained the following declaration:

"The credit curbs of October 12 should be relaxed in areas designated as 'defense areas' so that as many homes as possible may be produced under existing legislation."

### Defense Housing Debated

Following up on this in his testimony given the House Banking committee on the defense housing bill, N. A. H. B. President W. P. ("Bill") Atkinson explained that the directors were unanimous in approving that part of their policy statement. By relaxing Regulation X, said Atkinson, housing construction of various types, both for rental and for sale, would be encouraged now while the supply of critical building materials, particularly metal items, is reasonably adequate. Further delays in relaxing the curb could only result in frantic efforts to stimulate construction at a later date under much greater difficulties than now exist, he argued.

The full policy statement of N. A. H. B. follows:

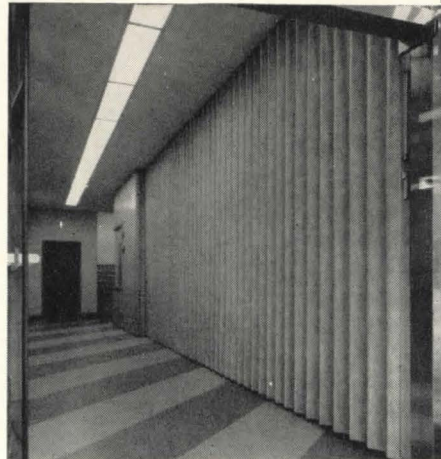
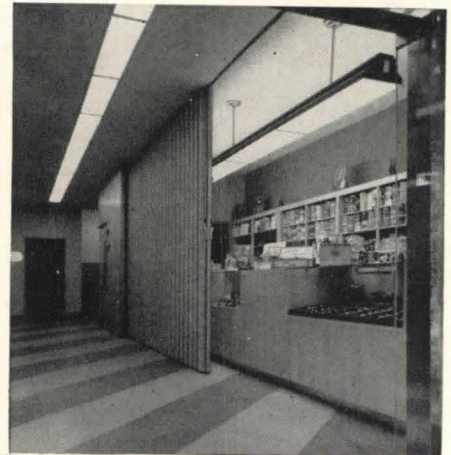
1. As a basic national policy, it should be clearly recognized that private industry, if not hindered by unnecessary and unrealistic restrictions, can provide housing wherever and whenever needed for defense.

2. The credit curbs of October 12 should be relaxed in areas designated as "defense areas" so that as many homes as possible may be produced under existing legislation.

3. In any defense area in which the relaxation of credit controls does not prove sufficient to provide the necessary amounts of housing for defense workers, the National Housing Act should be amended to provide a title which would authorize Federal Housing Administration to insure, in designated defense areas, 90 percent loans on multi-family units and on one- to four-family units for rental or for owner-occupancy, based upon acceptable risk in view of the emergency. Maximum mortgage limits in

(Continued on page 24)

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## THE RECORD REPORTS

WASHINGTON (Cont. from p. 23)

such title should provide a suitable extra amount in higher cost areas at the discretion of FHA.

4. In areas where the need will not extend beyond the defense emergency FHA should be provided with a separate defense insurance fund to insure — and the Federal National Mortgage Association authorized to commit to buy — loans on rental projects of mobile or de-

mountable type housing on such terms as the Commissioner shall prescribe and at an amortization rate not necessarily limited to the estimated period of the need.

5. The FHA insurance authorization should be increased sufficiently to cover the new titles and FHA operations under existing titles.

6. The Wherry Act should be ex-

tended for at least two years and amended also to include projects of the Atomic Energy Commission.

7. A limited sum should be authorized with which the federal government may provide, or assist local governments to provide, utilities or community facilities in defense areas where local governments are unable to do so without such aid.

8. The emergency should not be used as an excuse to further public housing. The subsidized public housing program must be suspended at least for the duration of the emergency so that federal funds and critical materials can be conserved for defense purposes.

### A.I.A. President Testifies

Ralph Walker, president of the American Institute of Architects, appeared before the committee in general support of the defense housing measure. He placed A. I. A. wholeheartedly in back of the policy to provide adequate housing to accompany the defense effort — through private enterprise efforts where practical, with government help if absolutely needed.

In connection with the community facilities provisions of the proposed act, Mr. Walker suggested that a review committee be established to review hardship cases that might develop, with its membership drawn largely from the construction industry. Enlarging on this request, he stated:

"We realize the difficulties which will arise, but believe the suggestion to be in line with democratic procedures. The construction industry is definitely grass roots, middle class, and made up of many small businesses — probably well over 200,000 units throughout the country. Government actions which affect it are liable, therefore, to be felt directly upon a wide base of generally fair earning power. The architectural profession is concerned with many contacts with all parts of this industry, for not only do we touch all the design professions having to do with all shelter, but also with all the building trades. We recognize and witness the effects of any legislation upon both employer and labor. Actions which may not seem unduly arbitrary at the source may well be unnecessarily severe in separate localities."

He called for a strengthening of the planning provisions of the measure, saying the influence of federal funds and

(Continued on page 204)

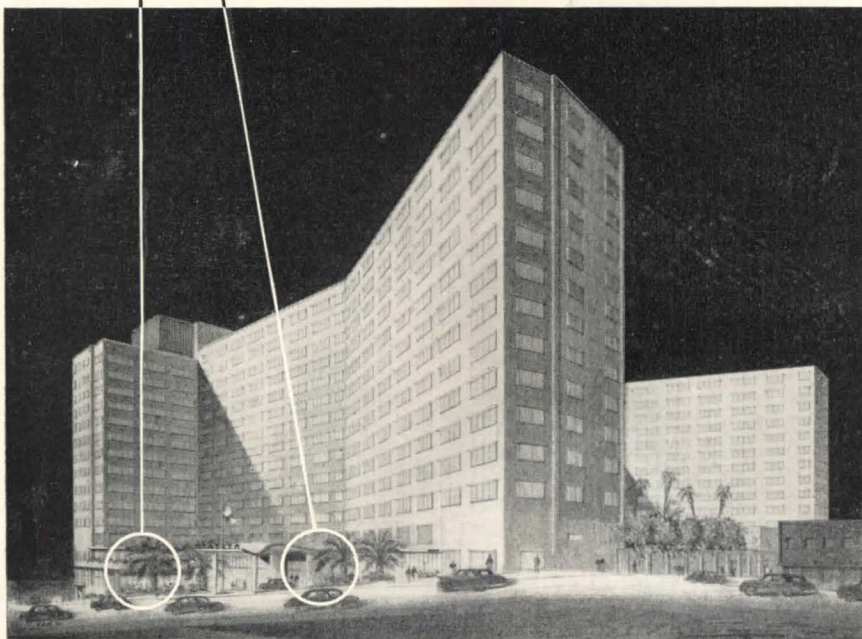


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CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

ATLANTA

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Brick and Steel	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.		Brick and Steel
	Brick	Frame		Brick and Concr.	Brick and Steel		Brick	Frame		Brick and Concr.	Brick and Steel	
1925	121.5	122.8	111.4	113.3	110.3		86.4	85.0	88.6	92.5	83.4	
1930	127.0	126.7	124.1	128.0	123.6		82.1	80.9	84.5	86.1	83.6	
1935	93.8	91.3	104.7	108.5	105.5		72.3	67.9	84.0	87.1	85.1	
1939	123.5	122.4	130.7	133.4	130.1		86.3	83.1	95.1	97.4	94.7	
1940	126.3	125.1	132.2	135.1	131.4		91.0	89.0	96.9	98.5	97.5	
1945	160.5	161.7	156.3	158.0	155.4		132.1	133.9	123.2	122.8	123.3	
1946	181.8	182.4	177.2	179.0	174.8		148.1	149.2	136.8	136.4	135.1	
1947	219.3	222.0	207.6	207.5	203.8		180.4	184.0	158.1	157.1	158.0	
1948	250.1	251.6	239.4	242.2	235.6		199.2	202.5	178.8	178.8	178.8	
1949	243.7	240.8	242.8	246.4	240.0		189.3	189.9	180.6	180.8	177.5	
Oct. 1950	264.7	263.7	255.1	257.1	252.7		199.2	201.4	191.2	188.4	191.6	
Nov. 1950	265.7	263.6	257.1	258.8	254.3		202.0	203.8	194.0	191.1	194.0	
Dec. 1950	268.1	266.5	258.5	259.9	257.2		205.4	208.0	195.3	192.0	195.3	
Dec. 1950	117.1	117.7	97.8	94.8	97.7		138.0	150.3	105.4	97.1	106.2	

ST. LOUIS

SAN FRANCISCO

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1945	152.8	152.3	146.2	148.5	145.6	146.2	144.3	144.5	146.8	147.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
Oct. 1950	238.7	236.7	225.9	229.4	226.5	235.2	232.7	225.8	226.4	225.6
Nov. 1950	240.3	236.6	228.0	231.5	228.5	233.6	230.3	227.0	228.0	227.3
Dec. 1950	243.0	239.7	229.9	233.3	229.9	235.2	232.0	228.4	229.5	228.9
Dec. 1950	120.5	124.0	93.7	94.7	93.2	122.7	133.6	94.5	88.3	96.5

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110  
index for city B = 95  
(both indexes must be for the same type of construction).  
Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

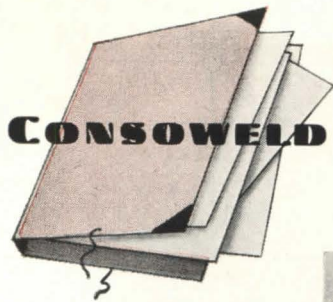
Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

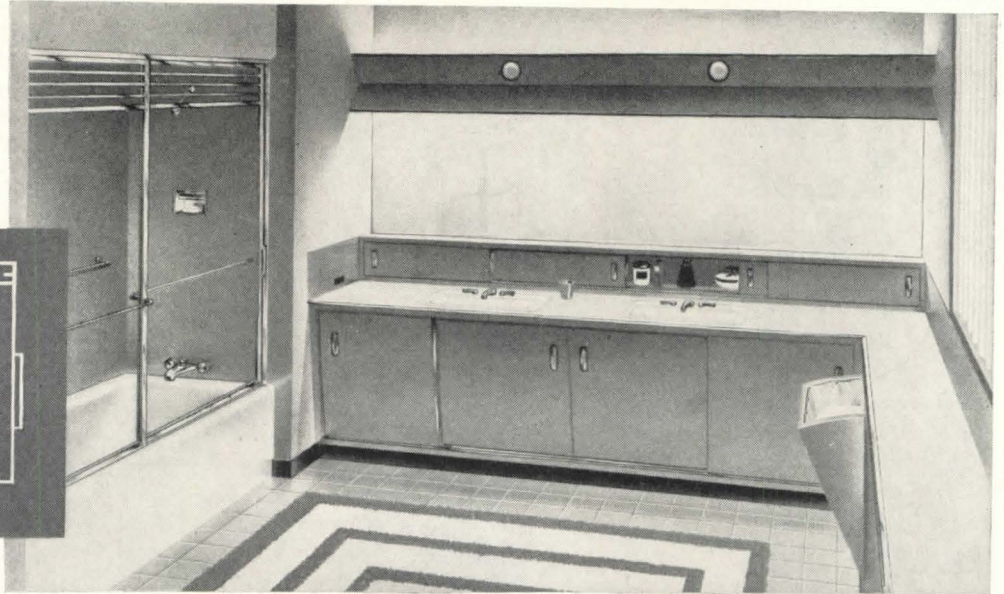
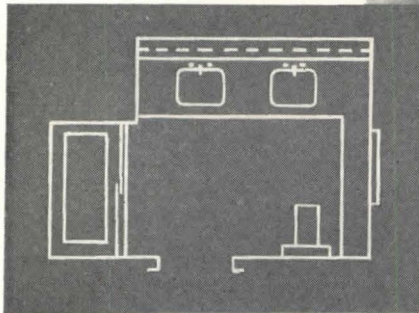
Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.



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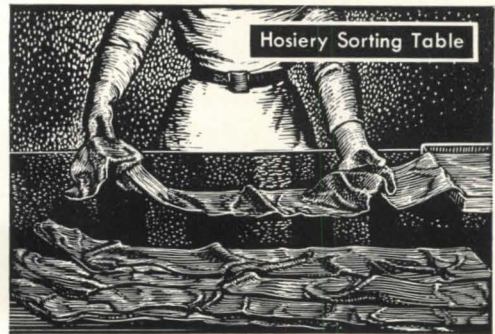


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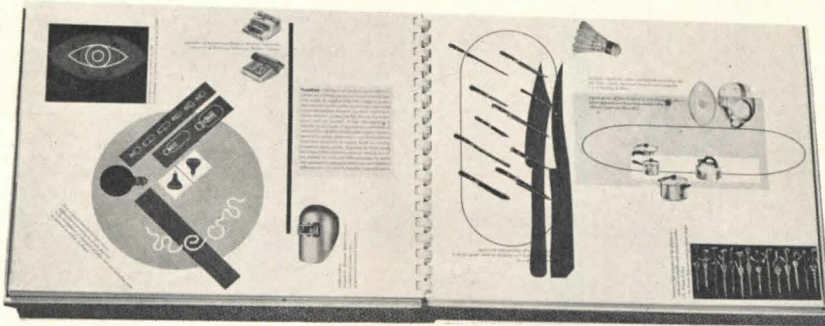
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# REQUIRED READING



## CATALOG DESIGN

*Catalog Design Progress. Advancing Standards in Visual Communication.* By K. Lönberg-Holm and Ladislav Sutnar. Pub. by Sweet's Catalog Service (119 West 40th St., New York 19, N. Y.), 1951. Trade distribution by The Arts, Inc. (756 Seventh Ave., New York 18, N. Y.) 9¼ by 12 in. 106 pp., illus. \$10.00.

REVIEWED BY WALTER SANDERS\*, A.I.A.  
PROFESSOR OF ARCHITECTURE,  
UNIVERSITY OF MICHIGAN

Catalogs of industrialized building products, previously accepted as prosaic but necessary instruments of information, are undergoing a metamorphosis. The past several years have produced more than a scattering of new catalogs that in their simplified language of visualization stand out above the others. These catalogs reflect the advances made in visual communication, and are predominantly the product of information-design specialists K. Lönberg-Holm and Ladislav Sutnar, research and art directors, respectively, of Sweet's Catalog Service. Their history of this metamorphosis is the story of CATALOG DESIGN PROGRESS.

The book projects not only the principles which point to planned progress in product information and in all forms of information design, but goes far beyond. It convincingly demonstrates the need for advancing standards of design in all fields affected by the dynamic processes of industrialization. On this score, the book is of reference value to anyone involved with design in our

time: architects, product designers, manufacturers, teachers and students. Each will be stimulated by its visual impact and inspired by its universal design principles to apply to his own field the practical features of the book's sound design guidance.

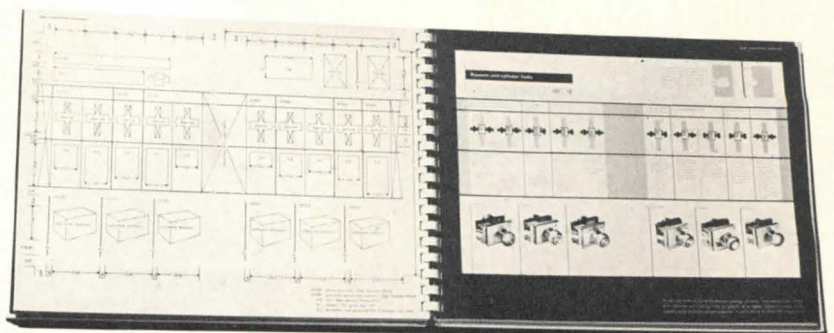
As its subtitle, "Advancing Standards in Visual Communication," implies, the authors apply a dynamic concept of standards to the field of industrial products information, comparing current design with that of the past. They define the needs of information design, and develop the means of meeting these needs through analysis of the visual and structural features of catalog information. The varied aspects of design underlying the development of catalog information are reduced to three fundamental principles: definition of function, definition of flow or sequence and definition of form.

With these principles as a basis, design is evaluated as a process of definition, culminating in a totality which intensifies comprehension. Depending on the requirements of a specific prob-

lem, design aspects are analytically polarized into: function vs. form, content vs. format, utility vs. beauty, rational vs. irrational, etc. The function of design is established as one of resolving the conflict of these polarities into a new design synthesis. Conviction is lent this approach by the authors' own resolution of the polarities of visual features and structural features into the design synthesis represented by the book itself.

Profusely and precisely illustrated, mostly in color, the book reflects the disciplined thinking and design skill of its authors. Every line, form, color and word has meaning and purpose. It is hoped that its message as well as its example will be followed up by more of industry. Intelligent selection of increasingly diversified industrialized products is difficult at best, but such selection will be assisted materially if the advanced visual techniques illustrated in *Catalog Design Progress* are followed. Architects and others will welcome this advance on the catalog front.

(Continued on page 35)



\* Partner in the firm of Sanders and Malsin, Architects, Ann Arbor and New York City.



## REQUIRED READING

(Continued from page 32)

Authors Lönberg-Holm and Sutnar are uniquely qualified for the significant work they have so successfully undertaken. Industry will gain from their efforts and all concerned with design will remain in their debt for this skillful execution of an important contribution to the advance of design. The publishers, Sweet's Catalog Service, add to their stature as pioneers in the field of industrial products information by their wisdom in sponsoring the project. More catalogs designed in the simplified language of visualization should result.

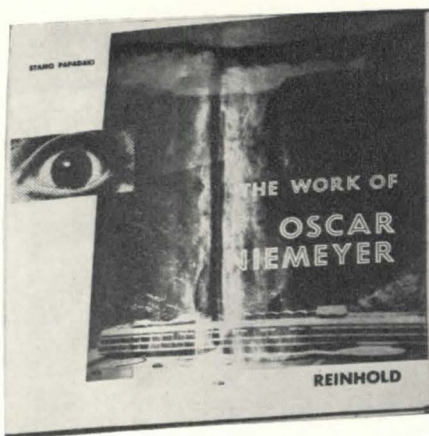
### THE SEARCH FOR PLASTIC EXPRESSION

*The Work of Oscar Niemeyer. Edited by Samo Papadaki, with a foreword by Lucio Costa. Reinhold Publishing Corp. (330 West 42nd St., New York 18, N. Y.), 1950. 8¾ by 8¾ in. xi + 220 pp., illus. \$9.00.*

The work presents 36 buildings of 24 different types, designed by the young Brazilian architect between the years 1937 and 1950. A brief biography and study of influences is included in the introduction. Many designs are traced from preliminary sketches to the completed structure, including discarded ideas or forms, to allow the reader to follow Niemeyer's analytic and creative methods. All of the better known structures on which he has worked are included, as well as many pending projects, works under construction and lesser known designs.

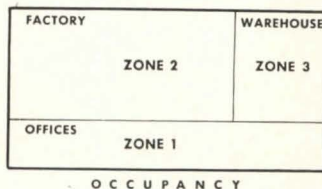
The unique structural and design solutions of Oscar Niemeyer have been gathered together by Mr. Papadaki to form a valuable contribution to the annals of contemporary architecture. The plastic qualities of Niemeyer's designs

(Continued on page 36)



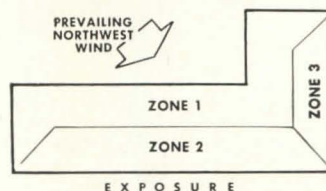
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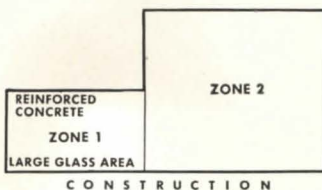


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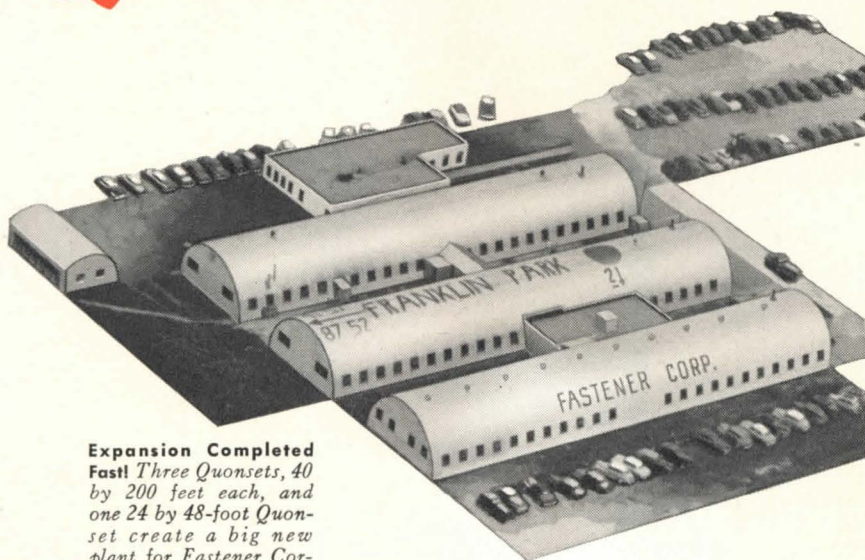
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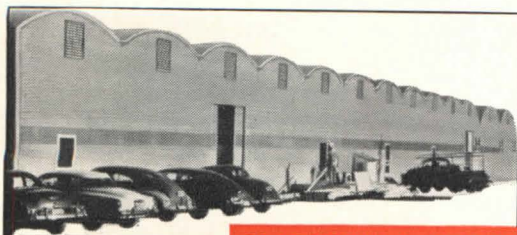
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## REQUIRED READING

(Continued from page 35)

are stressed throughout, keyed to a statement of his included in the preface: "Architecture in Brazil, overcoming the stage of orthodox functionalism, is now in search of plastic expressions. It is the extreme malleability of present construction methods together with our instinctive love of the curve . . . which suggests the unfettered forms of a new and amazing plastic vocabulary."

### THE HISTORIC SOUTHWEST

*The Architecture of the Southwest.* By Trent E. Sanford. The W. W. Norton Co. (101 Fifth Ave., New York 3, N. Y.), 1950. 6 by 9½ in. xii + 312 pp., illus. \$5.00.

Unearthing of three of America's oldest houses—probably constructed more than 3000 years ago—was recently reported by Dr. George W. Brainerd of the University of California. The timing of this announcement so near to the publishing of Mr. Sanford's new book on the Southwest couldn't have been better.

For thousands of years the American Southwest has been the scene of a continuous building tradition. In this new book is the story of the cliff dwellings and pueblos of the pre-Spanish Indians; of the Spanish conquest and the building of missions, churches and presidios. Woven almost throughout the book is the story of Catholic expansion in a new world.

Mr. Sanford, a practicing architect, has written a factual report which, to your reviewer, smacks too much of a guidebook. It is unfortunate that this book lacks the vitality, lucidity and enthusiasm that is characteristic of the author's earlier *THE STORY OF ARCHITECTURE IN MEXICO*.

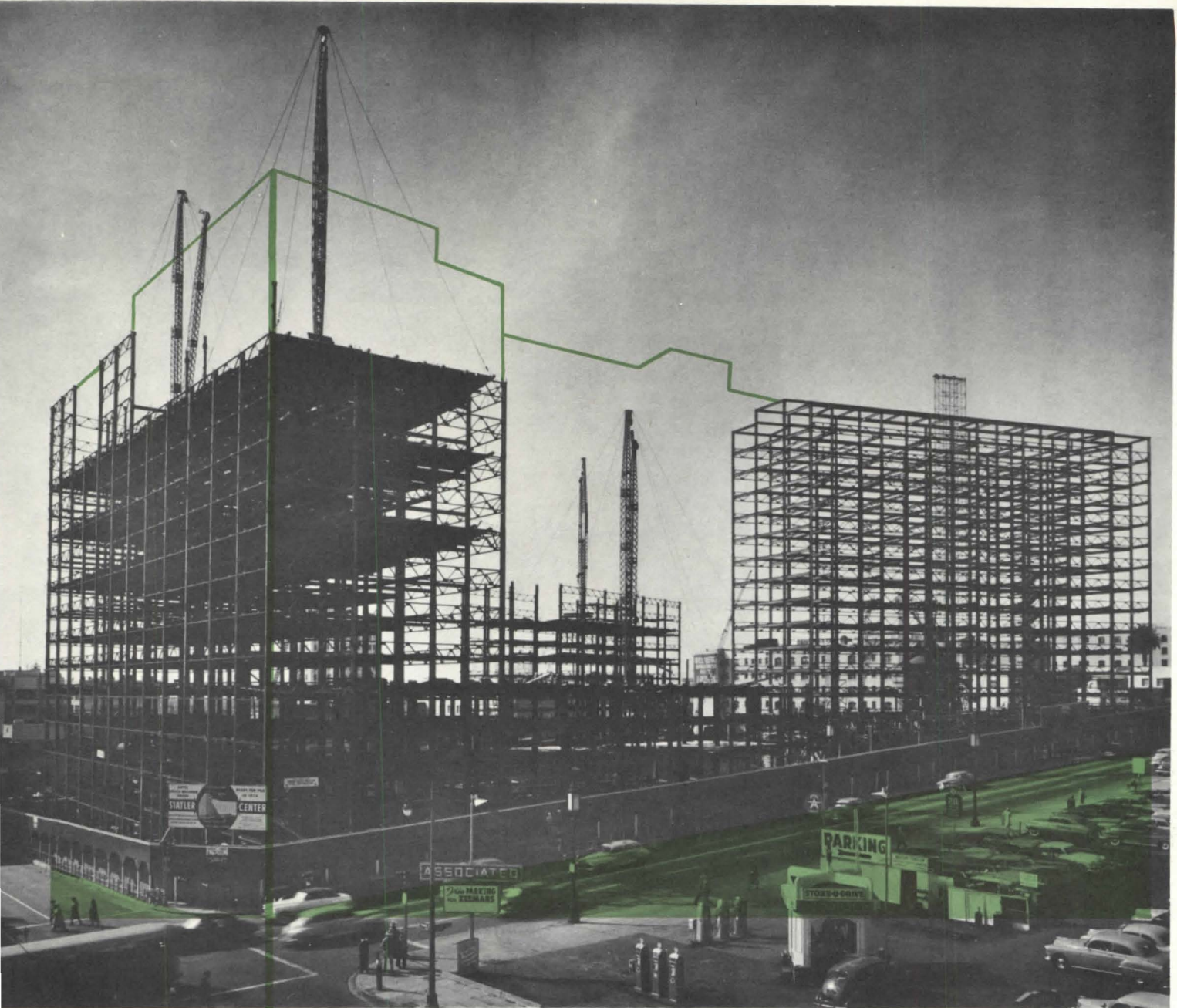
### AN ARTIST

*Edvard Munch.* By Frederick B. Deknatel. *The Museum of Modern Art* (11 West 53rd St., New York, N. Y.), 1950. 7¾ by 10 in. 120 pp., illus. \$1.75.

The prodigious work of the Norwegian expressionist painter and graphic artist, Edvard Munch, has been summed up in another well-composed *Museum of Modern Art* publication (released at the time of the Munch exhibition last year at the Museum).

Professor Deknatel has written for the most part a biographical text that

(Continued on page 168)



# STATLER CENTER

LOS ANGELES

*Holabird & Root and Burgee  
Architects and Engineers*

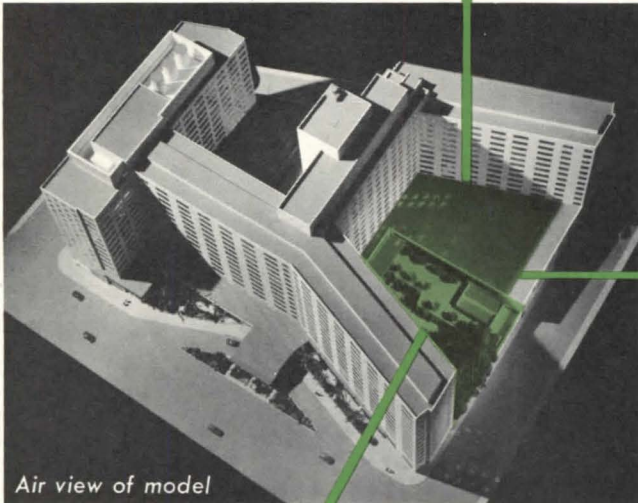
*William B. Tabler  
Associate Architect*



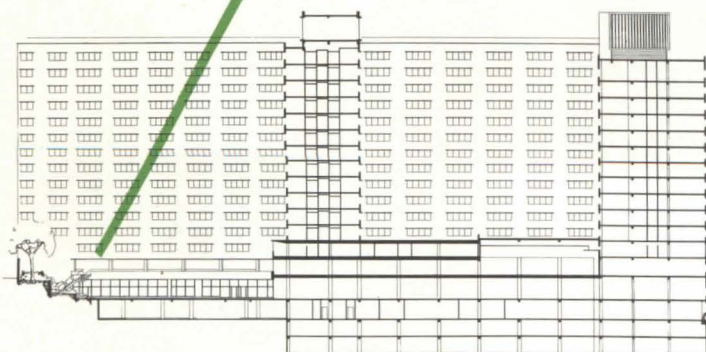
# STATLER CENTER, LOS ANGELES



Site in relation to downtown Los Angeles



Air view of model



Schematic section showing garden court

Unique among commercial hotels, Statler Center in Los Angeles will be notable for its many types of accommodations and for the hospitably open character which its owners and designers have infused into it.

The east wing is to be a 13-story office building with 150,000 sq ft of rentable space; the hotel portion will have 1275 guest rooms; public areas will contain 70,000 sq ft of shops; in the basement is to be a 3-level garage. The decision to include all these facilities was made for reasons almost wholly economic.

The Statler organization's long experience at picking a proper city, and within that a suitable site, plus the architects' knowledge of their needs, led to selecting this particular location. Like Washington, Los Angeles was judged to need downtown convention, meeting, and display space. Office facilities in the older Boston Statler had long provided welcome extra revenue; Los Angeles needed office space; to put a complete office building on the very large plot entailed no additional expense for land, and the income from it would help defray the increasing cost of operating the hotel and its three spacious levels of public area.

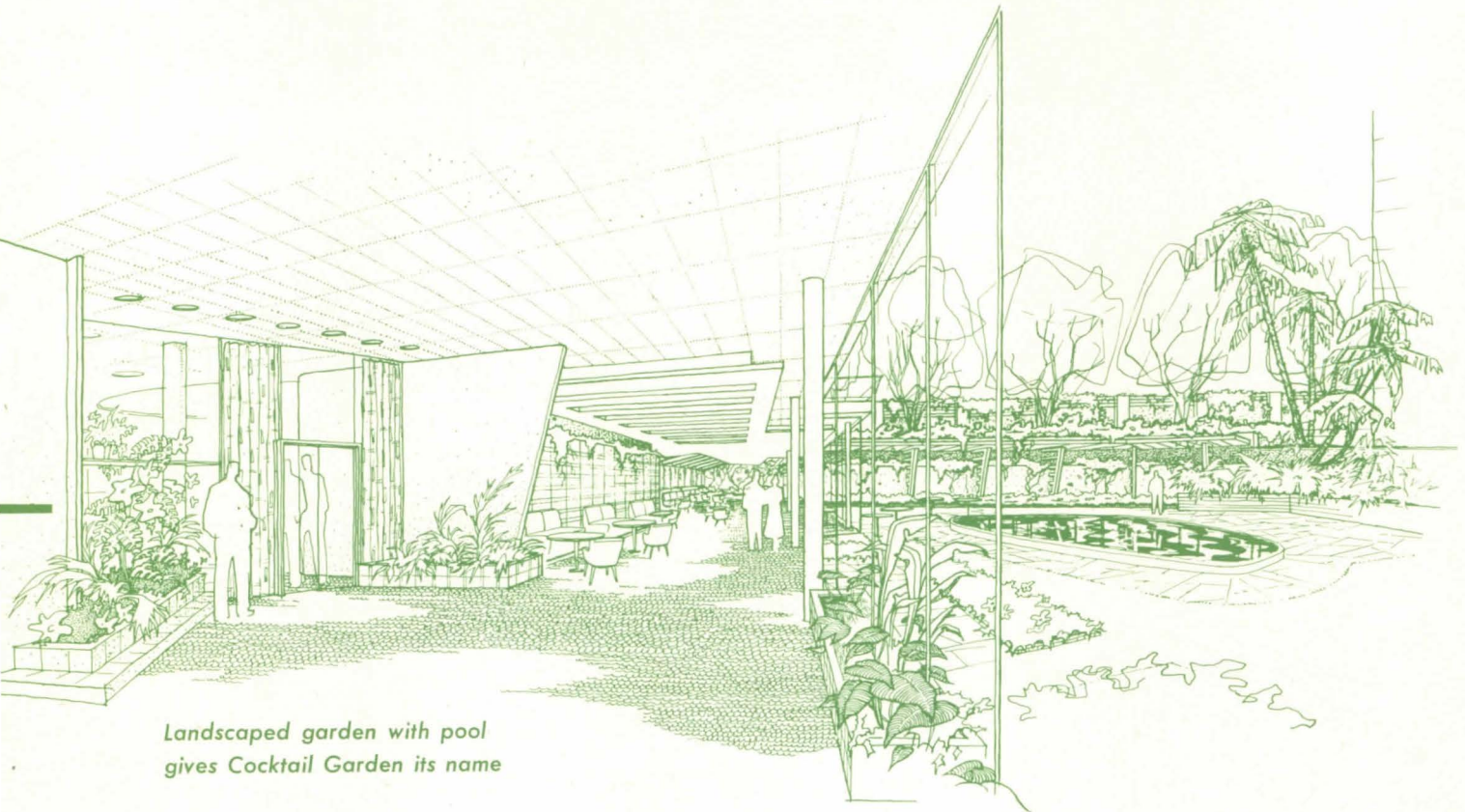
There were other design determinants. Statler Center, Los Angeles, could not be just another big-city hotel, as appropriate for Chicago as for a semi-tropical metropolis. It must have openness and vegetation suitable for Southern California; hence its hotel wings will spread wide; a guest will scarcely be conscious of the space between them as a "court"; no bedroom window will face another window directly. Tropical planting will enhance all courts and main entrances.

The city, the Statler organization and the architects worked together through months of preliminary negotiations, each giving and taking by turns, to fit the Center into its locale. Hotel entrances from Wilshire Boulevard and Seventh St. have off-street driveways so lines of taxis will not block traffic. The design at first called for an off-street trucking dock and garage entrance from Seventh; this was rejected by the city as causing too much congestion on Seventh. The city is extending Francisco St. (which formerly stopped at Seventh), with Statler donating a strip of land 10 ft wide and the city condemning the remainder. Now garage and truck entrances are near the corner of Seventh and Francisco; and, with the new street, taxicabs can leave guests at the Seventh St. entrance, circle the Center and pick up fares at the Wilshire doors.

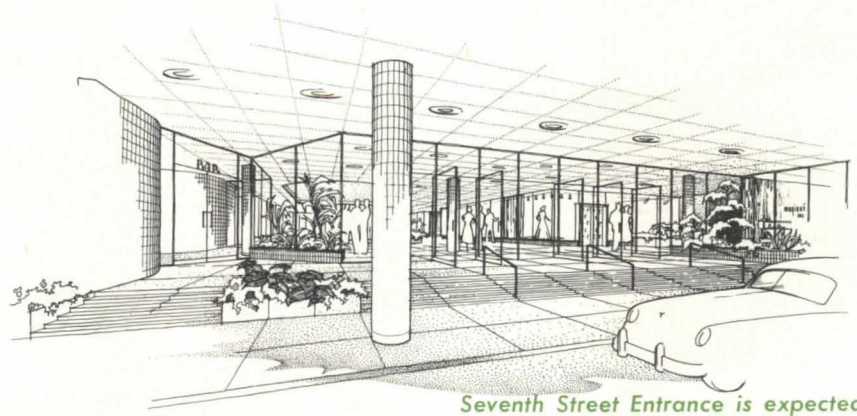
Height restrictions—thirteen stories above basements to a maximum of 165 ft, excluding penthouses—were another matter. To get into the Center the number of rooms required to insure success, and at the same time maintain a Californian openness, all the plot has had to be utilized. The entire Center is air conditioned from a Fan Gallery Mezzanine above the Ballroom level, from which conventional air supplies lead down to public areas and high velocity systems rise to offices and guest rooms.



Preliminary study for  
Wilshire Boulevard Entrance

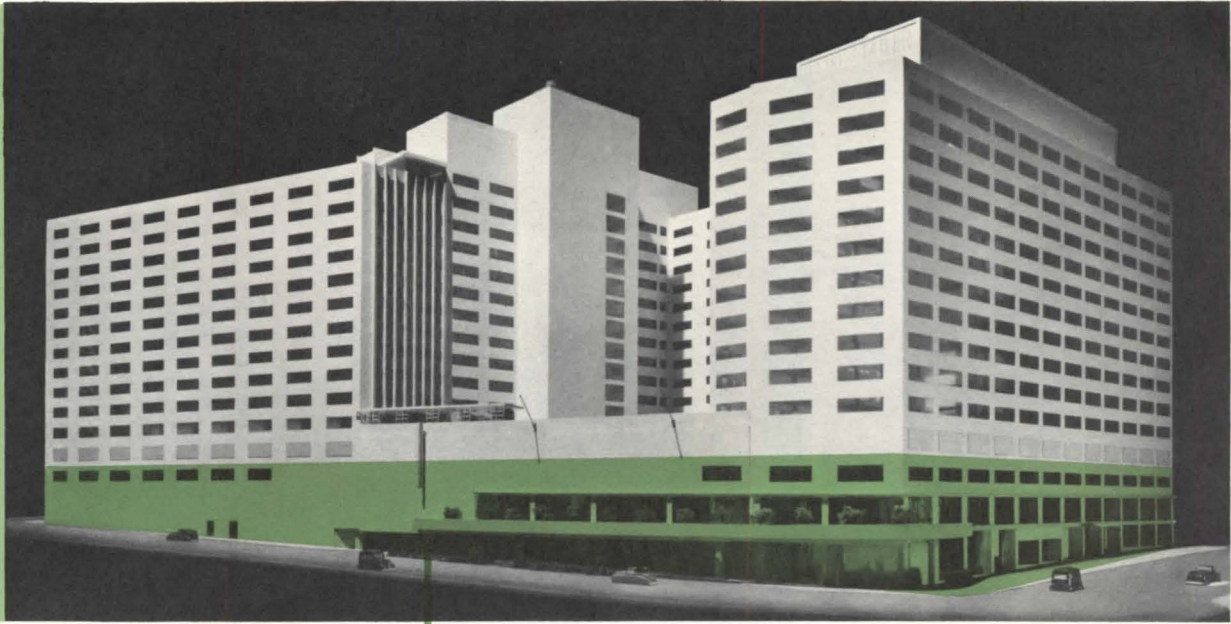


Landscaped garden with pool  
gives Cocktail Garden its name



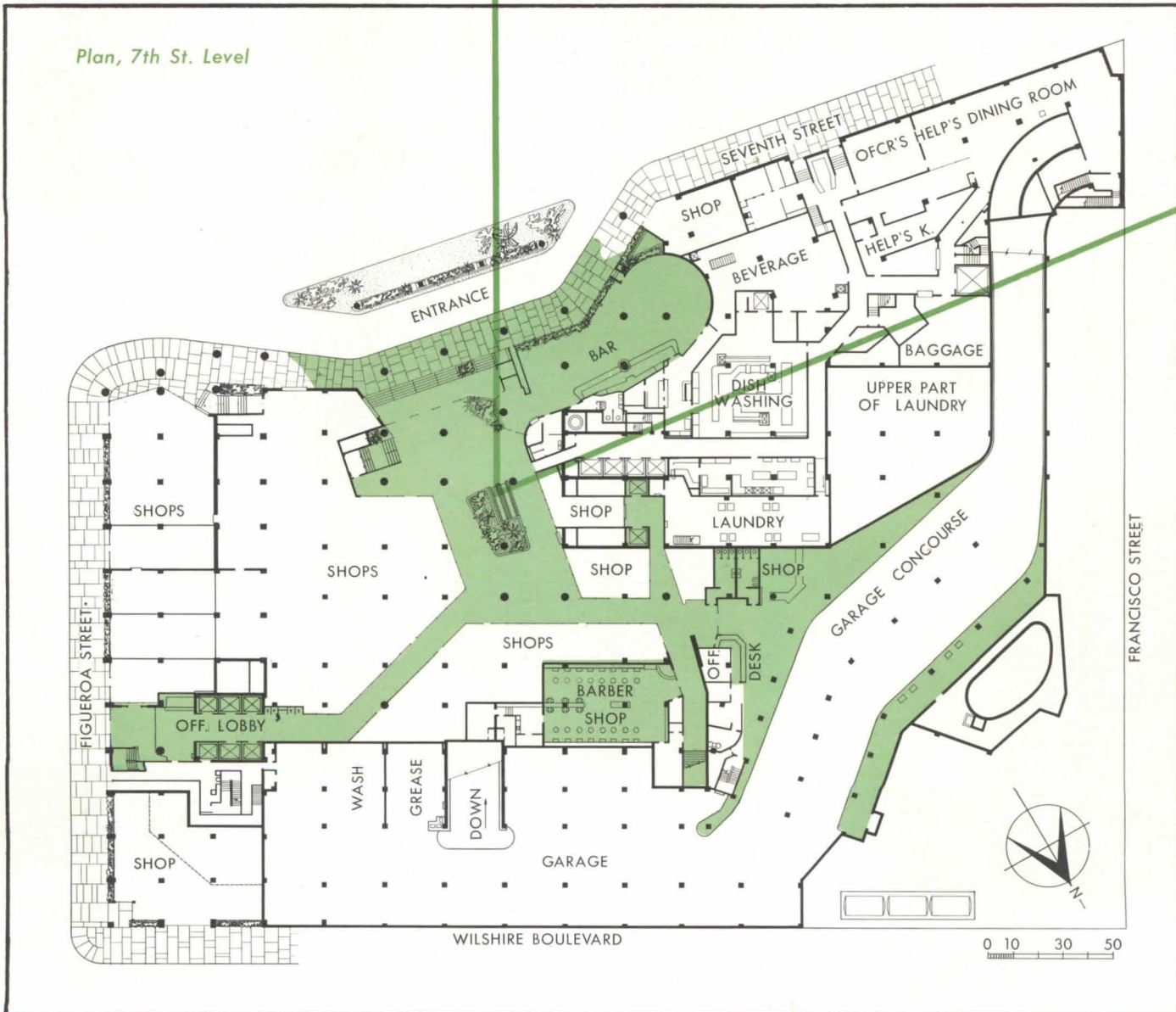
Seventh Street Entrance is expected  
to have heavy guest traffic

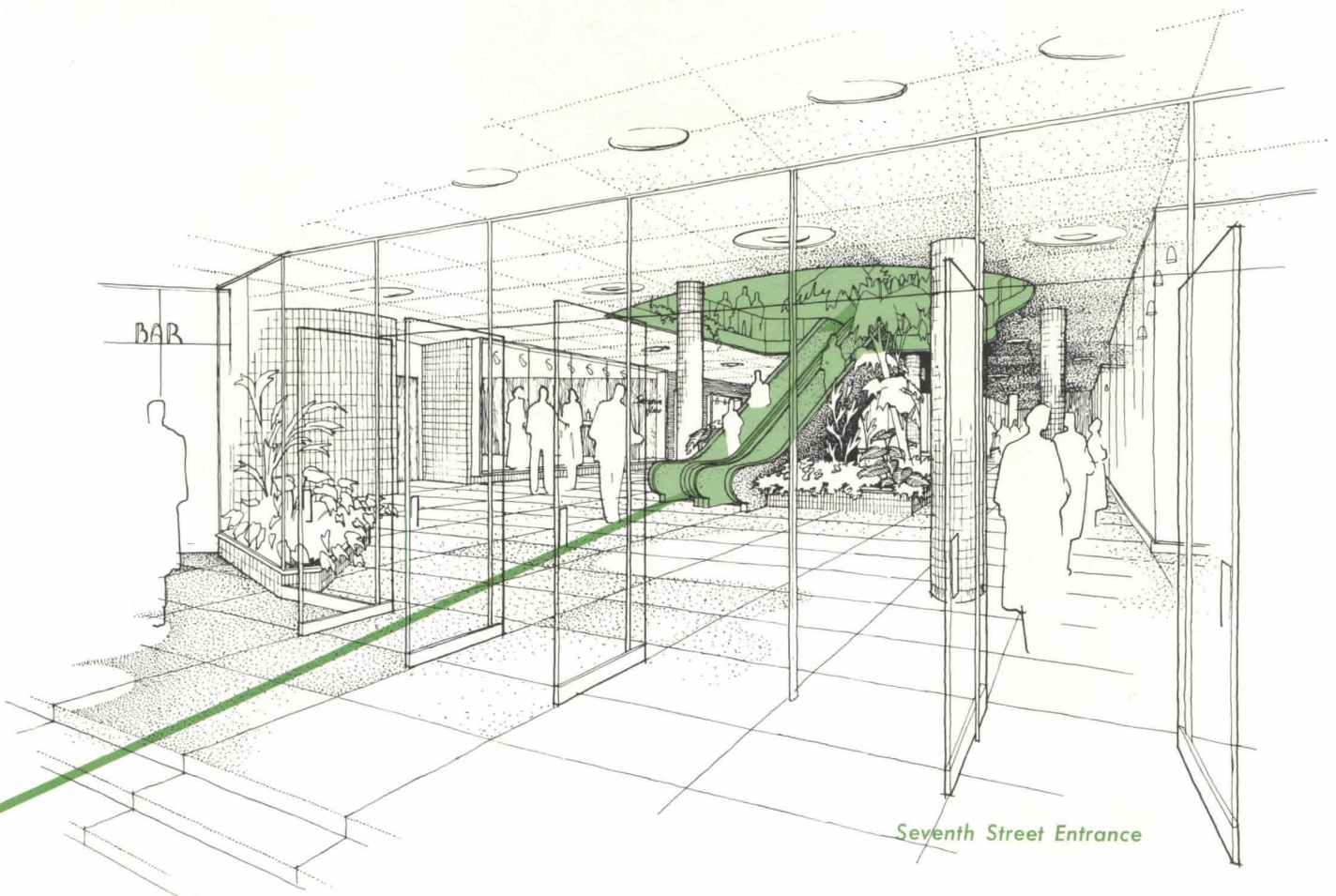
**STATLER CENTER:  
7TH ST. LEVEL**



*Indicated by the green band, above, are the three lower levels, only partly above grade, which contain all public areas*

*Plan, 7th St. Level*





Seventh Street Entrance



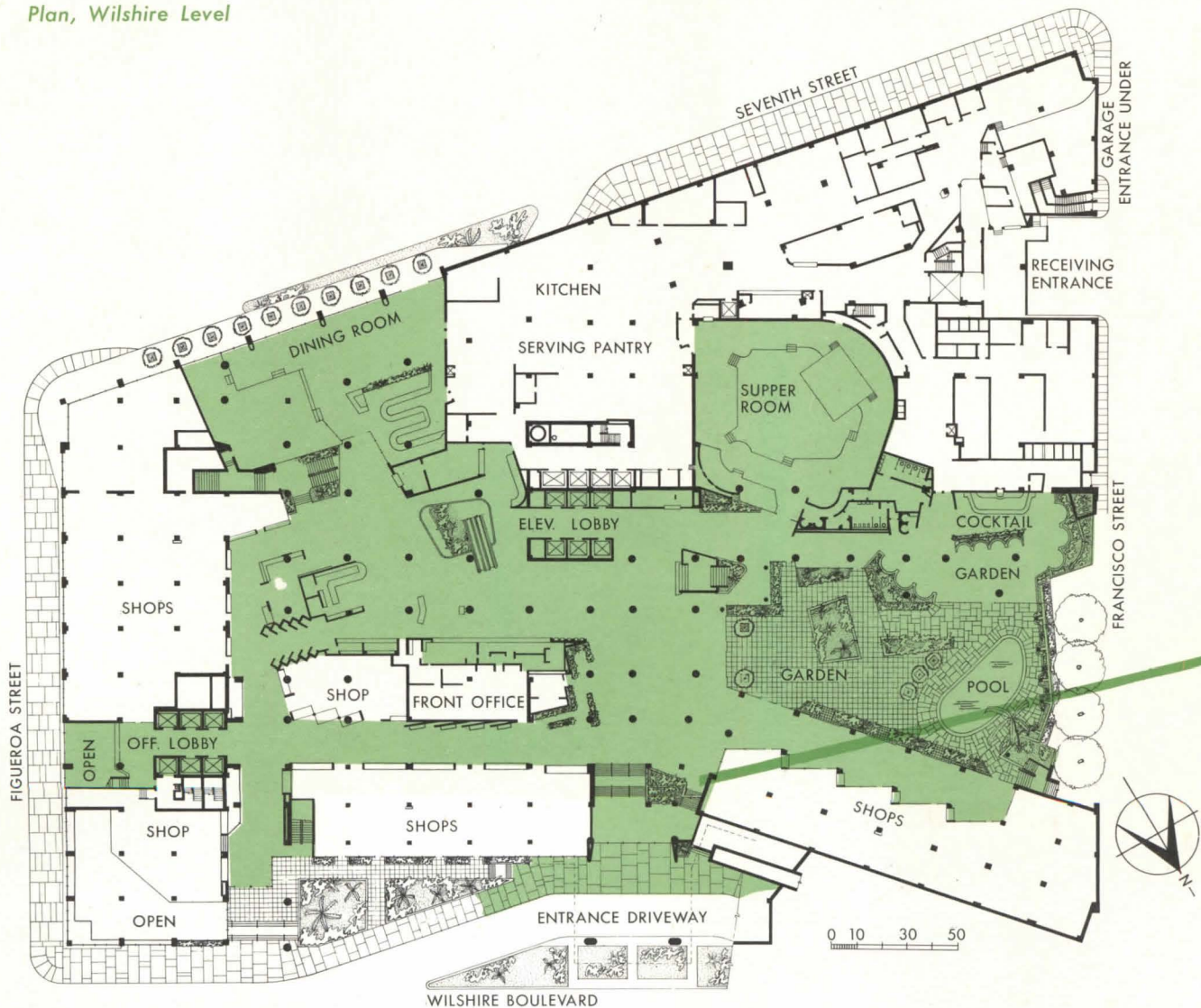
Moving stair leads directly to  
Front Office and Dining Rooms

Principal hotel entrances will have driveways so taxis need not obstruct the thoroughfares; public sidewalks curve in to follow the building wall. Most hotel guests are expected to arrive via 7th St. Directly in front of this entrance is to be a moving stair leading up through a wide, invitingly planted well to the Front Office on the level above. At the southwest corner of the building is the garage entrance from which a drive ramps down to three floors of parking space. Well worth noting is the simplicity of circulation throughout the structure, despite its complexity.

**STATLER CENTER:  
WILSHIRE LEVEL**

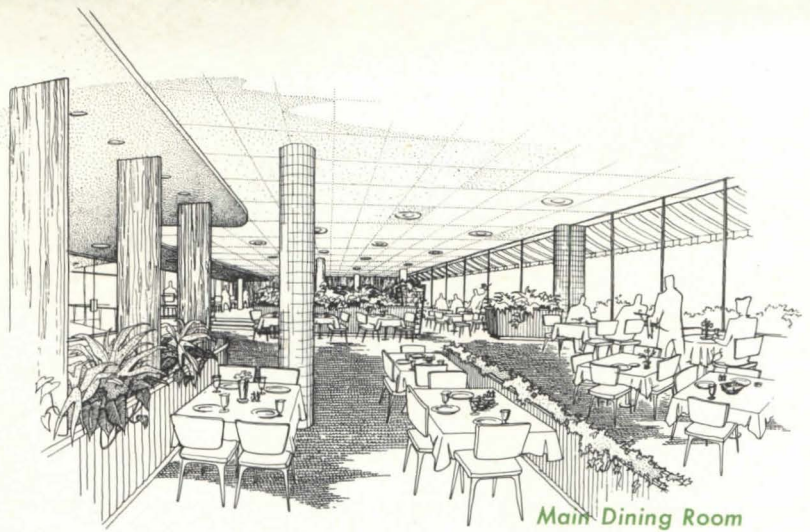
Like other public floors, the Wilshire level is organized around the garden (shown more fully on subsequent pages). Here also is a good share of the 70,000 sq ft of shop area, nearly all of which has street frontage as well as lobby show windows. Through the office building lobby there will be access from Figueroa St. as well as Wilshire. On the extension of Francisco St. at the west end of the site is to be the off-street loading dock, where supplies can be delivered to the kitchen on virtually one level; only for service to ballrooms and private dining rooms on the floor above, and for room service to hotel guests and office tenants, will food need to be transported vertically. This, plus the ingenious way in which dining areas are placed around the kitchen, will help to insure fast, efficient service.

Plan, Wilshire Level

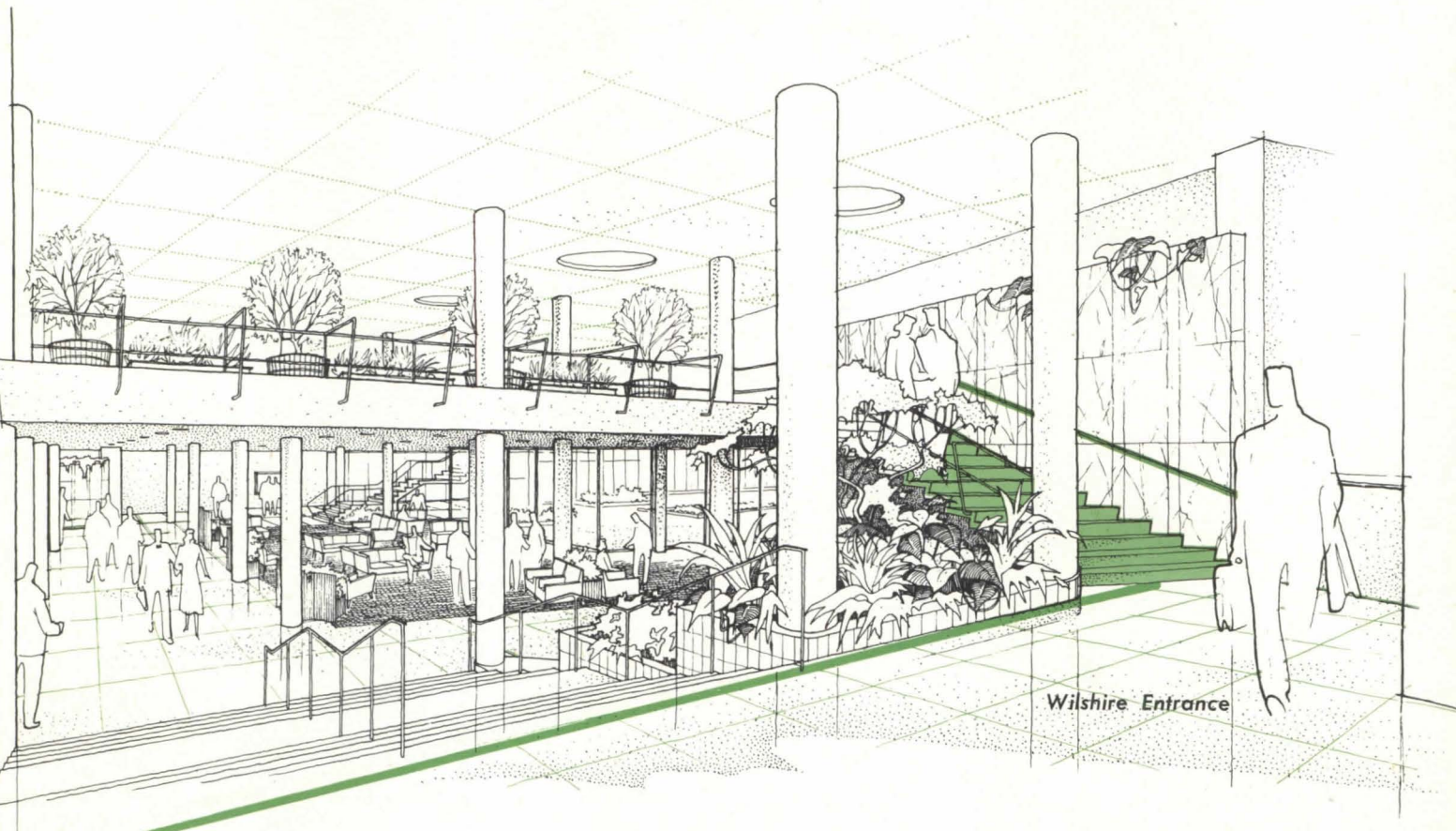




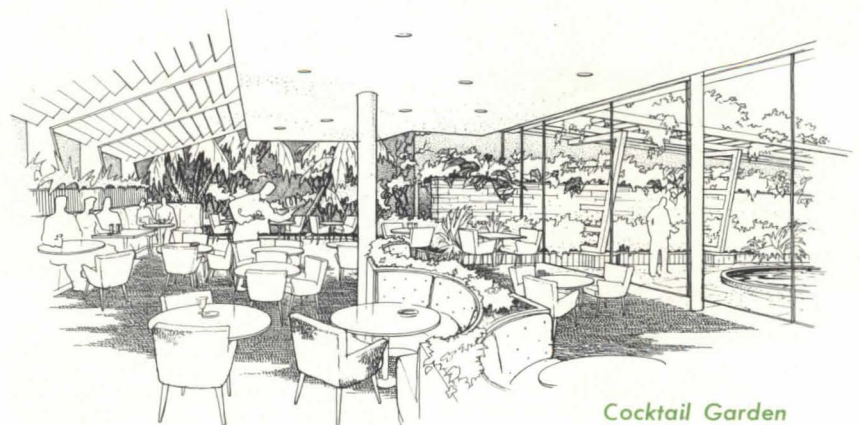
Open planning is not confined to wide spacing of the upper-story wings; at entrances, notably from Wilshire Boulevard, every effort is made to impress one with a hospitably open atmosphere. The most important stairs lead directly to the lobby which contains the front office, and from which dining rooms, Supper Room and Cocktail Garden are reached



Main Dining Room

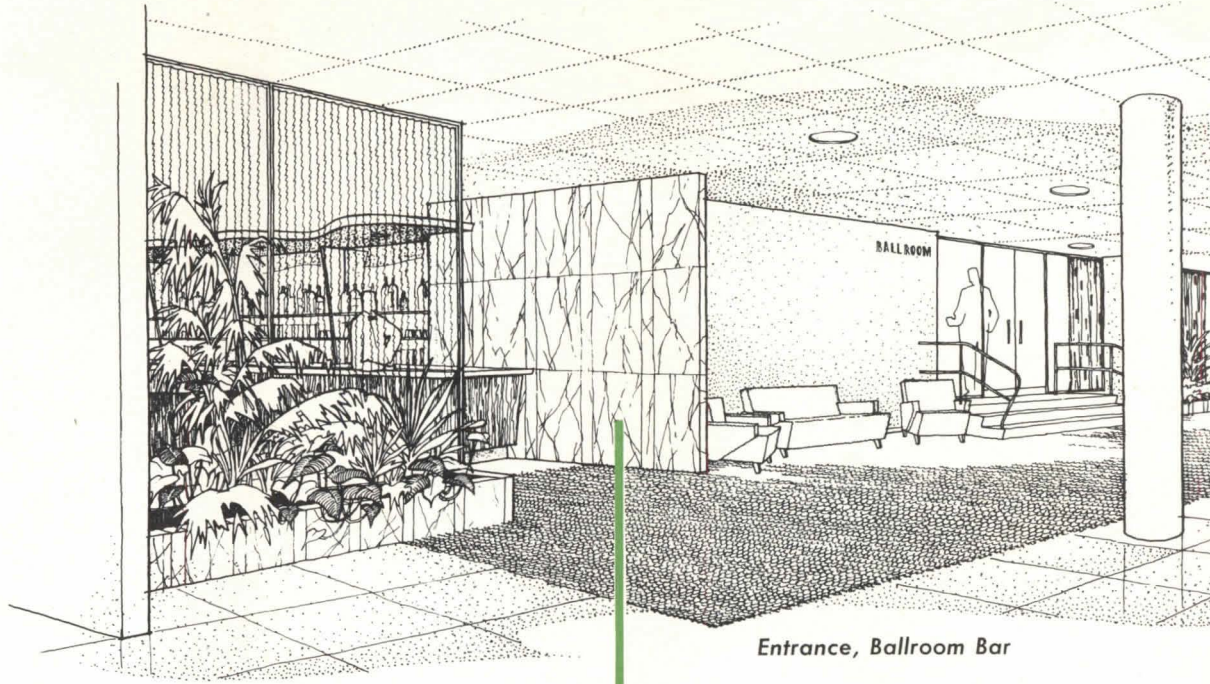


Wilshire Entrance



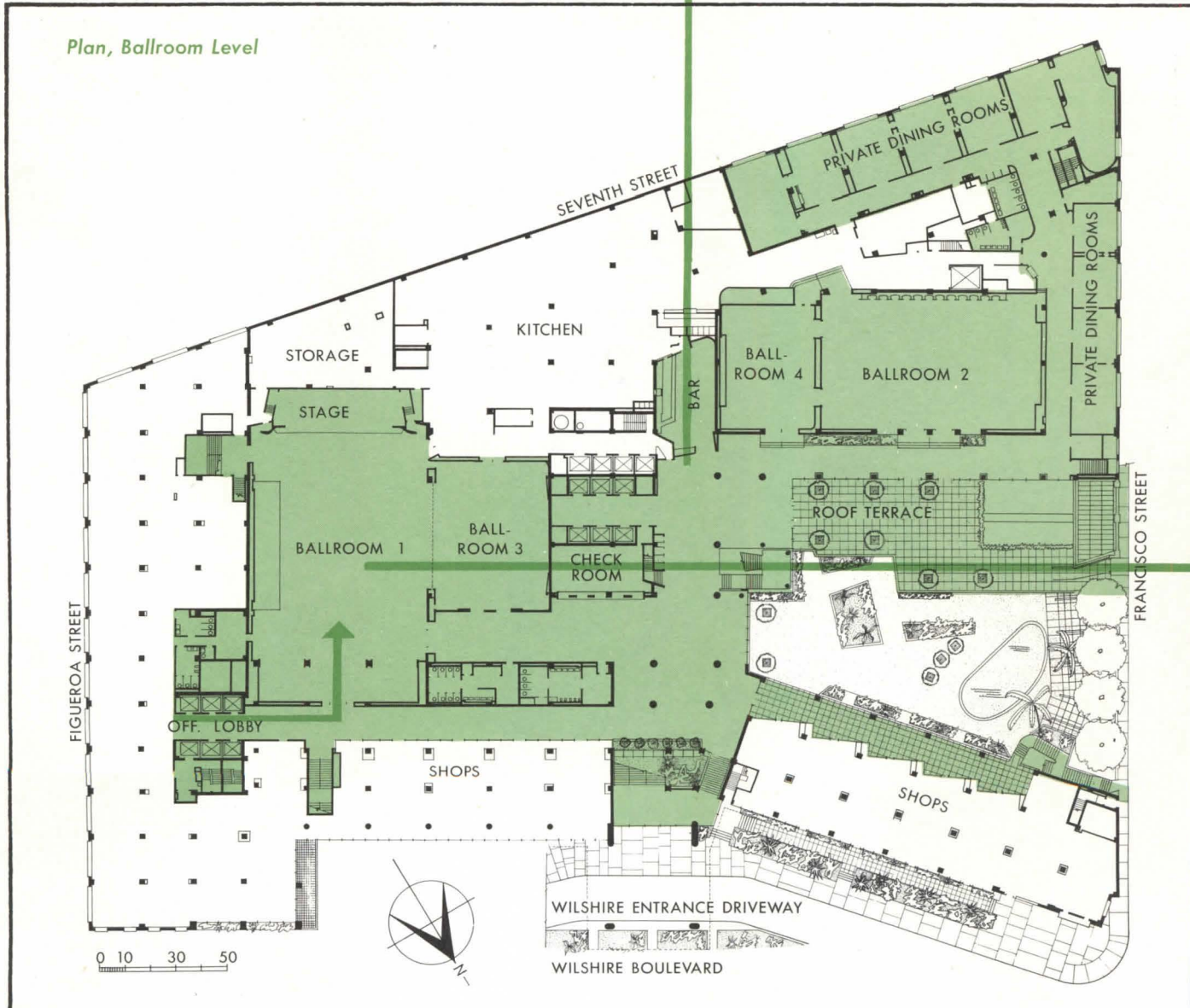
Cocktail Garden

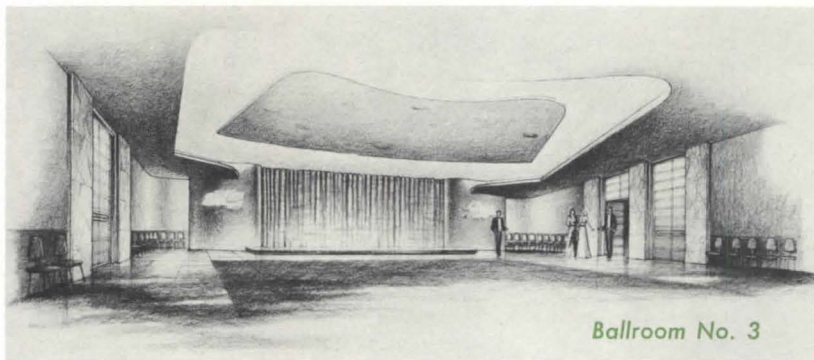
**STATLER CENTER:  
BALLROOM LEVEL**



*Entrance, Ballroom Bar*

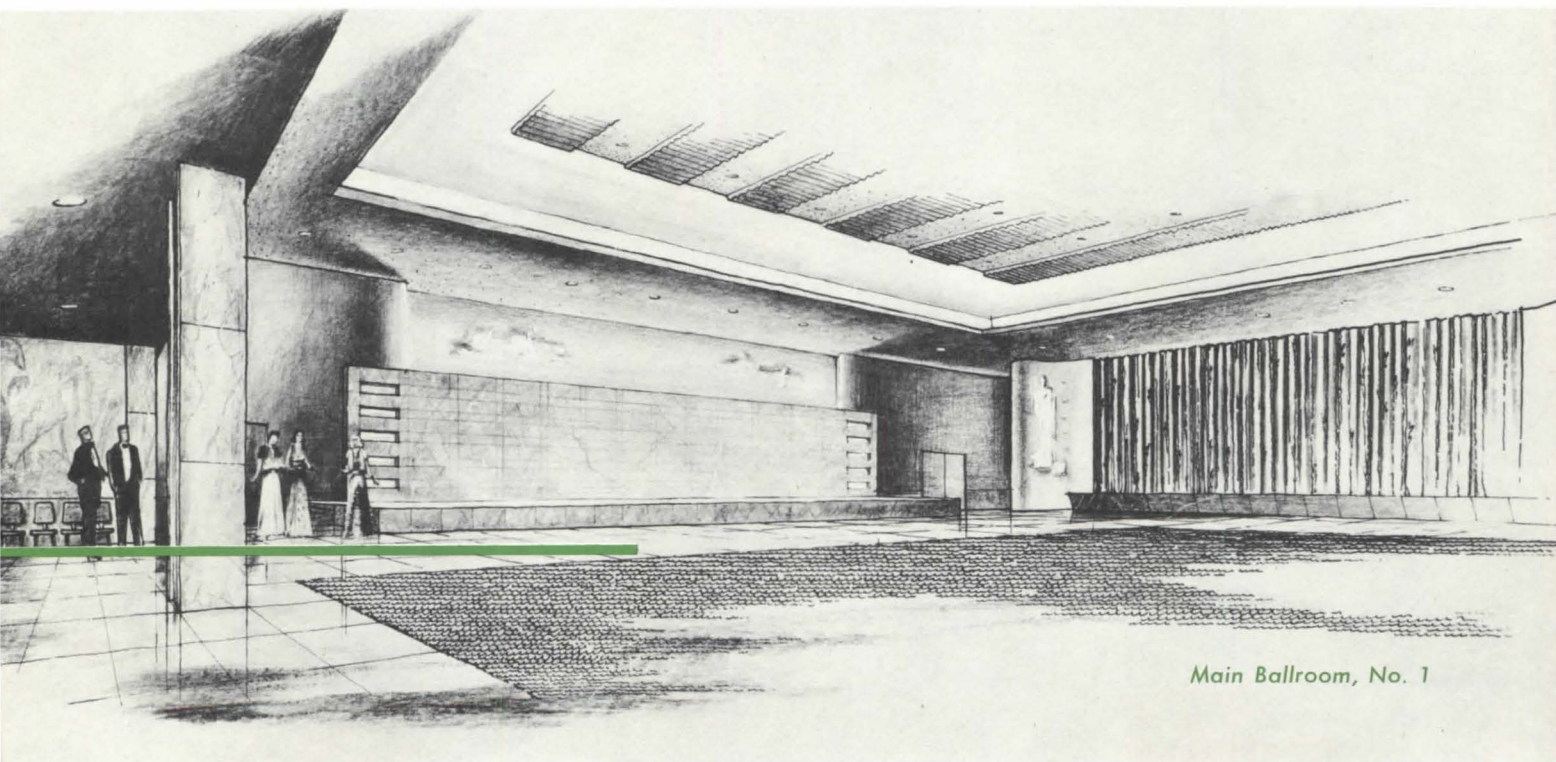
*Plan, Ballroom Level*





*Ballroom No. 3*

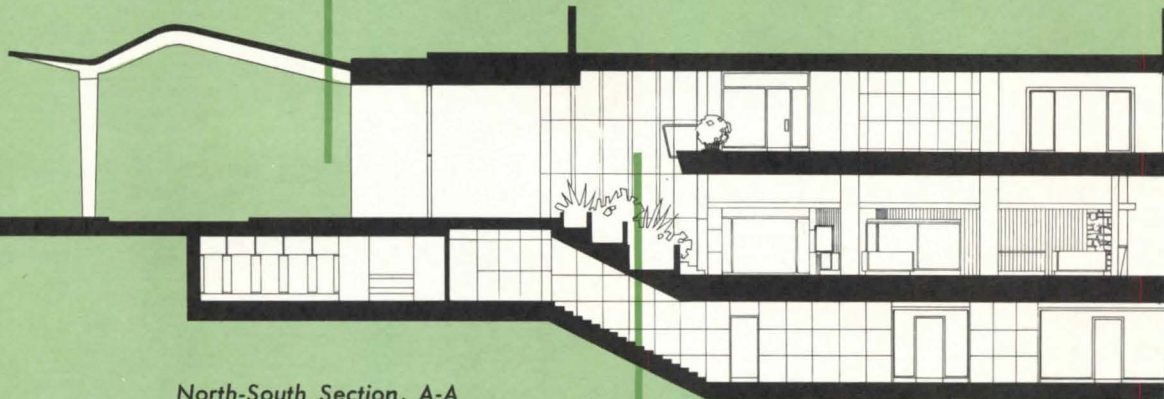
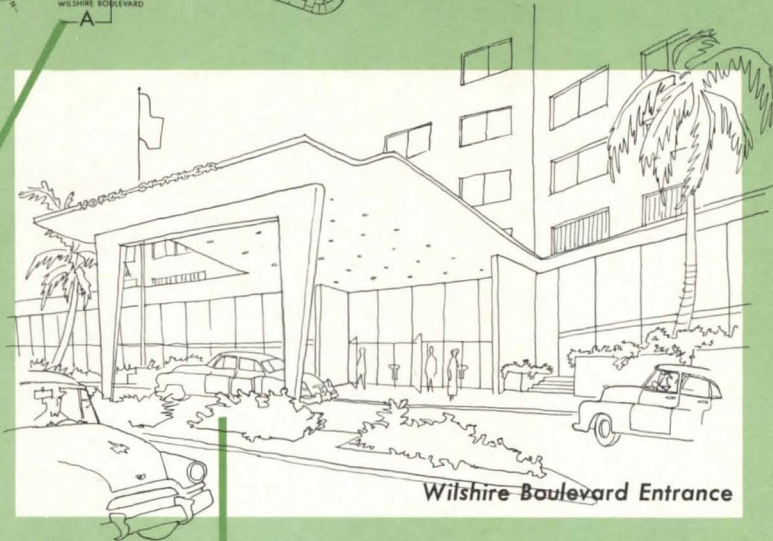
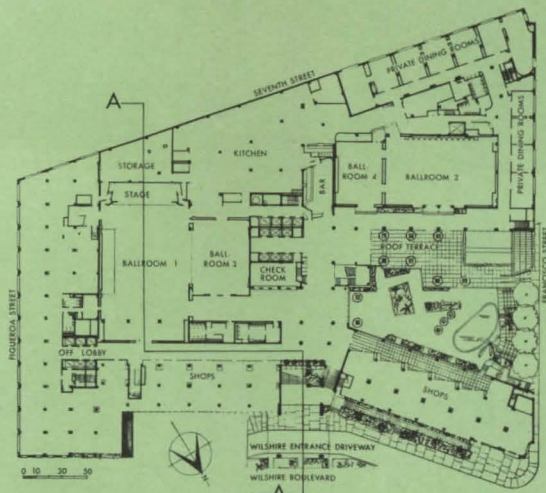
In the past, ballrooms have often been placed at the top-most levels of hotels. In Statler Center they have been placed as close to ground level as possible, so that people not resident in the hotel can reach all public functions without either traversing guest room areas or burdening elevators. This simplifies traffic control and makes possible efficient elevator service at relatively low installation cost. Again, the conventional air conditioning required



*Main Ballroom, No. 1*

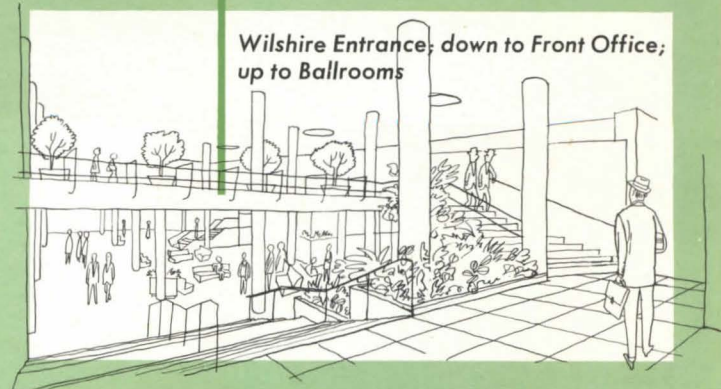
for public areas can all be supplied directly from the fan gallery immediately above; the short ducts need not cross guest room floors, which have separate supply systems. At Ballroom level the office building floor will serve as exhibition space for manufactured products. Hotel and office areas are interconnected at this level, making available to office tenants all function facilities of the hotel.

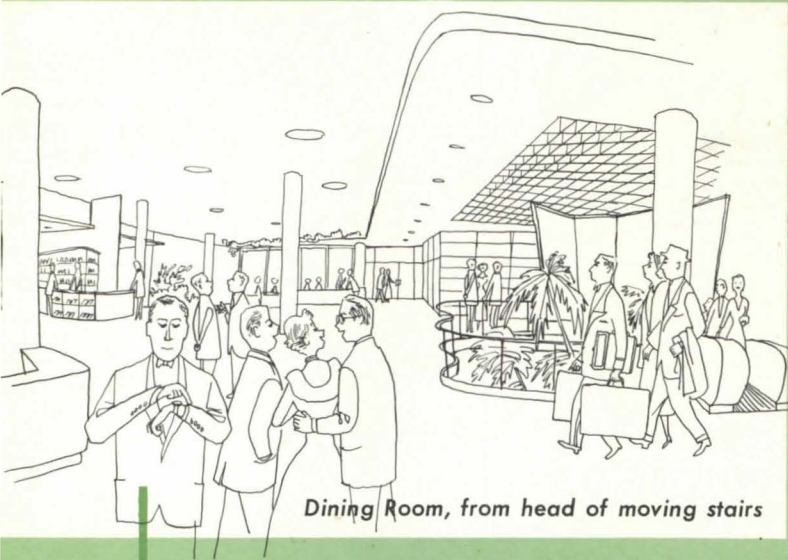
**STATLER CENTER:  
PUBLIC AREAS**



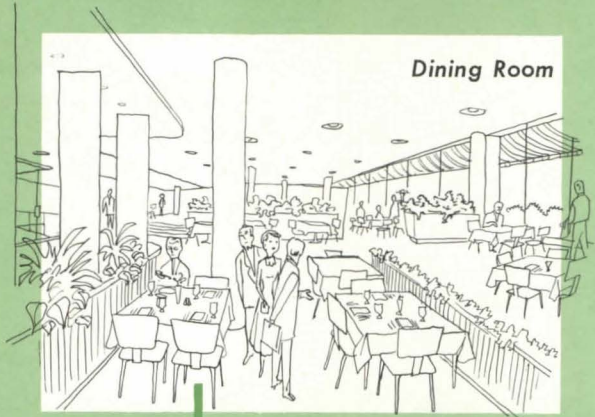
**North-South Section, A-A**

Circulation in lobby floors is a difficult problem in any hotel. Here, with hotel guests, office tenants, and the traffic of non-residents to dining rooms, shops and functions, the difficulties are multiplied. Not only are the areas of public floors great; there is also the emphasis upon openness. The resulting design has what might be termed a unique "looseness" which is intended to produce exactly the opposite of the frequently stuffy hotel lobby. Ahead of one making his way through there will always be a vista enhanced by appropriate greenery; at the same time, certain landmarks will stand out to guide him

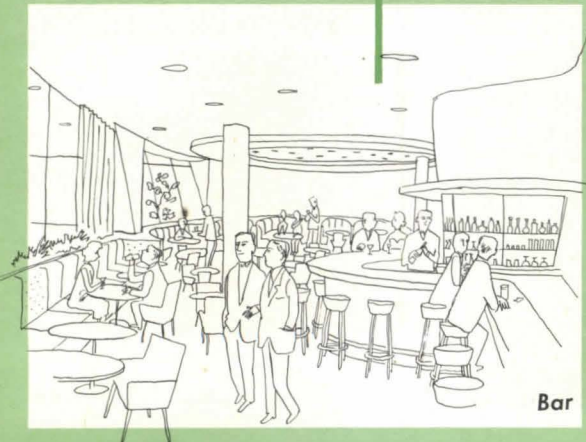
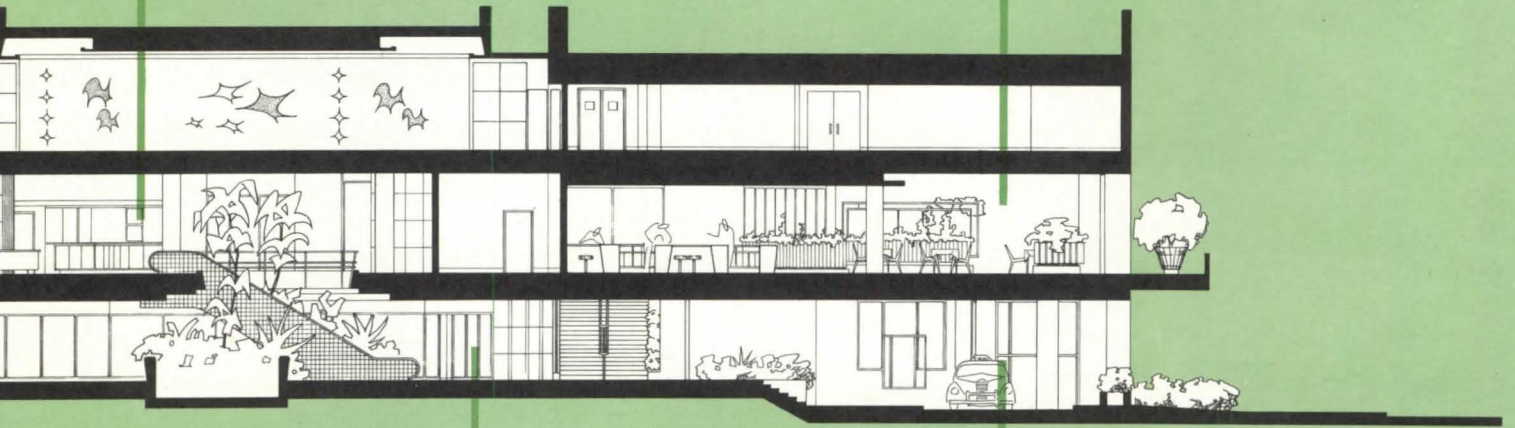




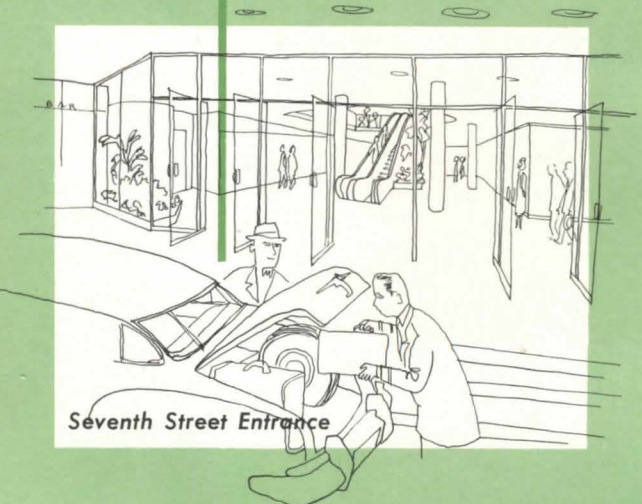
Dining Room, from head of moving stairs



Dining Room

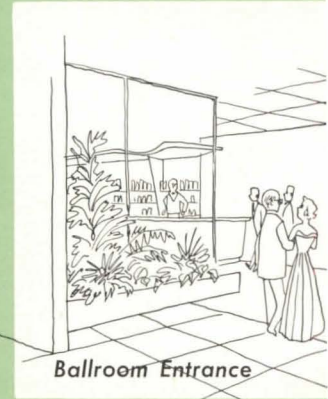
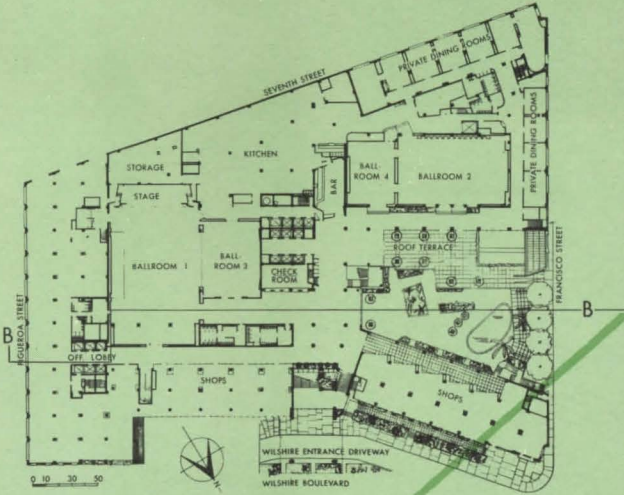


Bar

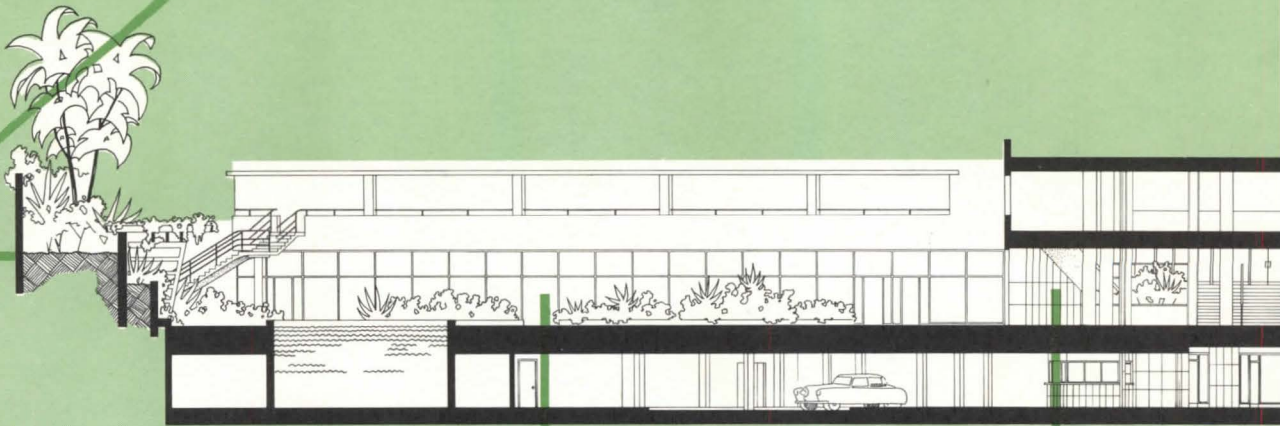


Seventh Street Entrance

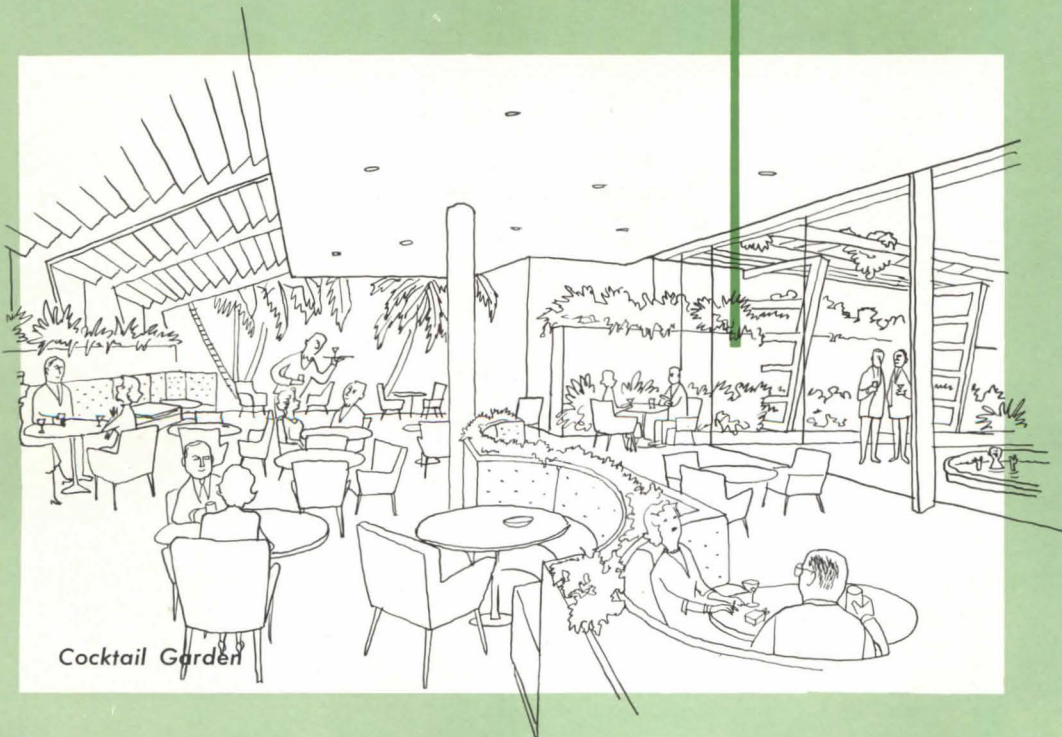
**STATLER CENTER:  
PUBLIC AREAS**



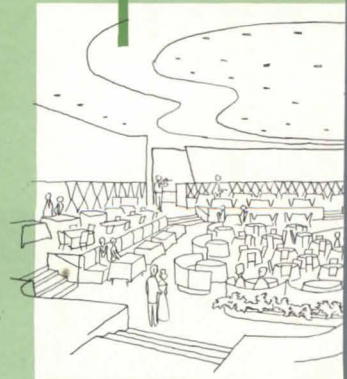
The East-West Section demonstrates the ingenuity with which the substantial difference in elevation of the surrounding streets has been turned to advantage. What might otherwise have only basement use has been transformed into a garden. Surrounded by glass walls, this becomes the feature around which planning of all public levels revolves

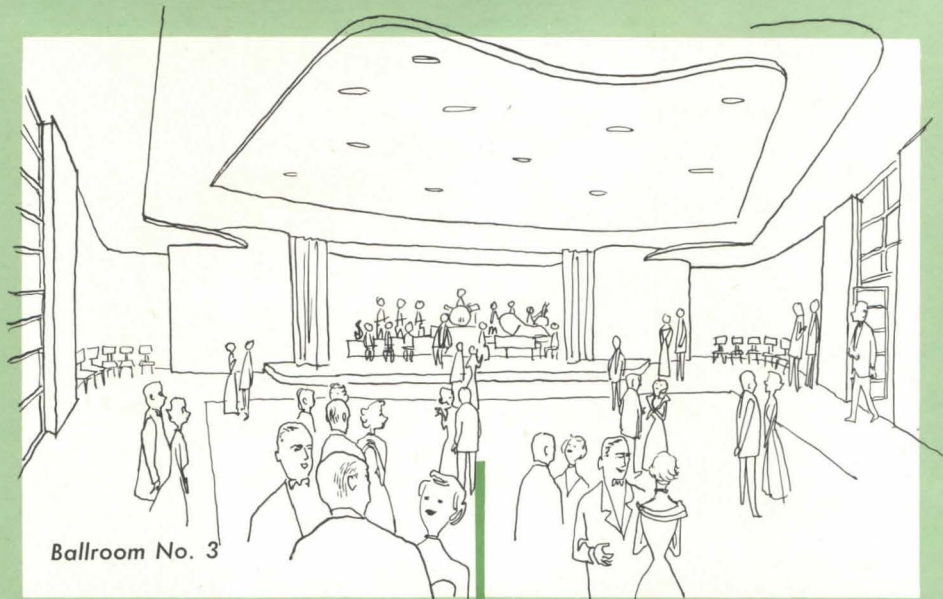


East-West Section, B-B

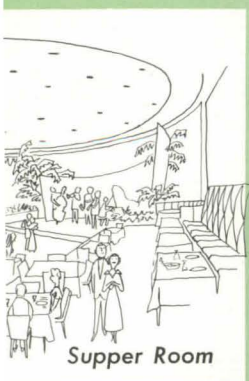


Cocktail Garden





*Ballroom No. 3*

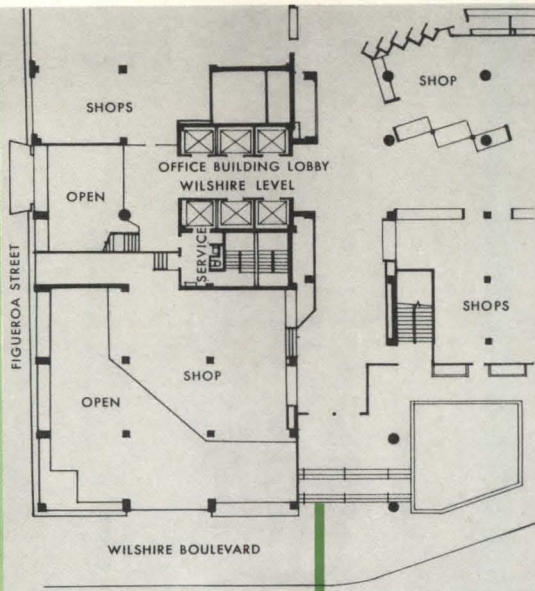


*Supper Room*

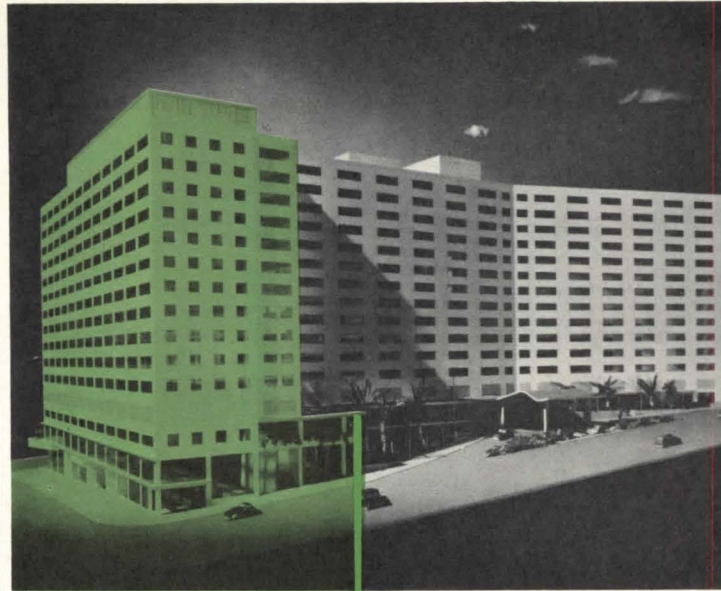


*Ballroom No. 1*

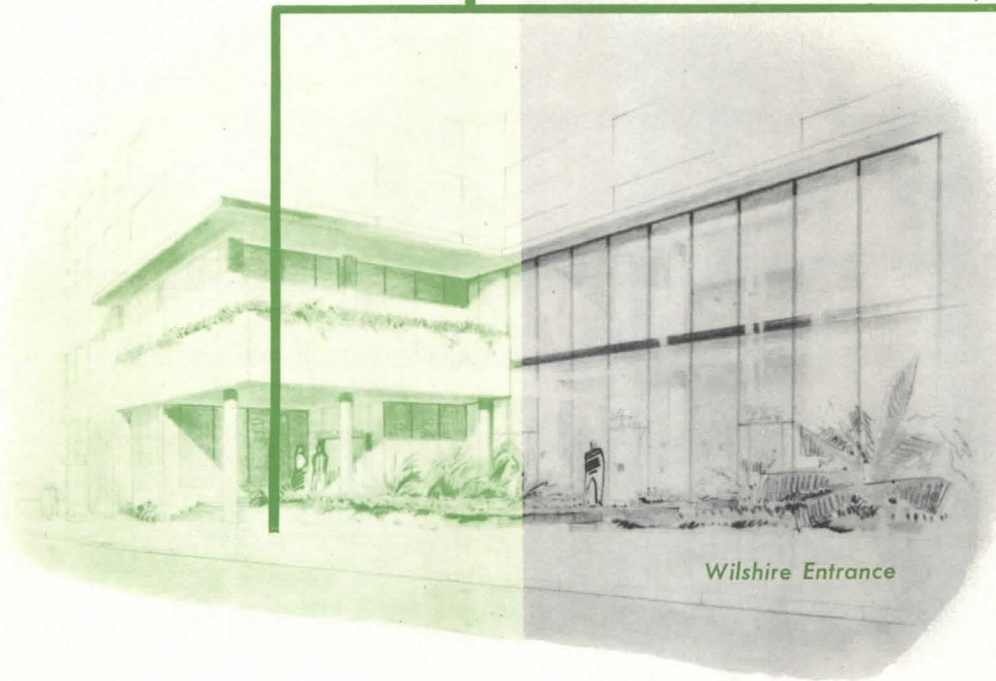
**STATLER CENTER:  
TYPICAL FLOOR**



*Office Building*

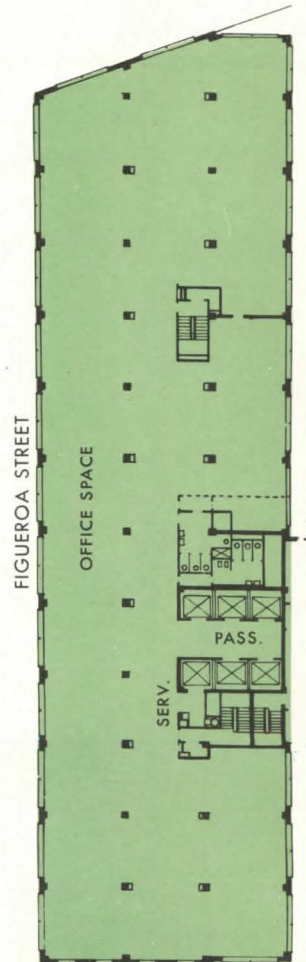


*Hotel*

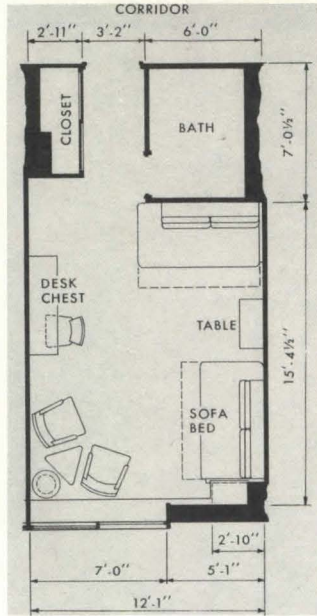
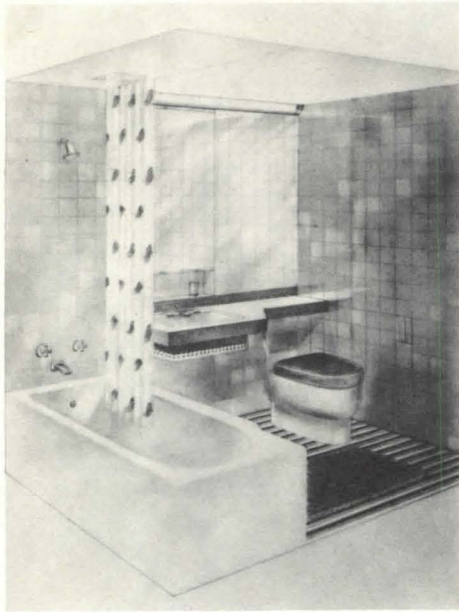


*Wilshire Entrance*

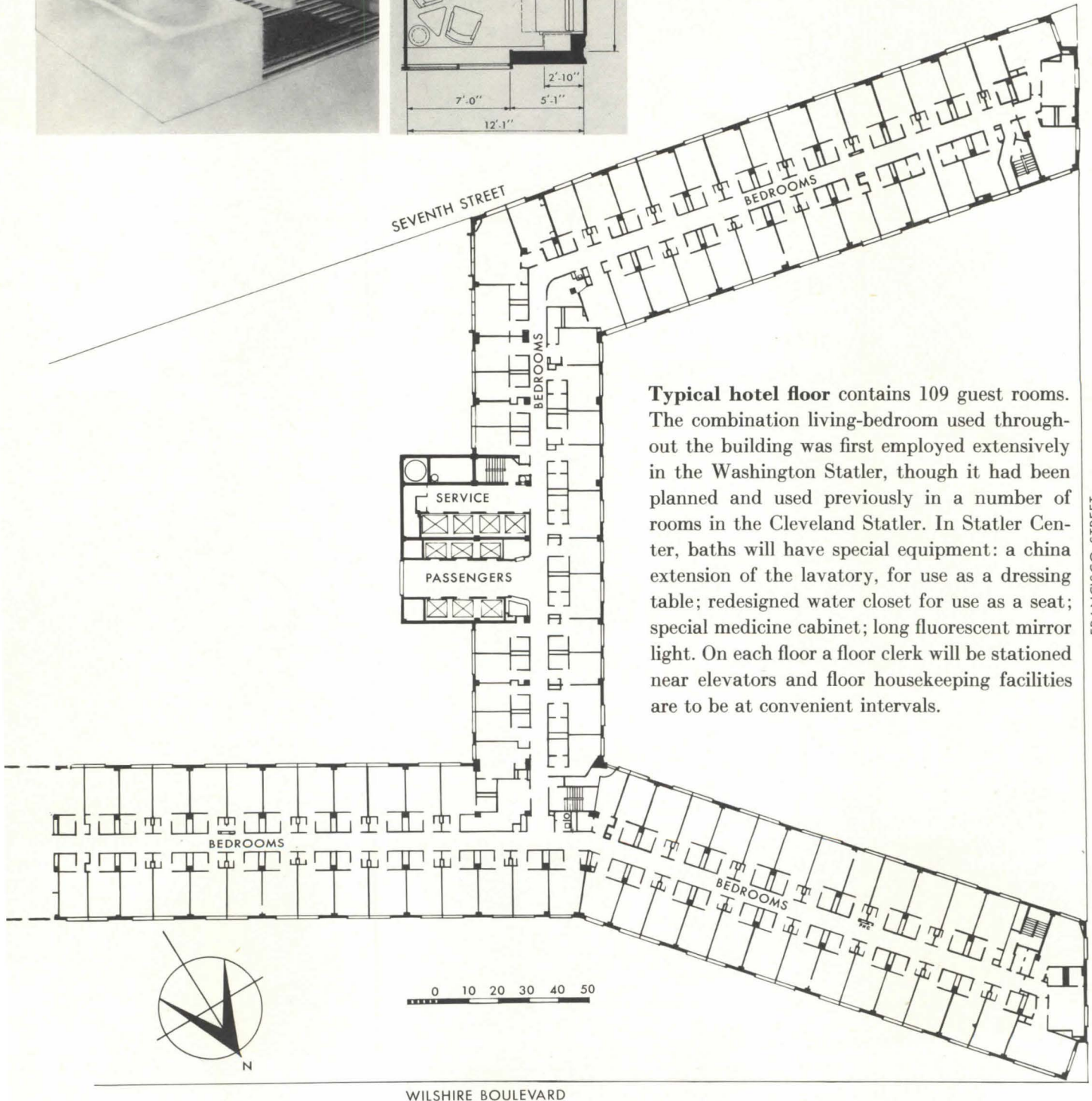
**Rentable office space** totalling 150,000 sq ft is concentrated in the east wing which, facing busy Figueroa St., will help block off traffic noise from the hotel wings. Here column spacing, plumbing lines, etc., have been laid out for efficient subdivision into typical units. This wing, completely air conditioned by a high-velocity conduit system, has on its roof the cooling tower, and also garage exhaust fans. Electrical distribution in office space is unusual: underfloor ducts not only carry low-voltage and telephone wiring for outlets above the floor slab, but also can be tapped for lighting outlets on the ceiling below. Lighting pull boxes are in corridor areas so tenants will not be disturbed when wiring is changed.







Plan of typical guest room and, left, one stage in development of bathroom. Special equipment shown is, in part, still being studied



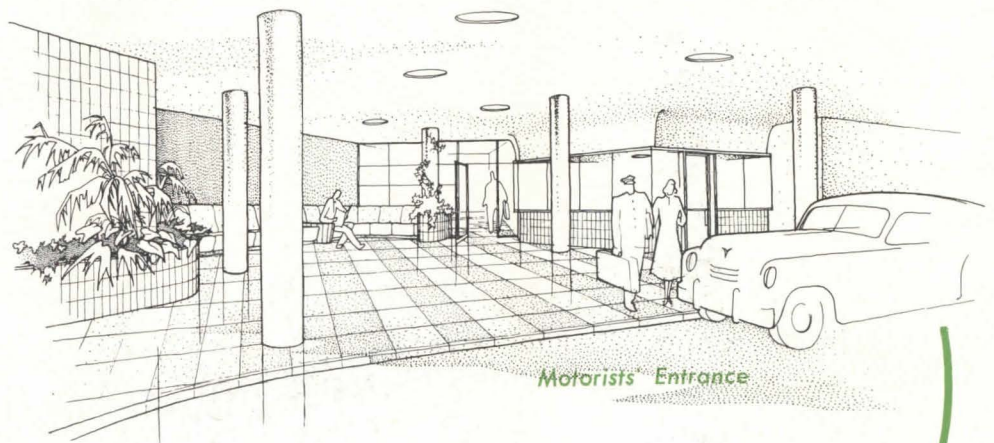
Typical hotel floor contains 109 guest rooms. The combination living-bedroom used throughout the building was first employed extensively in the Washington Statler, though it had been planned and used previously in a number of rooms in the Cleveland Statler. In Statler Center, baths will have special equipment: a china extension of the lavatory, for use as a dressing table; redesigned water closet for use as a seat; special medicine cabinet; long fluorescent mirror light. On each floor a floor clerk will be stationed near elevators and floor housekeeping facilities are to be at convenient intervals.

FRANCISCO STREET

## STATLER CENTER: GARAGE

The Parking Garage, like the off-street loading docks a city requirement, is to occupy most of three basement floors. If the clients and architects had been willing both to sacrifice some upper-level facilities and to accept a less open general scheme, or if restrictions had not limited the hotel's height, the several-hundred-car space might have been built above grade. Underground, the garage needs elaborate ventilation and sprinkler systems. On the other hand, grade-level space can realize greater income than a garage would produce. After such matters were weighed the basement garage was decided upon. A travel-weary guest arriving by car will not realize this; he can drive in, turn his car over to an attendant, register at a desk almost as he steps out, and proceed by special elevator directly to his room without traversing the main lobby.

This presentation in *Architectural Record* for March 1951, appearing also in the April 1951 issue of *Hotel Management*, was prepared in collaboration with the architects and the staff of Hotels Statler Co., Inc. Members of the Statler organization who were concerned with design of the Statler Center include: Harold B. Callis, Senior Vice President and Secretary, Hotels Statler Co., Inc.; Kenneth M. McCann, Vice President, Hotels Statler Co., Inc., Vice President and General Manager, Statler Studios, Inc.; Fred E. Smith, Asst. Vice Pres., Statler Studios, Inc.; W. Randolph Leber, Asst. Vice Pres., Executive Engineer, Hotels Statler Co., Inc.; Edward Podmayer, Asst. to Mr. Leber; Ernest Woltitz, Architect, Chief Designer; I. Noel Simon, Staff Architect; Helen McQuillan, Staff Decorator.



Motorists' Entrance

Plan, top level of Garage

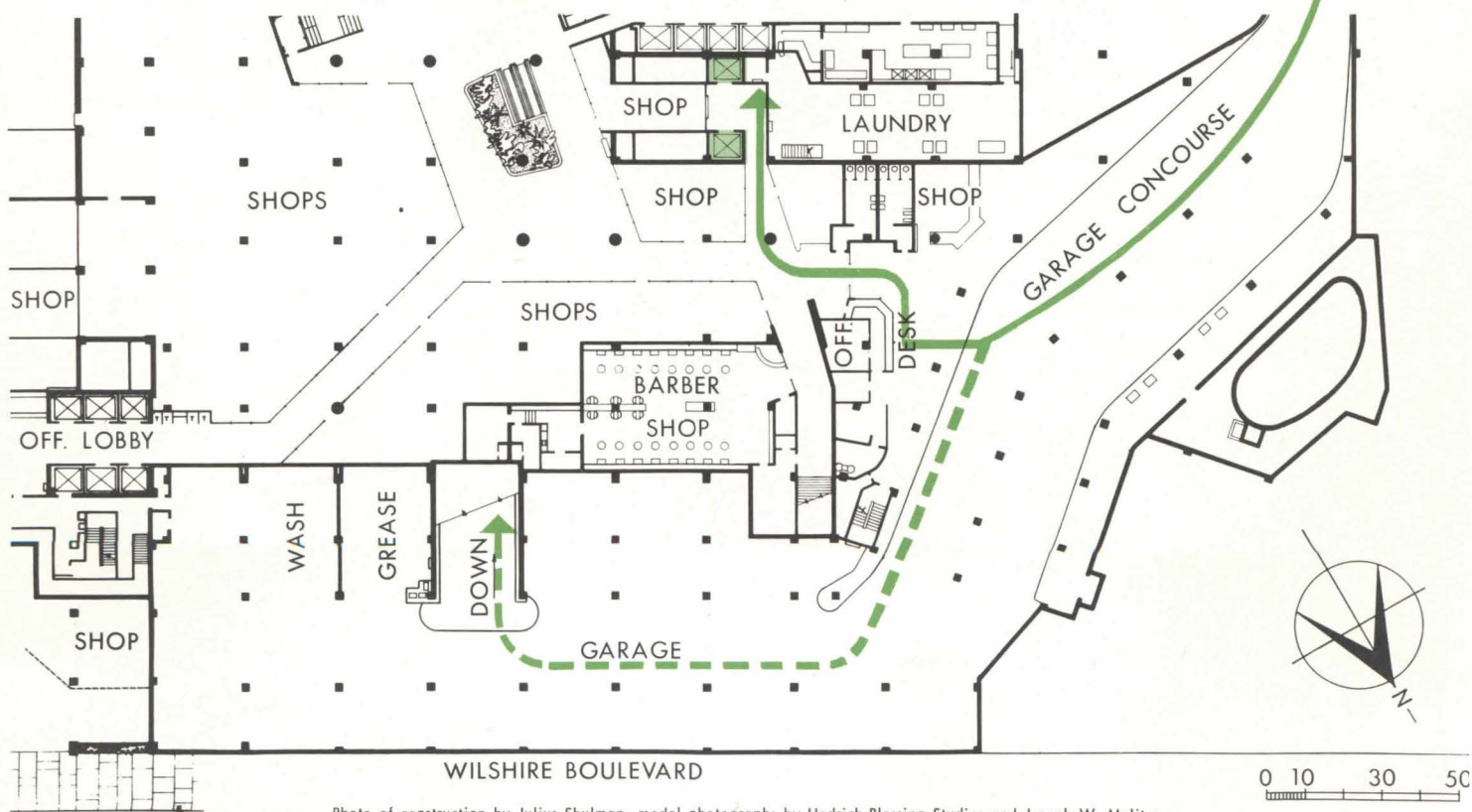


Photo of construction by Julius Shulman; model photographs by Hedrich-Blessing Studios and Joseph W. Malitor.



## A HOUSE WITH "EMOTIONAL CONTENT"

*Residence for Mr. and Mrs. Abel E. Fagen, Lake Forest, Ill.*

*George Fred Keck — William Keck, Architects*

*Marianne Willisch, Interiors*

Hedrich-Blessing Photos



RECENTLY those once-heretical words "warmth" and "emotional content" have appeared more frequently in within-the-family discussions of architecture. Now the taboo has been shifted rather toward "functionalism," first because the word was so much over-used, also, probably, because of a growing sense of confusion about its application. In residential design particularly was it difficult to isolate the "function" to be expressed.

Here is a house in which there was no difficulty about words. Fred Keck's account of the planning assignment for the Fagen family speaks of family interests the house was to express, of development of the solar ideas, of spatial feeling to avoid the monotony of rectangular units, of colors and tones and sculptural forms "to enhance this feeling of relaxation." A considerable package of emotional content.

First in the list of family interests to be expressed was outdoor activities around the farm. The farm is of the suburban type, 80 acres, partially

Hedrich-Blessing Photos

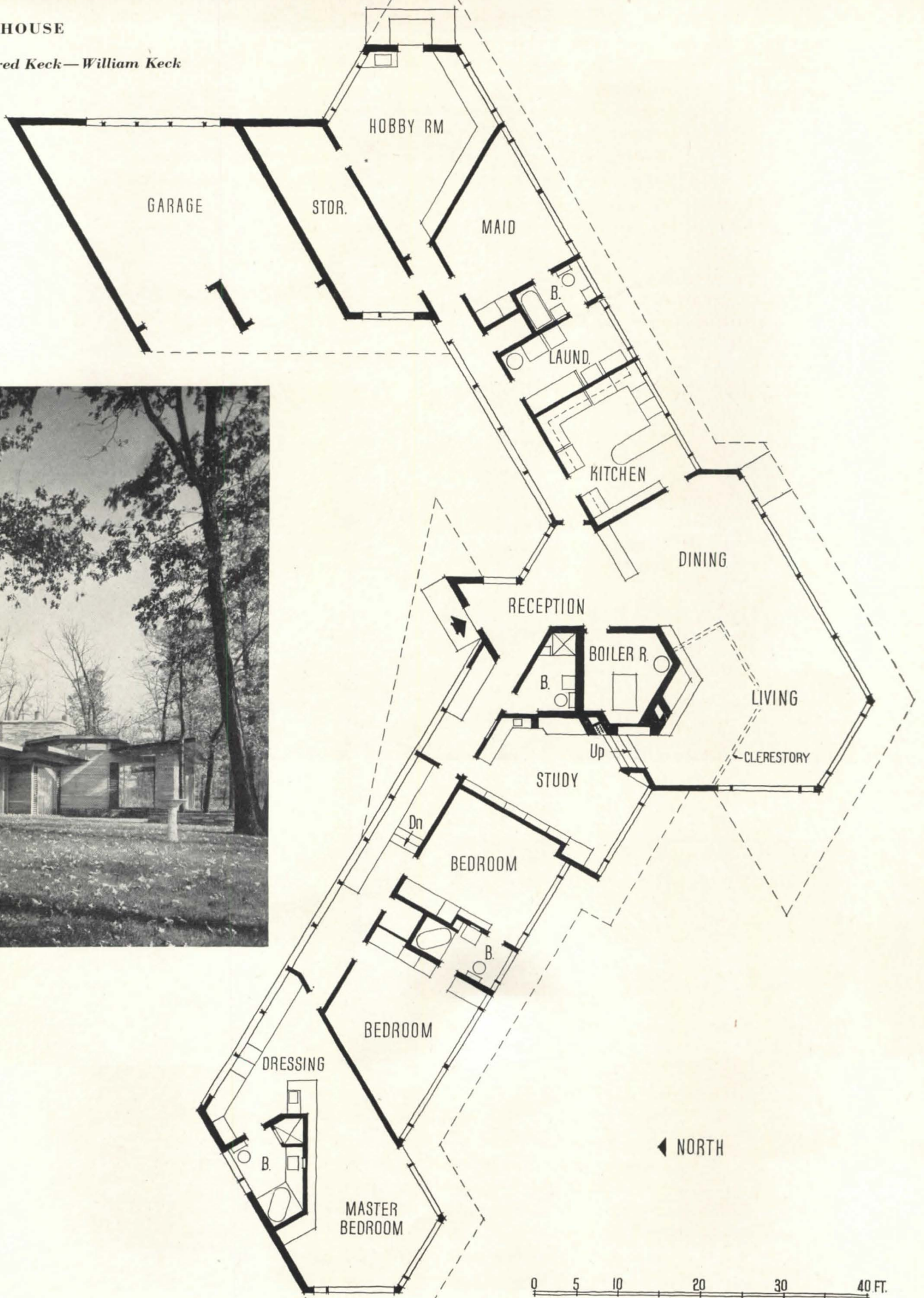


wooded, just outside of Lake Forest, one of the beauty spots of the North Shore. Family comprises parents and three sons, two about ready for college. Mrs. Fagen is especially interested in sculpture and painting, and for the children, music. Entertaining was also mentioned, though the owners had already built a guest house and porch for summertime visitors.

The clients were also sympathetic to the architects' variations on the solar theme. "We made a point," said Keck, "of the angular placement of windows, not only for the view, but also for the feeling of space and for the reflective values of the glass, which add a note to the spatial feeling in the house, and rid it of the monotony of the rectangular unit." The architects also planned a sculptural quality in the spacing of forms and materials. "At the same time it is a comfortable and relaxing house . . . this feeling of relaxation is for me decidedly important, and is achieved by the sun when it is up, and the radiant heat when it is on during colder weather."

FAGEN HOUSE

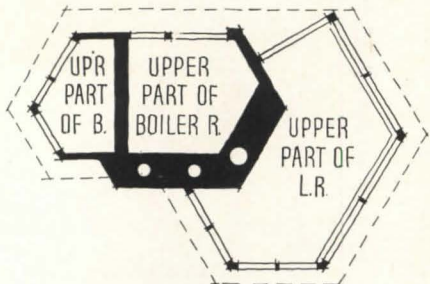
George Fred Keck—William Keck



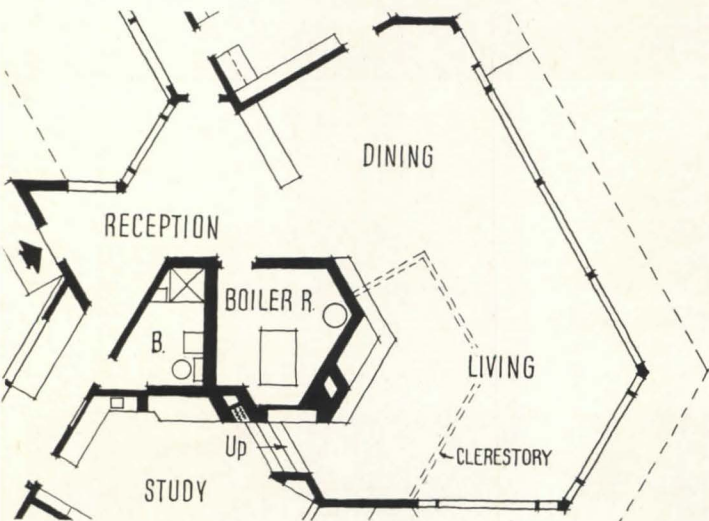
Hedrich-Blessing Photos



Scored plastic screen by Alexander Archipenko



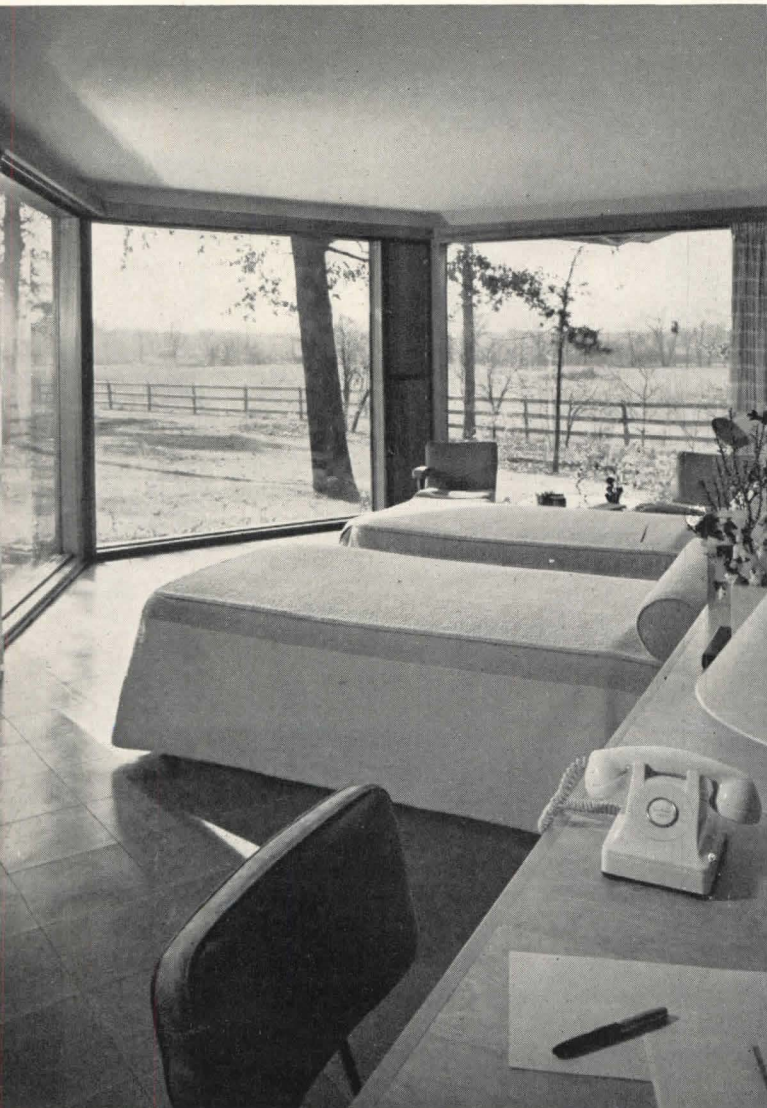
CLERESTORY PLAN





*Bedroom interiors of Fagen house have an intimate visual relationship with the outdoors. All-glass walls are angled for views, also for a sense of spaciousness. Rooms have a feeling of warmth not really seen in photographs, compounded of colors and textures, also sunlight and radiant heat. "It is remarkable how little need is found for an over-supply of rugs on floors that are warm in cold weather"*

Hedrich-Blessing Photos





## TWO NEW ARCHITECTS' OFFICE BUILDINGS

WHEN AN ARCHITECT designs and builds for himself — his own offices or his own home — he is, consciously or not, designing and building a promotion piece for the whole architectural profession. No matter what he says, what he does for himself is bound to be taken, in his own community at least, as the best and most advanced thinking of his profession. The same is true whether he remodels an existing structure (a happy solution in many cases) or builds from the ground up. His clients — past, present and possible future — will look it over and judge him accordingly. He cannot afford to put anything but his best into his designs for his own use.

Yet all too often an architect is content with rented office space which he adapts sketchily to his particular needs. He is reluctant to take on the financial burden of his own building and closes his eyes to the effect his crowded, cluttered and often musty quarters may have on his clients. Fortunately, his clients usually close their eyes, too, to his surroundings and concentrate on the work he turns out.

It doesn't make sense, of course. If he designs and builds his own offices he stands to gain on three separate and specific counts:

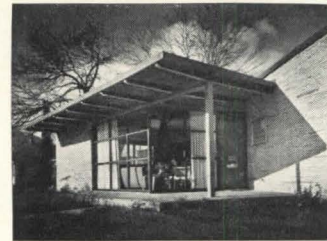
1. His building will be good advertising.
2. It will show his clients what he can do.
3. It will give him more efficient production and a far happier staff.

The experience, of the two firms whose offices are shown above and on the next eight pages are typical. In Greenfield, Mass., James A. Britton, A.I.A., had been looking forward for some time to a building of his own. He had bought a large lot in a semi-residential area rather far out on the main street, and had sketched various plans for a building which would house his offices and would also bring in rental revenue. Then one Sunday noon he needed a certain plan in a hurry. Completely exasperated when he could not find it (his storage facilities were like those of most architects), he decided then and there to forget about a possible tenant and to



JAMES A. BRITTON, A.I.A.

JESSEN JESSEN MILLHOUSE & GREEVEN



build solely for his own use. He sat down at a drafting table, made a few rough sketches — and that was that. By three o'clock the next afternoon both contracts and sub-contracts had been let. The bulldozer moved in at nine o'clock the following morning.

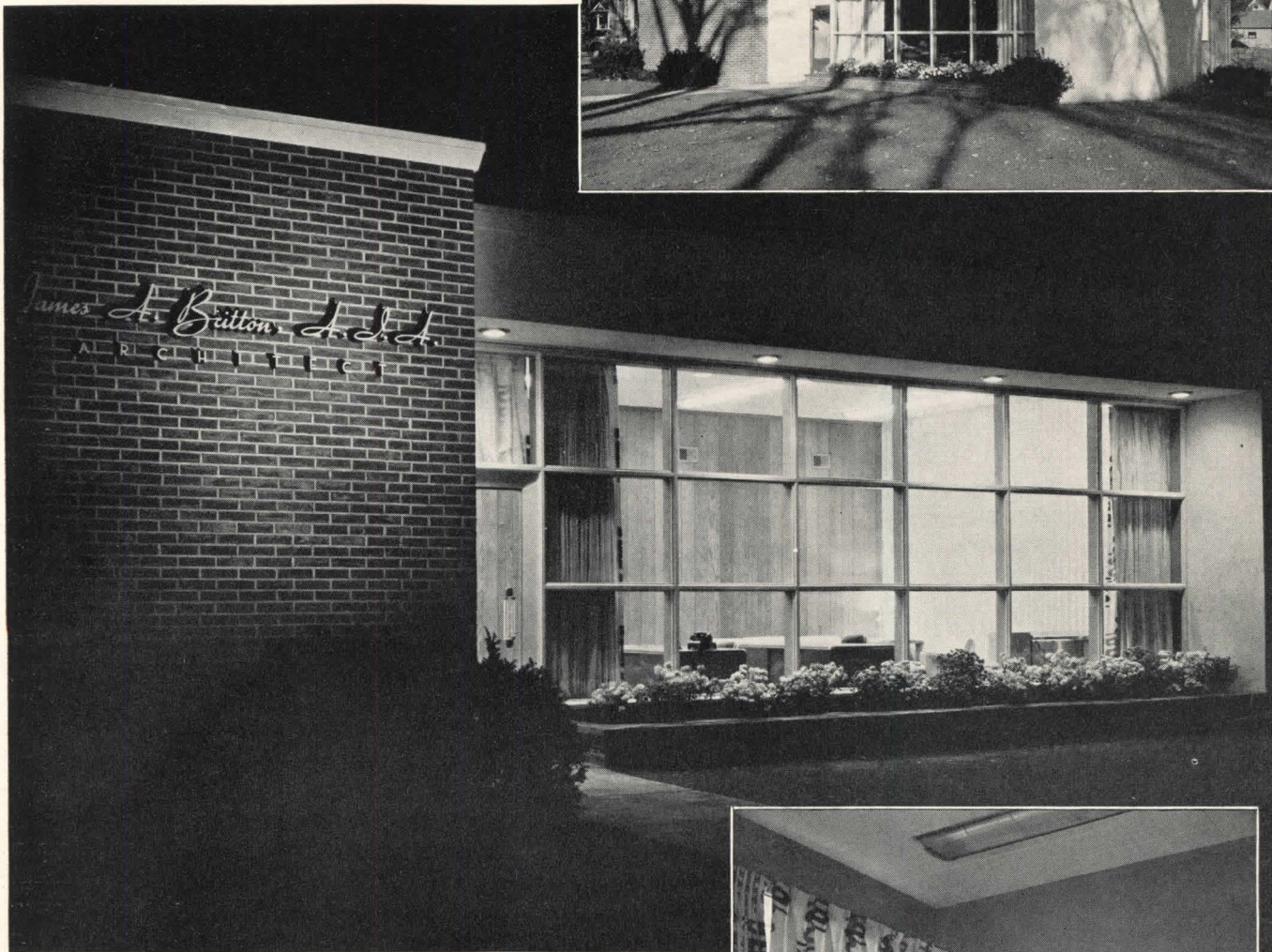
In Austin, Texas, the architectural firm of Jessen Jessen Millhouse and Greeven decided at about the same time to put up no longer with makeshift quarters. Like Mr. Britton, they designed a one-story building exclusively for their own use. They chose a site in a residential area and obtained the required zoning waiver. By a curious coincidence both firms elected to open their reception areas to the public with generously proportioned windows along the main thoroughfare, and both angled their buildings to give the public the best possible view of their activities. Far apart as they are geographically, the two buildings thus have a lot in common.

Both firms report uniformly favorable reactions to their new quarters. Mr. Britton credits several sizable commissions directly to the impression his present offices made on prospective clients. Jessen Jessen Millhouse and Greeven report that their new building was a traffic hazard for months because so many Austin motorists stopped for a look. Both firms stress the promotion advantages noticed to date.

But what would happen to these two buildings if their owners vacated them? Are they so "special" that they could be used by no one but architects? The answer is emphatically no. Either building could be converted almost without alteration to doctors' or dentists' offices, a small clinic, perhaps a nursery school. Each has two large rooms — reception and drafting — plus smaller offices and what amounts to a frank store front. No matter what happens to the firms now occupying them, these two buildings have a long and useful life ahead of them. Meanwhile they are adding materially to the prestige of the architectural profession and are bringing to their owners innumerable unexpected benefits.

# OFFICES OF JAMES A. BRITTON, A.I.A.

*Greenfield, Massachusetts*

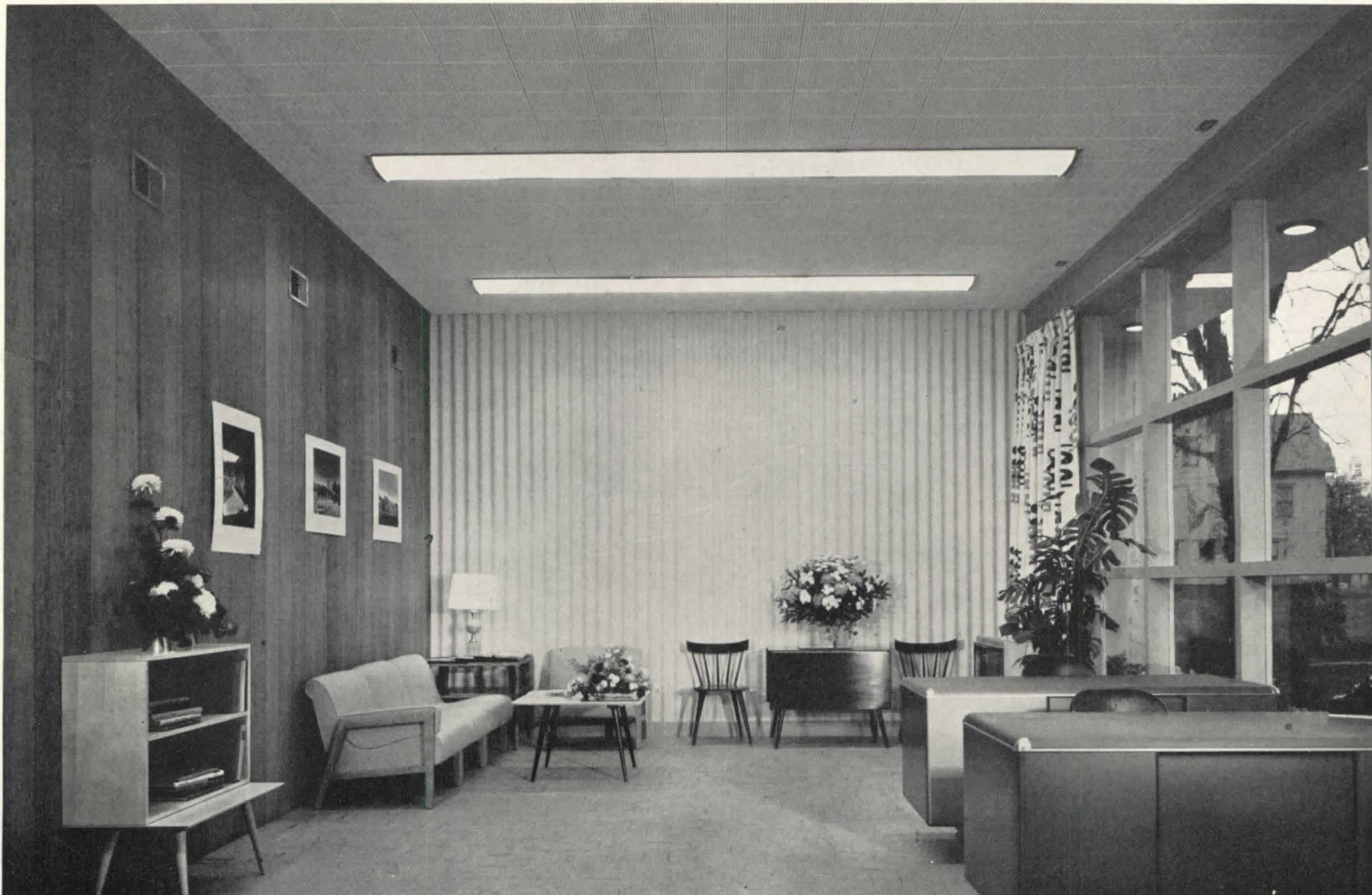


Color plays an important part in the effectiveness of Mr. Britton's new building. Exterior is red brick and white stucco. Reception room (right and opposite) has one wall of lime yellow corrugated transite, one of natural redwood; drapes are lime yellow and garnet. An aquarium filled with colorful tropical fish stands in the window just behind the secretaries' desks; it fascinates waiting clients. Lighting here and in Mr. Britton's office is fluorescent, a combination of warm white and daylight blue, which can be used alone or together to change the lighting mood



UNDERLYING MR. BRITTON'S DESIGN for his new offices is a strong understanding of public relations. The building is planned to make the citizens of Greenfield constantly aware of what is going on inside: passersby approaching from either direction get a clear view of the reception room, even at night. The large site is landscaped to permit seasonal displays along the front and a "working garden" in the rear to supply cut flowers for the reception room and private offices. Prospective clients are led through the drafting room to the conference room.

Joseph W. Molitor Photos

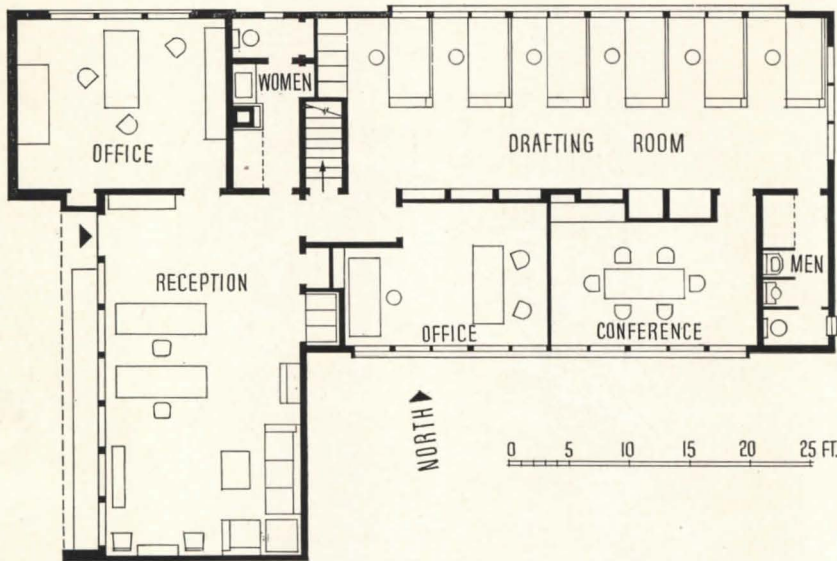
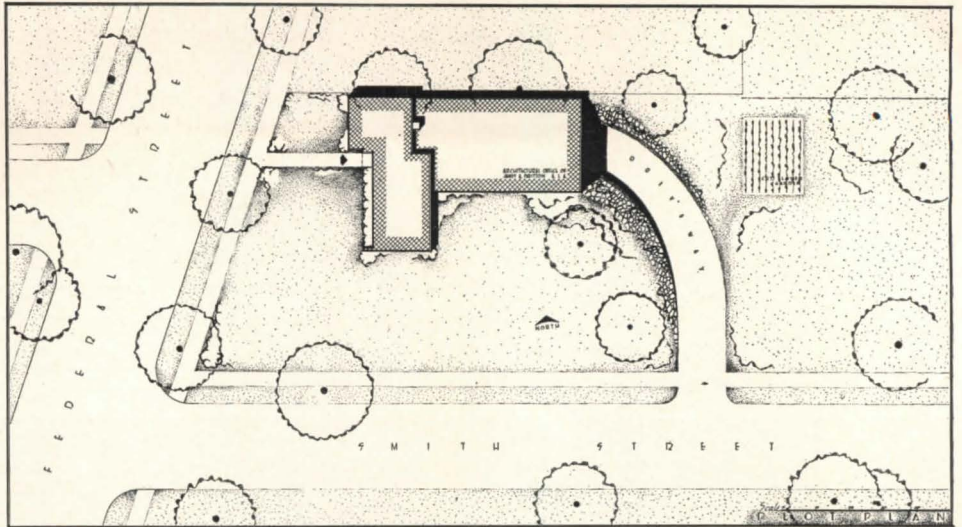


The building impresses the visitor instantly as compact and orderly. There is no clutter anywhere. Not a single file cabinet juts out from the wall. Blueprint files, book shelves, storage cabinets, all are built in. Not an inch of space is wasted. Even the garage, below the drafting room wing, serves a multiple purpose — it doubles as an exhibition hall, as a model workshop (the firm builds all of its own models), and as a gardener's toolshed.

Exterior walls are brick, stucco and redwood siding. Framing is wood and steel on a foundation of 12-in. cinder concrete units on 8-in. reinforced concrete slab. Ceilings throughout are acoustic tile.

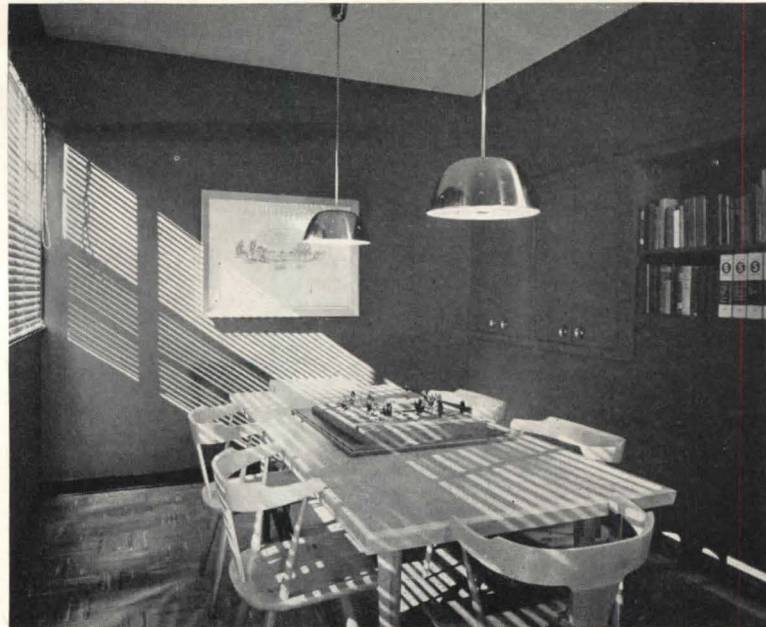
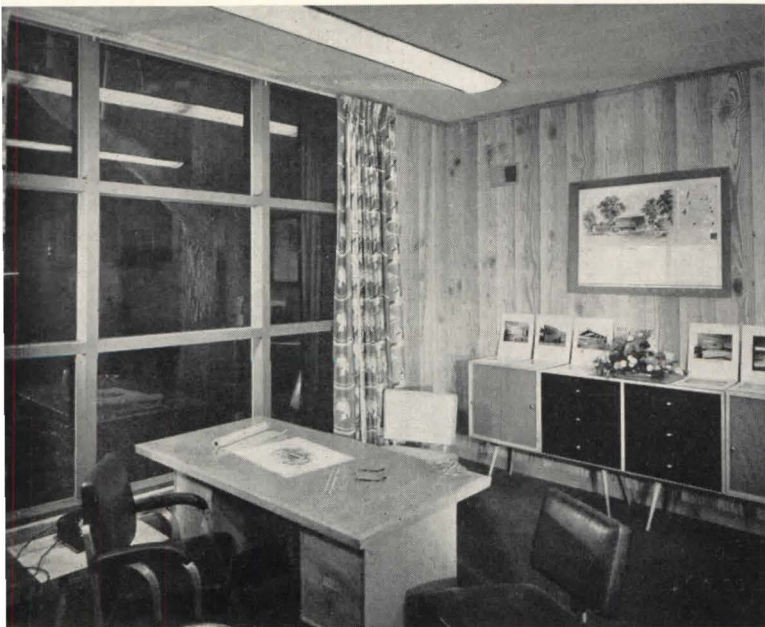
*Filing cabinets and supplies in the combination reception room-office are hidden in a closet (barely visible at extreme left of photo above) just opposite the secretaries' desks*

Because Greenfield is close to no large city, Mr. Britton has planned his offices to be as self-sufficient as possible. He makes his own blueprints, photostats and models, and plans to add a decorator's service later on. Decorator's office would be an extension at south end of reception room, with own entrance

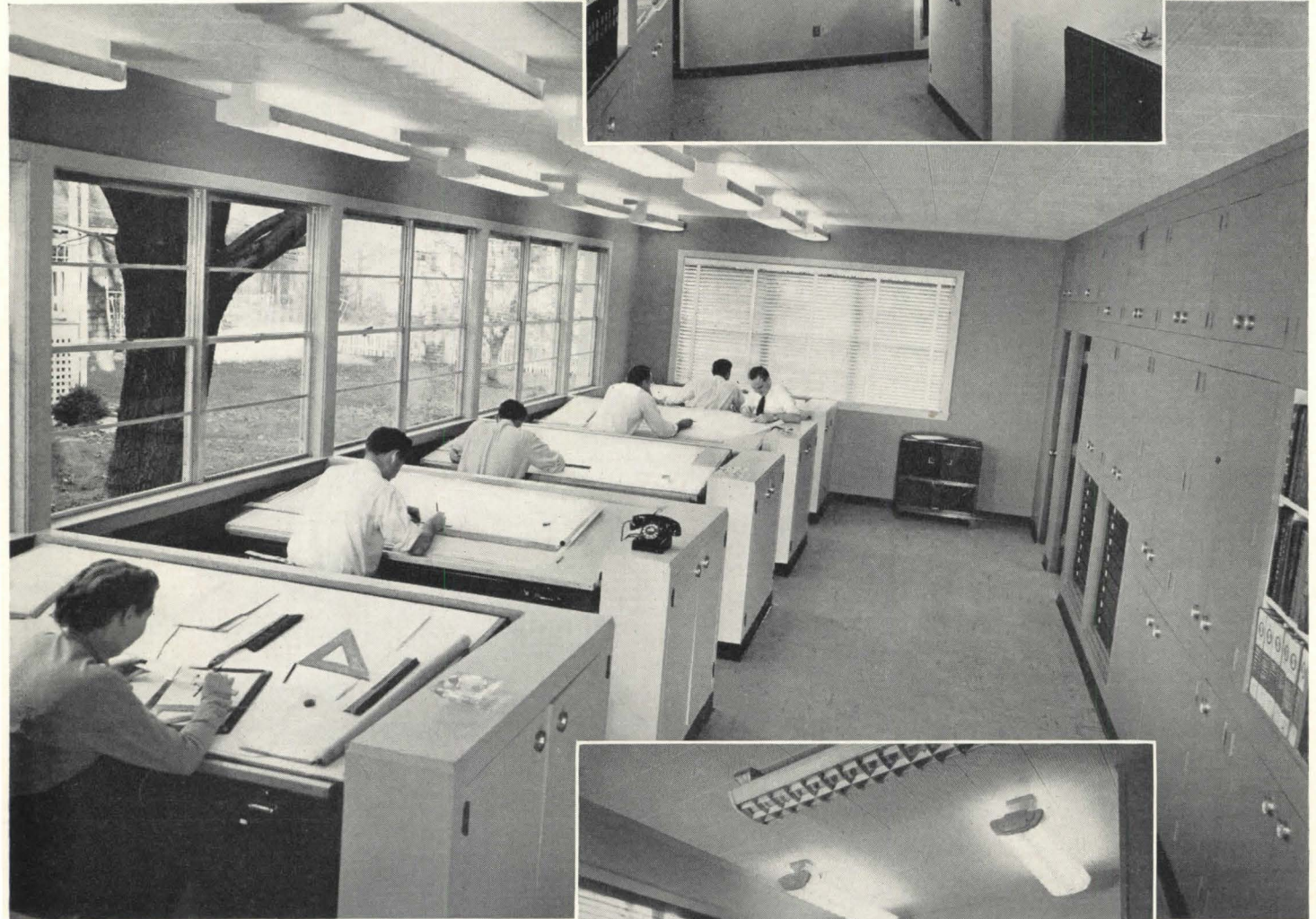
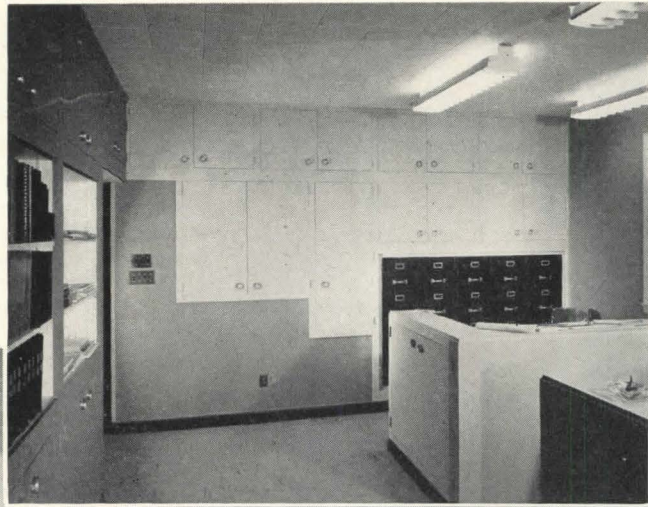


Mr. Britton's own office (below, left) has one wall in gray, one in henna brown corrugated transite; the third is Southern pine, sand-blasted to remove soft winter wood, lacquered and sprayed with white lead; window trim is orange geranium, drapes are Pegasus print in white and geranium; carpet is soft green over an inch-thick padding of sponge rubber. Conference room (below, right) is in deep green with one brown cork wall for display; accents are deep henna red; lighting fixtures are Finnish spun brass

Joseph W. Mollitor Photos



Drafting room (right and below) has lobster red storage wall against background color of blue-green. Built-in units are a warm tan-gray. Almost all furniture for entire building was designed by the staff and made on the premises; table and desk tops are flush-type birch veneer doors. Display frames take standard 30 by 40 mounts, can be remounted in seconds

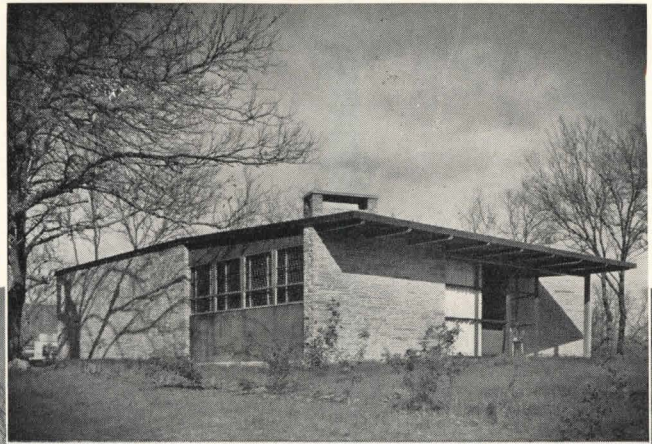


Chief designer's office (right) has one brown dubonnet wall, other walls in kid gray. Interior of cabinets is dubonnet. Brass rings are used as handles on cabinets and drawers throughout the office



# OFFICES OF JESSEN JESSEN MILLHOUSE & GREEVEN

*Austin, Texas*



Mears Studio Photos

*Exterior of the building is grayish-pink stone with warm gray stucco panels under windows. Strong color accents of dark brown, yellow, blue and terra cotta red are used on beams, posts, window trim. Conference room opens to a terrace (right)*



AS ITS NAME IMPLIES, the Austin firm of Jessen Jessen Millhouse & Greeven consists of four partners who work together as a team. This is reflected in the plan of their new building: instead of four private offices there is one large reception and office area flowing into the conference room. The whole plan centers on the drafting room which is large enough to accommodate the architects' own four tables and up to six others for draftsmen. The adjoining work room has a snack bar; a sample room and two machine rooms are readily accessible.



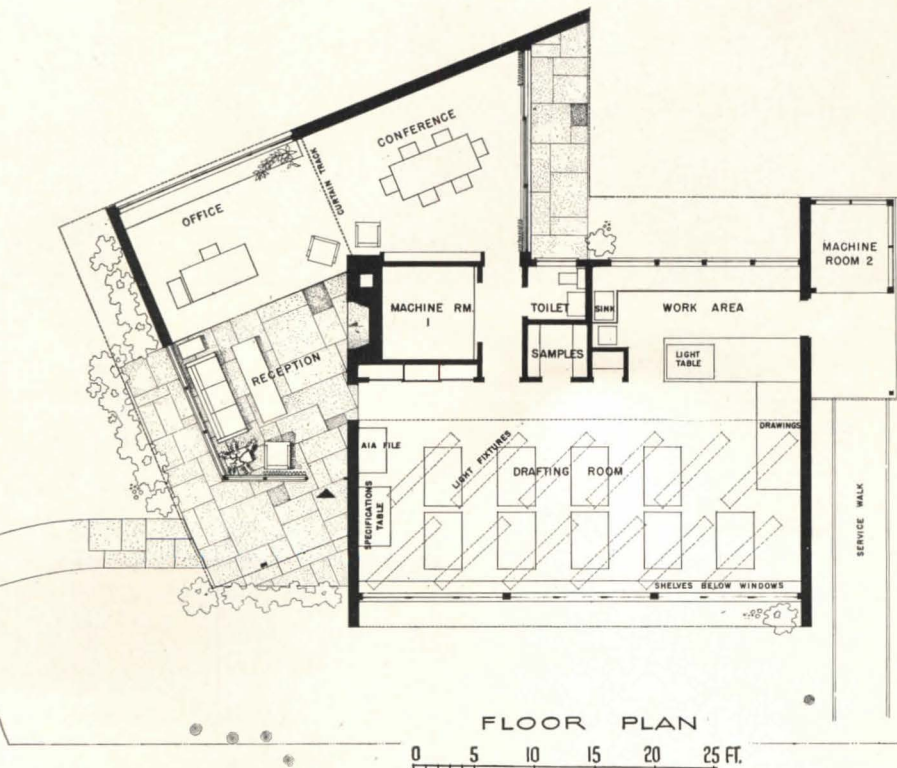
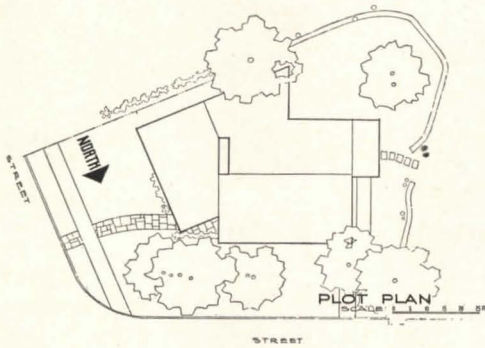
The building is located in a residential section about a mile and a half from the center of town, in a section adjoining the University of Texas campus. It fronts on a one-way street not over-burdened with traffic; parking is no problem. The shape and rather small size of the lot, however, called for careful placing of the building, and resulted in a plan (see next page) angled to give the conference room complete privacy while at the same time opening the reception room to passersby.

In the year since they moved in, the owners have become more convinced than ever that pleasant surroundings add much to business in general. They are increasingly enthusiastic about their new location, and very pleased with the reaction of their neighbors.

*Both drafting and reception rooms face the street and give passersby a glimpse of the activities within. Except for north wall (above) the general character of the building is residential to fit the neighborhood*

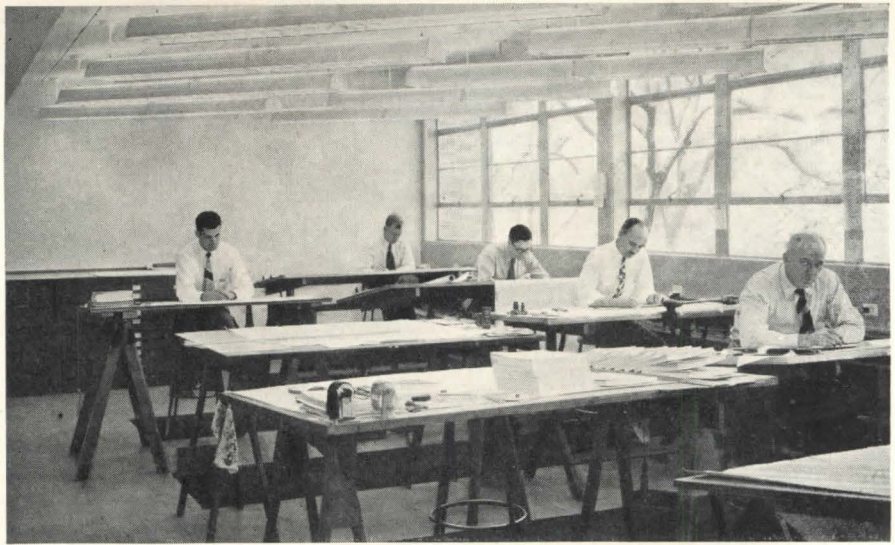
Some architects tend to look on their drafting room as a strict working area to which the general public is not admitted. Others consider it the *raison d'être* for the whole building and plan it to be seen and inspected by all visitors. Jessen Jessen Millhouse & Greeven chose a middle path: their drafting room is clearly visible from the street but is completely shut off from interior traffic.

Ceilings throughout the building are acoustically treated — with fiber matting in the reception room and acoustic board elsewhere. Floors are sandstone or asphalt tile. The building is air conditioned, and insulated in walls, ceilings and roof deck.





Many of the materials used on the exterior carry through to the interior, notably the ledge stone of the fireplace wall. Carpeting in conference room and office is beige, drapes are a blue figure on a natural gray background



Drafting room walls are a grayish-yellow; ceiling is white. Fluorescent fixtures are mounted obliquely over the tables, giving the maximum possible intensity just where it is wanted. Book shelves are installed below the windows, files are convenient





*The trend toward decentralization, long an issue in our major cities, is becoming increasingly important in relation to the imminent expansion of housing to meet defense needs. Greater dispersal of population is also being urged for military reasons. As decentralization continues, steps which will preserve the peace-time economic balance of our cities take on added importance. Business, as well as industry, will have to disperse its facilities to serve the outlying areas. This study brings into focus a number of diverse factors affecting the planning of regional shopping centers which will complement, rather than compete with, existing central business districts. Such centers will serve not only during the emergency period but will also be of permanent value. We cannot afford to build these facilities twice. Fortunately, immediate military and long-range civilian objectives in this instance practically coincide.*

## REGIONAL SHOPPING CENTERS

*By Kenneth C. Welch, A.I.A.*



**I**N THE PAST FEW DECADES many revolutions have taken place that have materially affected our metropolitan areas. There has been a tremendous population increase, accelerated by increased commercial and industrial activities. The impact of the automobile has caused this growth to take place mostly in suburban and even rural areas. The private automobile makes suburban living possible and desirable, even if the wage earner has to commute to the city; the truck permits a compatible decentralization of commerce and industry — which means more jobs for the suburban dweller. Automobiles have also created great problems in the design of highways and parking facilities, which will be discussed in more detail later in this study.

Part of the population of the central cities has also moved into the suburbs. However, the exodus of purchasing power to outlying areas has been relatively greater than the number of families. The 1950 census in the 12 largest cities shows that the population in the central cities has decreased from 60 to 55 per cent of the total metropolitan population in only 10 years. The present median income in the suburbs is \$4200, 35 per cent greater than the \$3100 of the central area. In the same cities, retail sales in the suburbs increased 217 per cent, but the central city increased only 172 per

cent, including the sales of many outlying city store branches and shopping centers.

Retail distribution in the central business districts has also been vitally affected by the fact that many suburbs have a population density too low to support mass transportation. Lack of this increases use of cars, and further aggravates traffic congestion and shortage of parking facilities in the central cities.

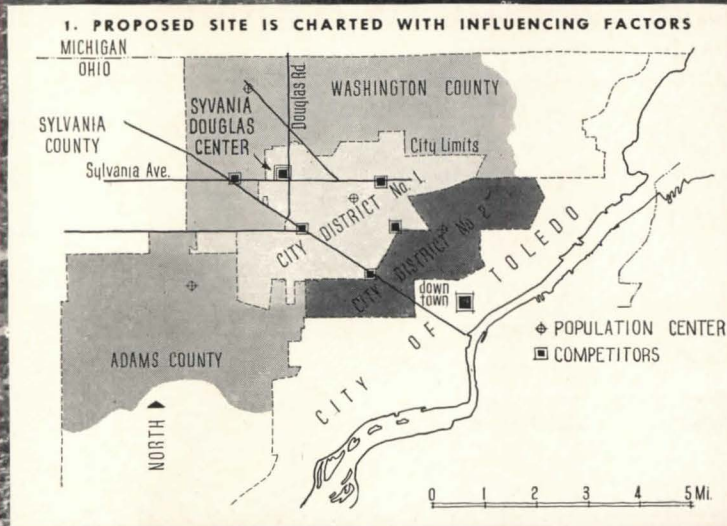
These factors have caused the mushrooming of neighborhood shopping centers throughout suburban areas. Parking is less a problem in such locations because adjacent residential streets are used for parking for employees and overflow peaks. Goods are also more convenient to the housewife and shopper. Haphazard planning, however, has led to a bursting-at-the-seams congestion in many of these centers which duplicates, on a smaller scale, a number of the problems of the central districts. The photo at left illustrates such a case, with congested streets, and sidewalks devoid of pedestrian shoppers.

### *A New Pattern Is Necessary*

To help solve these problems, a new pattern of regional retail distribution is needed, based on a planned, constructive decentralization. It would take advantage

# SALES POTENTIAL DETERMINES IDEAL SITE

*A Typical Study Made for Toledo, Ohio*



of the trends, and create a new type of regional shopping center to fit the suburbs and the automobile. At the same time, it would preserve a healthy central business district. Each center would have a cumulative pull approaching in effect, if not in scope, that of the central district. A series of such centers could be considered branches of the concentrated downtown retail area. Together with the central district, they would serve an entire metropolitan sprawl. The outlying stores would sell to a segment of the region. The central district would operate more efficiently and partially serve the entire area, plus a larger area served by regional transportation. In such a relationship, the regional centers would complement, rather than compete with the downtown stores. Their relation with the community should be carefully analyzed, as shown in the example (above) for a proposed Sylvania-Douglas Center, Toledo, Ohio.

## Types of Goods

The types of merchandise and retail services offered in shopping centers differ greatly in their scope, type and power to attract customers from a given time distance. They also vary in relation to purchasing power, impact on the metropolitan area, land and structural use, transportation, and economy.

*Convenience goods* constitute items bought daily or weekly, such as are found in food stores, drug stores and eating places. It is the kind of merchandise that can be ordered by telephone if delivery service is available. It also includes such services as repair, cleaning, laundry, personal services and health items. The key unit is the combination grocery-meat store. Convenience goods stores are completely dispersed in sizable numbers throughout most metropolitan areas.

*Shopping goods*, on the other hand, constitute seasonal to lifetime needs. They are of two kinds, fashion and service. The former consists of apparel and home furnishings. The latter includes a great many durable goods requiring installation and repair services, such as refrigerators, washing machines and automobiles. The department store is the key unit of the shopping goods stores.

Shopping goods cannot usually be ordered satisfactorily over the telephone. Customers are partially pulled from a given region by a wide variety of publicity media, which usually cover the entire metropolitan area. Thus, the congestion-locked central district stores often waste publicity dollars because they cannot handle trade from the entire area covered, due to changed transportation habits. A single outlying store



## 2. U. S. INCOME STUDY INDICATES INCREASED SALES

Standard of Living	1929 Income Level	% of Families	1949 Income Level	% of Families
Poverty—Bare Subsistence	Under \$1699	42.2	Under \$2399	30.0
Minimum Comfort, Comfort, Moderately Well-To-Do	\$1700 to \$5999	49.6	\$2400 to \$9499	66.0
Well-To-Do	\$6000 and over	8.2	\$9500 and over	4.0

Based on living standards estimated by Paul Nystrom of Columbia University in 1929, brought up to 1949 by Professor P. D. Converse of the University of Illinois, and further developed in *Business Week*

## 4. CONSERVATIVE ESTIMATE GIVES SALES POTENTIAL FOR PROPOSED SITE

Income Group	Annual Average Family Income	Annual Expenditure Per Family		Potential Annual Sales After Discounts	
		G A F	Food	G A F	Food
Very Low	\$769*	\$ 250	\$ 536	\$ 652,000	\$ 801,000
Low	\$2000	\$ 575	\$1000	\$ 948,000	\$ 874,000
Medium	\$5500	\$1130	\$1450	\$2,500,000	\$1,765,000
High	over	\$1950	\$1900	\$1,280,000	\$ 688,000
Very High	\$10,000	\$2500	\$2400	\$ 362,000	\$ 155,000
Totals				\$5,742,000	\$4,283,000

\*Part of expenditure is installment buying

## 3. ALL FACTORS AFFECTING NUMBER AND TYPE OF EXPECTED CUSTOMERS ARE COMPUTED

Economic District (Toledo Area)	Time distance in minutes	Discount in %		Estimated No. of families 1949	Percentage of Families in income groups					
		Time Dist.	Competition, existing habits		Very Low	Low	Med.	High	Very High	
			GAF*							Food
City District #1	9	18%	75%	85%	14,600	14.5	24.9	46.2	13.1	1.2
85% Washington Township	10	19%	65%	75%	6,207	60.4	16.8	14.8	4.9	3.0
70% Adams Township	15	29%	70%	80%	3,133	60.4	16.8	14.8	4.9	3.0
City District #2	16	31%	85%	95%	18,108	38.5	26.3	25.0	8.2	2.0
Totals or Average					42,048	35.0	23.6	30.2	9.1	1.9

\*General merchandise, apparel and furniture stores

without a central unit often cannot afford this kind of publicity. The shopping goods stores, therefore, form a logical nucleus for regional centers.

### Existing Centers

In approaching a study for a new regional shopping center, one can learn much from an analysis of the advantages and disadvantages of existing facilities. The ideal regional shopping center combines the desirable qualities of both the downtown area and the more familiar types of present-day shopping centers.

The downtown center has, heretofore, been the only one providing an ample selection of shopping goods, and consequently has been the only real regional puller. It has also been a very logical centralization of vital activities of all kinds. The central district is generally at the hub of a mass transit system, and a system of thoroughfares and railroads which reach out into the surrounding metropolitan region. The large concentration of business and other activity attracts a great many people, labor force and visitors, creating in its relatively limited circulation area an economically useful, concentrated pedestrian purchasing power. In addition to this, the number of skilled retail operations and wide selection of merchandise augment the cumulative pull.

The extent of the region from which it pulls depends entirely upon the size and number of stores. The considerable investment in all kinds of commercial structures, and in effort in retailing, has created an anchor of tremendous importance to the community.

On the other hand, great difficulties have arisen in the downtown district because of the great confusion and interference of vehicles and pedestrians. Difficulty in moving goods in and out of the area has considerably increased costs of doing business. The limited street and parking areas cannot be economically increased to any appreciable extent in relation to floor area. Only if it were possible to do this could the central district be adapted to a greater use of automobiles for business and shopping needs. Additional parking in this limited area simply congests existing and economically frozen streets all the more. Even the mass transportation systems are proving inadequate to serve the fast-growing low density urban sprawl. Extension of these systems to any major degree would be difficult to support economically.

Concentrated pedestrian traffic in the downtown areas has also created "frontage values." Land values are often ten times as great as land only two or three blocks away. Collectively, its value is very much greater than any other area of the city. This has resulted in an im-



Both sites at right are in residential areas with good potential sales, ample highways. Stonestown Shopping Center, San Francisco, Calif. (near right), is planned as a balanced entity; Welton Becket, A.I.A., & Associates, Architects. Stores for R. H. Stearns Co. and S. S. Pierce Co., Boston, Mass. (plan and pond view, far right), flank a strip-like development; Walter Dorwin Teague, Designer



Moulin Studios Photo

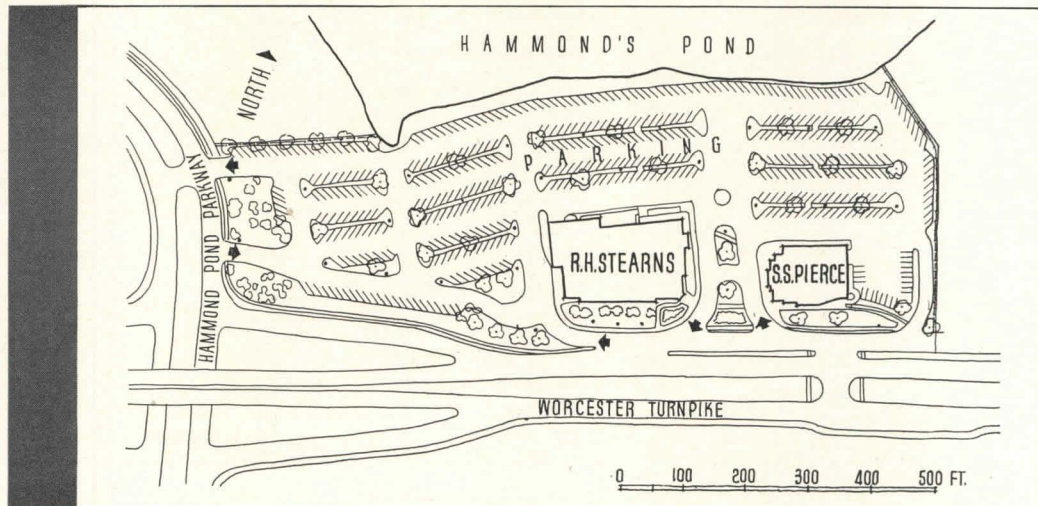
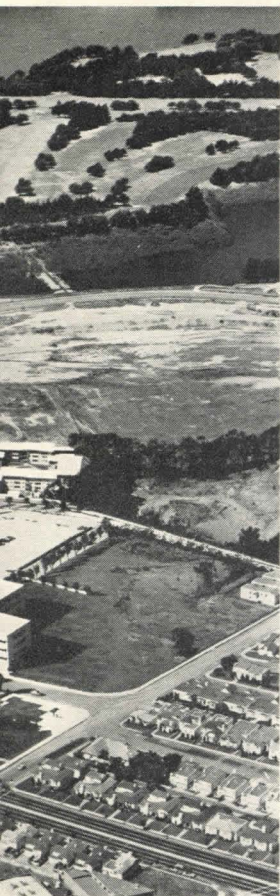
portant assessed valuation, as well as a real value to the municipality in other respects. In many cases it has also resulted in as much as a third, or more, of the total property tax revenue for operating the central city. These values and revenues have been on a rapid decline, almost in direct ratio to the increased use of automobiles as a means of urban transportation. Revenues other than property taxes are increasingly logical and necessary to operate the central city, which must provide so many services and vital functions for the entire metropolitan area.

Many city planners, central district property owners and city officials claim that we must stop decentralization to preserve the tax-paying property values in the downtown area. They say it is necessary only to insure adequate off-street parking to do this. This is wishful thinking, in view of the economically and physically limited circulation and terminal areas available. Parking areas in most central districts have only 1/10 to 1/3 the amount of land used for buildings. In ideal suburban centers, parking must be three times the building area. Another school of thought recommends the creation of regional highways. Too often, this solution, alone, ends up in bringing greater amounts of traffic into the center, sometimes from a single direction, and does nothing to ease the inadequate terminal space. Combination of the two solutions would destroy the concentration of greatly varied commercial, governmental and cultural activities which are its life blood. The latest thinking in attempts to relieve congestion is to start with the traffic problem

where it is worst, in the center, and go outward in two or more directions. Then modern traffic engineering techniques, including a planned balance of thoroughfare capacity and intersection channelization, with communal parking facilities, can relieve the current paralyzing congestion.

*Suburban shopping centers* have sprung up in a great variety of types. The great majority of them have been primarily real estate developments, and have been initially successful because they have been able to take advantage of the dilemma of the downtown shopping area. Usually there has been no consideration of their effect on the overall transportation and economic pattern of the city.

Outlying centers have varied from the small cluster of a few convenience goods stores, to the larger neighborhood center, and finally the larger community center with 100 or more retail outlets. They are all products of antiquated zoning, often perpetuated by appeal boards not conversant with the comprehensive planning techniques so vitally needed in all central cities. The same confusion exists in the so-called "hot spot" shopping center as in the central district, but of a different degree. There is inadequate parking for shopping peaks, and there are few pedestrians on the streets. The vehicle traffic congestion is detrimental to the center, in addition to materially slowing down the inter-regional traffic, which must of necessity use these thoroughfares. The business thoroughfare or ribbon development has the same characteristics. When thoroughfares have been widened in an



attempt to increase traffic flow capacity, they have often produced aggravated ribbons of commercial blight.

In spite of their shortcomings, these often uneconomic dispersals of thousands of stores are getting a considerable and increasing percentage of the total retail sales.

Many city-bound department stores have established branches in a variety of ways to meet the competition of these outlying shopping centers. Stores that carry fashion goods and those carrying a great variety of items, such as an outlet of a large mail order chain, have built many isolated branch units in outlying areas. The site selected is often a part of, or close to, a "proven location." These are usually on thoroughfares which become inadequate and congested with the addition of such an extra traffic generator. Most provided a fair amount of parking space initially, but not enough for present day needs.

Many of these isolated branches have ended up as part of a strip real estate promotion. Neglect of the fundamentals of modern shopping has considerably limited their effectiveness and sales productivity. They often present too small a selection of goods to be truly representative of the parent store. The cumulative pull created by having competitors in the same field conveniently adjacent to each other is often ignored.

Another solution, tried by a great many large department stores, has been to build a branch store in the existing retail district of a suburban town. This is generally on high-cost land, and has many of the same basic drawbacks as the downtown area of the central

city in the light of the transportation trends of today.

The out-of-the-center mail order retail outlet has usually been an individual success. This is generally because of its size, distributive skill, the great variety of stock carried, and the fact that it has had the mail order technique to fall back on. It has also generally provided generous parking facilities.

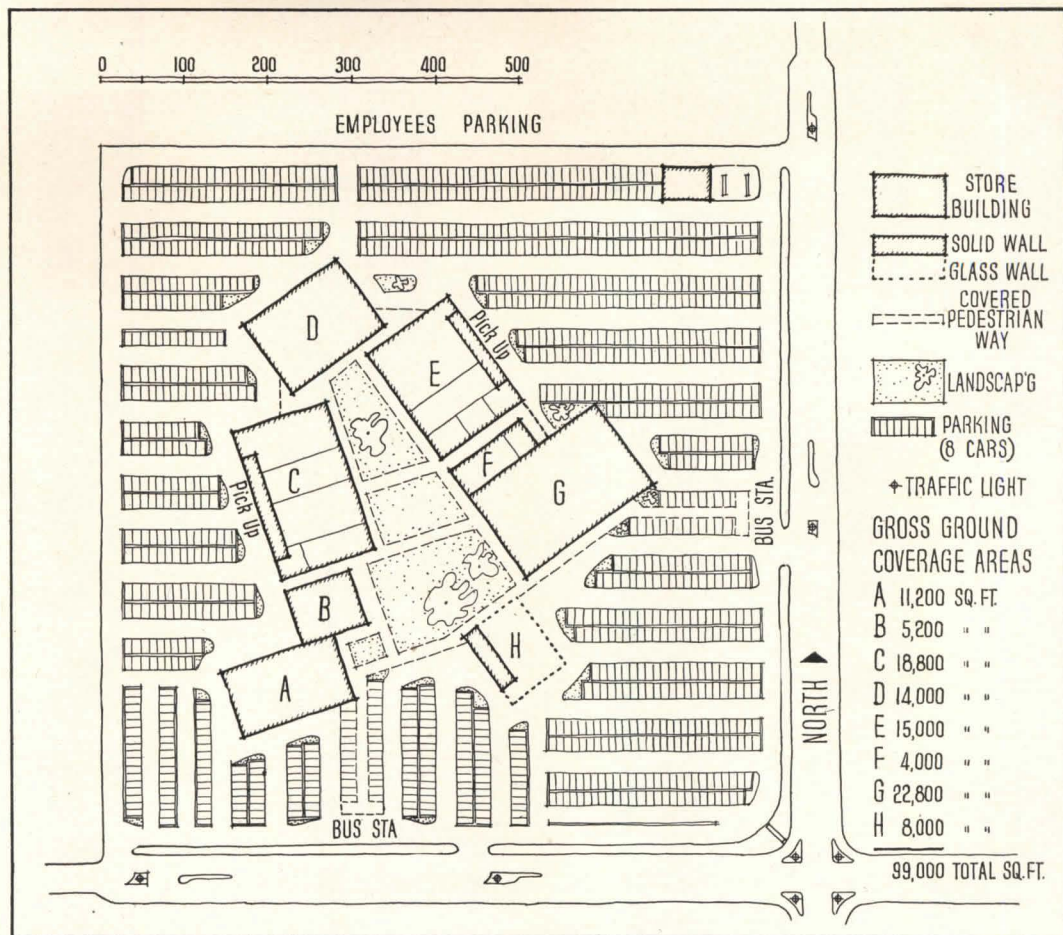
Most of these branches have been successful, even if they haven't realized their full sales potential. Studies that have been made to determine if a branch took sales from the downtown store have shown that, if anything, sales were probably helped. Interest created in the stores has brought a percentage of customers to the central units for a wider selection of high-cost fashion and durable goods. The economic shock of too many branches opening in a short period can initially harm total central sales, but in time a healthy balance should be restored.

Thus, with a continued metropolitan growth, the large downtown stores that acquire suburban branches on the right pattern, have a good chance, after initial adjustments, of maintaining downtown sales at present relative levels, and at the same time increase sales over the entire metropolitan area from 50 to 100 per cent.

#### *The Ideal Solution*

The design of a new regional type of center must be long-range planning in its best sense, and fit into a logical economic pattern for the entire metropolitan area. It should not be treated solely as a real estate

Table 5 (right) estimates possible areas for Toledo Center, derived from potential sales in Table 4. Proportionate pull of stores was considered in allotting areas. Plan gives more concrete solution for actual site. Buildings are indicated as follows: A—food store; B—drug-store; part of C—convenience goods; rest of C, D, E, F—shopping goods; G—department store; H—restaurant; building indicated at top right is a service station



development, but rather as the integrated team work of planners, architects, engineers, store and property managers, financial institutions and real estate organizations.

Taking into consideration the assets and deficiencies of existing retail districts and branches, the formula for an ideal center would include all of the following seven factors:

1. *The location* of a regional shopping center should be based on a realistic, conservative economic study of an area. One approach in selecting a site is shown in the analysis of the Toledo, Ohio, area made for the Sylvania-Douglas Realty Co. by the Grand Rapids Store Equipment Co. (page 122). This method is to analyze a given region within 20 to 45 minutes time distance, as to extent of population, family incomes, and for what goods money is spent. Family expenditure for basic food and clothing can vary considerably with communities of different character. Potential growth and changes in demands should also be considered in this analysis.

Next a discount or allowance should be applied for the time distance it takes these varying kinds of customers to reach the center. Successive discounts should also be made to compensate for competition from existing or projected centers, including the central business district, and the relative ease of reaching it by transportation facilities. The discount for time distance can be based on 20 to 45 minutes equaling 100 per cent, depending on the kind and scope of merchandise pre-

sented, and is usually figured to vary from 12 to 98 per cent. This is based on the simple reasoning that the further away in time distance, or the more inconvenient it is to reach a given center as compared with other groups, the less frequently will visits be made. The time distance allowance considers the types of streets and thoroughfares which can serve the center. A driver will travel three times the distance in a given time period on an expressway, as compared to the congested traffic signal-ridden street. Under certain circumstances, when the maximum discounts for both factors are superimposed one upon the other, it results in a virtual cancellation of an area as far as the computation of potential sales is concerned.

These studies will determine the number of potential customers which can be expected at a prospective site. Expenditures will vary as to type and amount in different income levels. Multiplied by the averages of these annual expenditures, the number of expected customers gives the sales potential of the site. The proper size of the center is derived from this potential as shown in Table 5 above. An extensive study will give the number of such centers which, in a series, can completely blanket and serve an entire metropolitan area.

After deciding on an area with good potential sales, it is necessary to consider the topographical situation, zoning restrictions and the availability of necessary thoroughfares, services, and utilities. To create economically all of the desired advantages in a center, low cost acreage for the site is essential. In general, the fur-



**5. GROSS AREAS OF STORES ARE DERIVED FROM SALES POTENTIAL.**

Type of Store or Area	Gross Area Sq Ft	Avg. Annual Sales per Gross Sq Ft	Sales Avg. Productivity	Sales Avg. High Productivity
Department Store	45,600	55	\$2,500,000	\$3,300,000
Apparel and Home Furnishings Stores, Variety Stores	37,500	40	1,500,000	1,800,000
Total G A F Sales	83,100	49	4,000,000	5,100,000
Misc. Stores, Shops, Drug Stores	22,200	45	1,000,000	1,220,000
Food Stores, Restaurants	19,700	76	1,500,000	1,770,000
Services	8,000			
<b>Total</b>	<b>133,000*</b>		<b>\$6,500,000</b>	<b>\$8,090,000</b>
Building Ground Coverage	100,000			
Parking Area, access roads	527,000			
Landscaping, Misc.	158,000			
<b>Total Ground Area</b>	<b>785,000</b>			

\* About 75 per cent of gross area would be entering level.

Richard Garrison Photo



A built-up district requires near-total site coverage by building. Wolf Wile Co., Lexington, Ky.; Frankel & Curtis, Architects; Amos Parrish & Co., Designers

ther out the center is, and the more unused land there is adjacent to the site, the easier it is to control traffic and surroundings. Immediate surroundings are best if undeveloped and suitable for sound residential building.

It is also advisable to see what possible mass transportation can serve the center for the convenience of a part of the customers, and for the labor force. A high percentage of employees do not use private automobiles for transportation. However, there are a great many potential employees who live in the suburbs and form a logical labor market, especially for part-time work.

2. Highway and thoroughfare congestion in reaching the center should be positively eliminated. Convenience and safety require not only added highway capacity, but ample dispersal, and reservoir space for channeling vehicles to eliminate left turns across traffic.

There are few if any existing street capacities or patterns in built-up areas that can serve the great amount of parking necessary to handle the December sales peak of shopping goods stores. Most major thoroughfares or main streets that serve regional traffic are already congested, without imposing on them the burden of an additional traffic generator. Even on so-called regional highways, the closer you get to the center of the city, the greater is the traffic and congestion.

One or more limited access highways provide the best kind of thoroughfares for this purpose. They should be ample, fast, safe and uncongested, and should have a capacity in excess of current demands. Many centers have donated some of the land for widening streets to

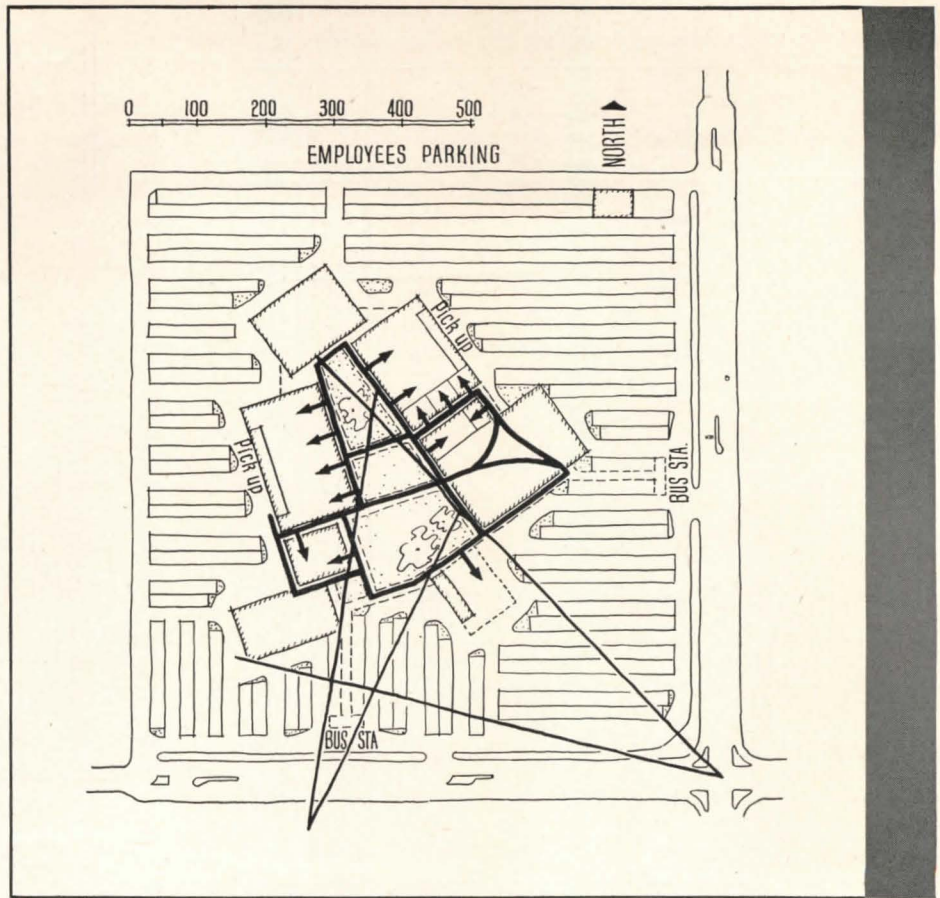
create such thoroughfares. Arrangements can often be made with highways authorities for the proper facilities, as they are of mutual benefit to the center and the residents of surrounding areas.

Perhaps the easiest way to eliminate traffic congestion is to place the regional center well away from densely built-up areas with concentrated traffic. This is contrary to much current thinking on the location of centers, and would not work except for the definite and thoroughly proven cumulative pull of a planned group of well established stores.

3. A balanced group of stores should be included as to type, number and size, to create a maximum cumulative pull, as worked out in the chart shown above. The majority should be branches of key, well established downtown department and specialty stores. Full advantage should be taken of the stores' merchandising skill, wide publicity, and good will. People are attracted to a center by what they know they can find there in the way of goods and services, and by what they read is there in the papers, or see or hear on the air. The store signs, and even display windows, as seen by passers-by, are relatively minor factors in total year in and year out sales.

The larger stores should be competitive. Maximum pulling power and productivity have always been produced by healthy competition. Better fashion goods merchants thrive on such a situation, however they should not have to compete in the real estate business as well. In addition, certain variety and drug chains

Plot layout (right) of the Toledo center separates peripheral parking from pedestrian ways in mall. Buildings are disposed for maximum visibility into store fronts from highways (medium lines on plan). Department store is located for maximum impact; food store and restaurant for roadside publicity. Pedestrian ways (dark lines) are covered, as are walks to bus stops



should be represented to the extent they satisfy a demand and help sales for the entire center. In effect, the center should be a miniature "downtown," and closely allied with it. The exact size depends on the estimated potential sales.

A minor area could be devoted to convenience goods stores, including a supermarket. There should also be other stores, including a good restaurant. A combination movie house and theater for fashion shows and goods demonstrations can be an asset. However, current controls and the impact of television on neighborhood theaters make it difficult to obtain a satisfactory lease. There would be a balanced selection of "homemaking" services and, if needed, some professional offices for the convenience of suburbanites.

The branches of existing stores should be of sufficient size to reflect the prestige of the parent stores. Density pattern in the community, and existing mass transit systems also govern size. Space for relative sales, selling facilities and potential forward stocks must be carefully compared with those in the main store. Merchandise should be selected in a given number of price ranges that established customers expect to find. Total quantity is reduced, but normal demands should be fully met. This also allows regional publicity to apply to both branch and parent store.

Provision for reserve stocks in the store, and for their distribution from a central warehouse, must also be studied to take care of large "take withs" due to peak sales periods and convenient parking. This can reduce

delivery expense ratios up to 75 per cent. For this, different layouts and types of equipment are needed from that of the downtown store.

In general, the larger store has personnel and organizational advantages which attract greater managerial skill. Such branch stores, as part of a planned center, create important "anchors" as far as site location and buying habits are concerned.

4. *The plot layout* should be completely geared to the convenient and safe use of automobiles. Ample parking should be allotted to handle the December peak. Most well planned centers today consider the minimum satisfactory ratio of parking space to net selling space to be 3 to 1. Much more is preferable. The maintenance of this ratio should be written into the lease. This is only possible on large undeveloped tracts, not on narrow strips created by streetcar patterns.

Parking lanes should be two-way, and have 90 degrees parking. The latter accommodates more cars per sq ft and gives shorter walking distances. A peripheral road is needed around the center to give access to parking spaces. Private vehicle traffic near the stores should be discouraged in plan.

The parking turnover (number of cars parked in a day, divided by car spaces available) often averages only once per day on a yearly basis for branch department stores. For convenience goods stores, it can be ten times or more. This is due to the fact that one can buy a week's supply of food in 20 minutes or so, while it sometimes takes several hours to select fashion goods.



Richard Garrison Photo

Upper left: parking for R. H. Stearns and S. S. Pierce branches is separated from adjacent stores by troublesome fence. Lower left: 6-acre site for Woodward & Lothrop store, Chevy Chase, Md., is to be expanded by 3 acres to handle parking; Starrett and Van Vleck, Architects. Above: Wolf Wile Co. has only side street for parking

In smaller centers, from the merchandising viewpoint, it is important to decide at the outset how much of the parking is to be in front and how much in back. The entrance adjacent to the largest parking area becomes the "front" for all practical purposes. Parking areas can sometimes be enlarged by use of double-deck parking, basements, or roofs.

It is generally bad planning to try to limit a parking area to the use of a single store of a shopping group. Customers usually shop or make purchases at a number of the stores. Any store creates ill will if it tries to limit a lot to its exclusive use.

There should be minimum walking distances between parked cars and covered walks, and between stores. This often becomes a problem if the center is too large or dispersed. There should also be a completely separated pedestrian way adjacent to the store frontage, reached by covered arcades in the parking areas. Highway traffic and parking areas should be carefully concealed from the pedestrian shopper. Besides giving better vistas from inside the shops and along the walks, it produces a concentration of pedestrian traffic, promoting greater impulse sales. It also gives a separation of pedestrians from moving vehicles, adding to convenience and safety.

Loading areas for incoming and outgoing goods should be placed for minimum interference with pedestrian and private vehicle traffic. The use of costly truck tunnels for this purpose is currently a matter of some controversy. A system of pick-up stations, with or

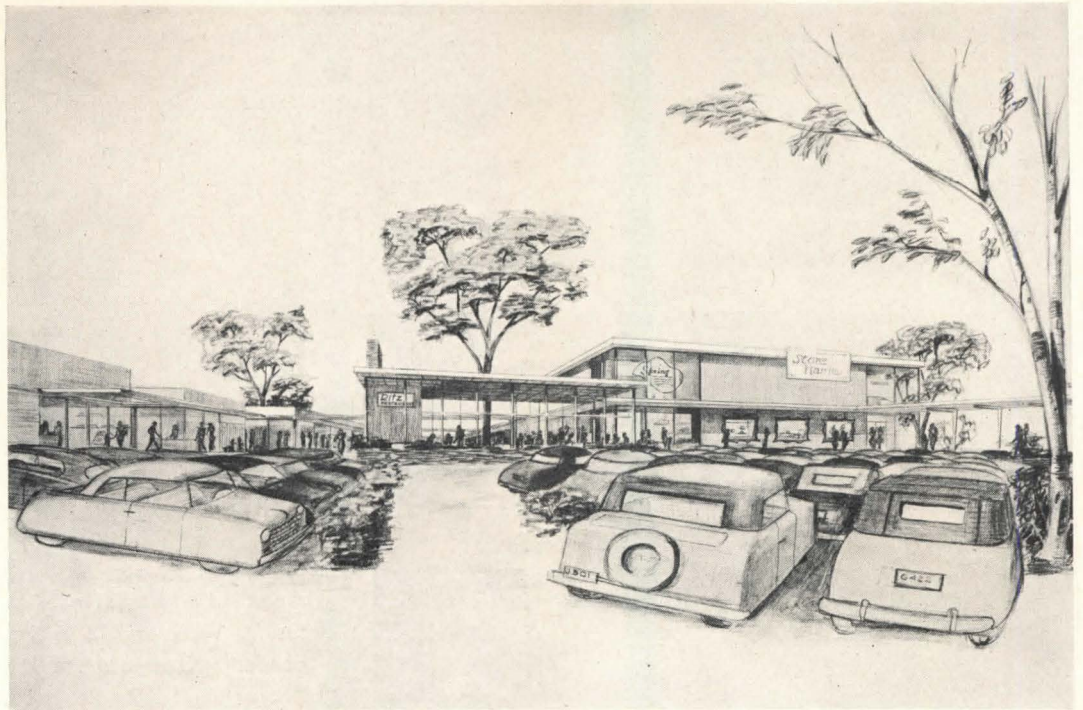
without conveyors, will encourage shoppers to take purchases with them, thus materially lowering delivery costs.

5. *The design and plans of the buildings* should be well integrated with the site plan, and present merchandise in the best manner possible to the planned, concentrated pedestrian traffic. It must be economical, convenient, spacious and in good taste. The architectural impact from the highway should also be considered; about 90 per cent of the shoppers can be expected to arrive by automobile.

A mall scheme layout of the buildings, as shown in the plan above, has the advantage, compared with an on-the-street center, of having two rows of stores facing each other. With this plan, there is no "best" side of the street, and all stores are within convenient walking distance. Concentration of pedestrians on the inner loop considerably increases impulse buying. Secondary axes used to "avoid the monotony," and without any real merchandising function, do little but create dead "side streets." Large centers might have a center mall with two levels of covered sidewalks and store fronts. A good example of this type is the new Middlesex Center, now under construction near Boston, Mass., designed by Morris Ketchum. This device eliminates the necessity for any basement selling areas, usually a drug on the market in suburban centers. Suburban branches do not as a rule carry bargain basement type merchandise.

Arcades leading to the interior mall should be featured architecturally. Walks in the mall itself should

Studies should consider a center's impact on motorists and pedestrians. The sketches (right) for the Toledo center show these two points of view. Merchandise, rather than flamboyant architecture, is emphasized by simple open fronts. The motorist's view is led into landscaped mall; pedestrians are screened from parking areas



be covered. Open fronts are desirable for the stores, with treatment centered on the interior designs to create more impulse buying. Objectionable daylight reflections should be carefully controlled. Open fronts and covered walks eliminate much of the expense of competitive facades. They also permit a more unified planning of the group, while still maintaining ample individuality of appearance. A standardized, simplified structural system can materially reduce costs. With modern lighting and ventilating techniques, ceiling heights can be kept to a minimum. This reduces cubage and the expense of elevators and moving stairways. The design should provide for future reallocation of space, and for flexible store equipment which can be reused and interchanged, even between stores. If future expansion is planned for any of the stores, foundations and structures designed for the addition of extra floors will prevent encroachment on land areas reserved for parking. Otherwise, adjacent property must be available to preserve the recommended minimum 3 to 1 parking area to building ratio.

Signs should be orderly, and designed to be seen from high speed highways. Signs should be included for the center as a whole, and for the larger key pullers. The key restaurant, often an important puller, can have a special identity, easily seen from the highways, because it has to remain open when other stores and services are closed.

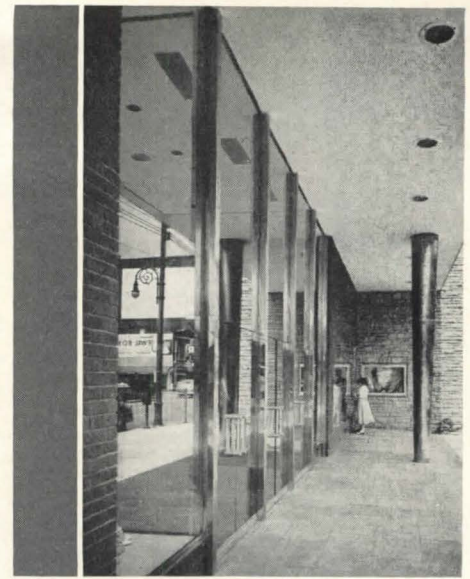
6. *The area surrounding the center must be controlled*

for the benefit of the community as a whole, as well as for the developers and merchants of the center. It should be built up in a constructive manner with permanent zone protection, or be under complete control of the shopping center ownership. When the surrounding area is owned by the developer, control can be obtained through voluntary zoning or through deed restriction, to produce a useful surrounding residential area. Agreements should be made with the civil or local government on taxes.

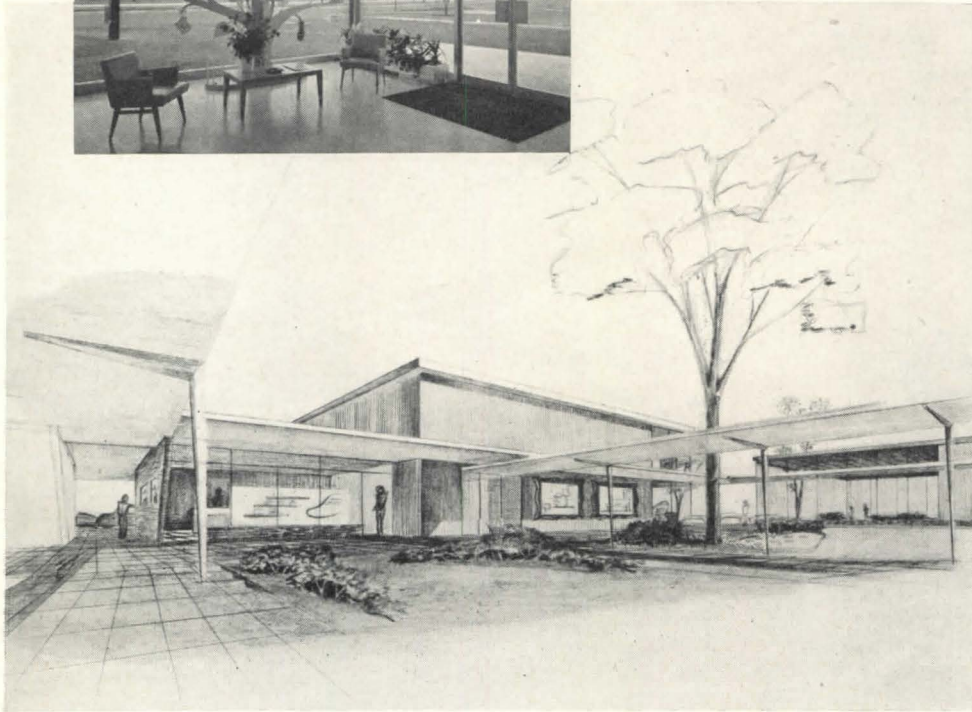
The ideal site design inherently provides a protective buffer for the surrounding residential area. This protects the investment from detrimental commercial encroachment, which generally produces uncontrollable congestion. The ideal pattern, with a large amount of parking and open landscaped spaces, provides maximum protection for the entire area.

7. *The management of the center must be merchandise minded, and interested in long range investment, not quick turnover. It must give every possible aid in furthering increased productivity of space, and consider itself a partner of the retailer, not a landlord in the usual sense. Full cooperation must exist on all matters pertaining to opening hours, publicity, services, credit and the like.*

The management must assume a great many operating and maintenance problems to reduce their cost and to permit the retailer to fully concentrate on his merchandise selling job. Efficient central heat and cooled



Richard Garrison Photo



Large glazed areas permit landscaped vistas in suburbs, as in S. S. Pierce branch (inset, upper left). In built-up areas, as Wolf Wile Co. (above), glazing still permits view of goods inside shops

water for air conditioning should be sold to each store on a metered basis. Ventilating and lighting equipment can be purchased by the tenant for amortization, timing and tax purposes.

If the center is kept open two or more evenings a week, greatly increased sales generally result. Two of the most important factors in assuring success are regional advertising and proven good will. These can be best accomplished by close team work of the merchants and management.

### *The Intermediate Solution*

Often in medium to smaller metropolitan areas all the elements of the ideal center are not available. Sometimes, however, a fortunate circumstance has provided enough undeveloped land, with a rectangular rather than too elongated shape, that can be used to advantage. It is generally well within a built up outlying section of the city, or in a suburb or separate civil division, that has a concentration of medium to high income-group residential areas within a relatively small radius of, say, 15 to 20 minutes. Such a property can often be found in one parcel, with a single ownership. To protect the investment, the merchant should be assured by agreement throughout the length of the lease and its extensions, that physical and economic principles will be maintained.

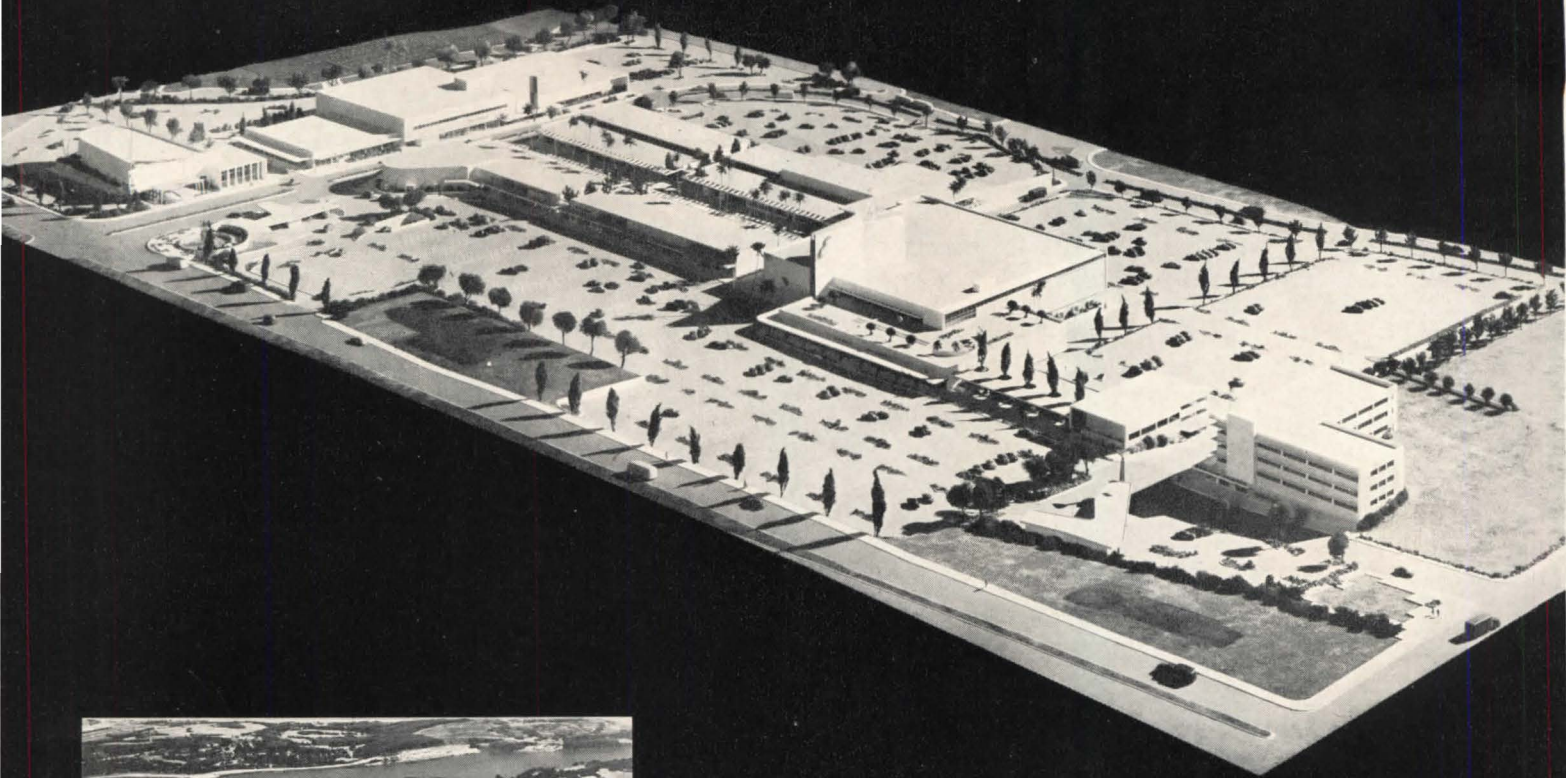
Other basic principles of the large center should also be applied. They include:

1. The maintenance of a definite ratio between parking spaces and usable structural area.

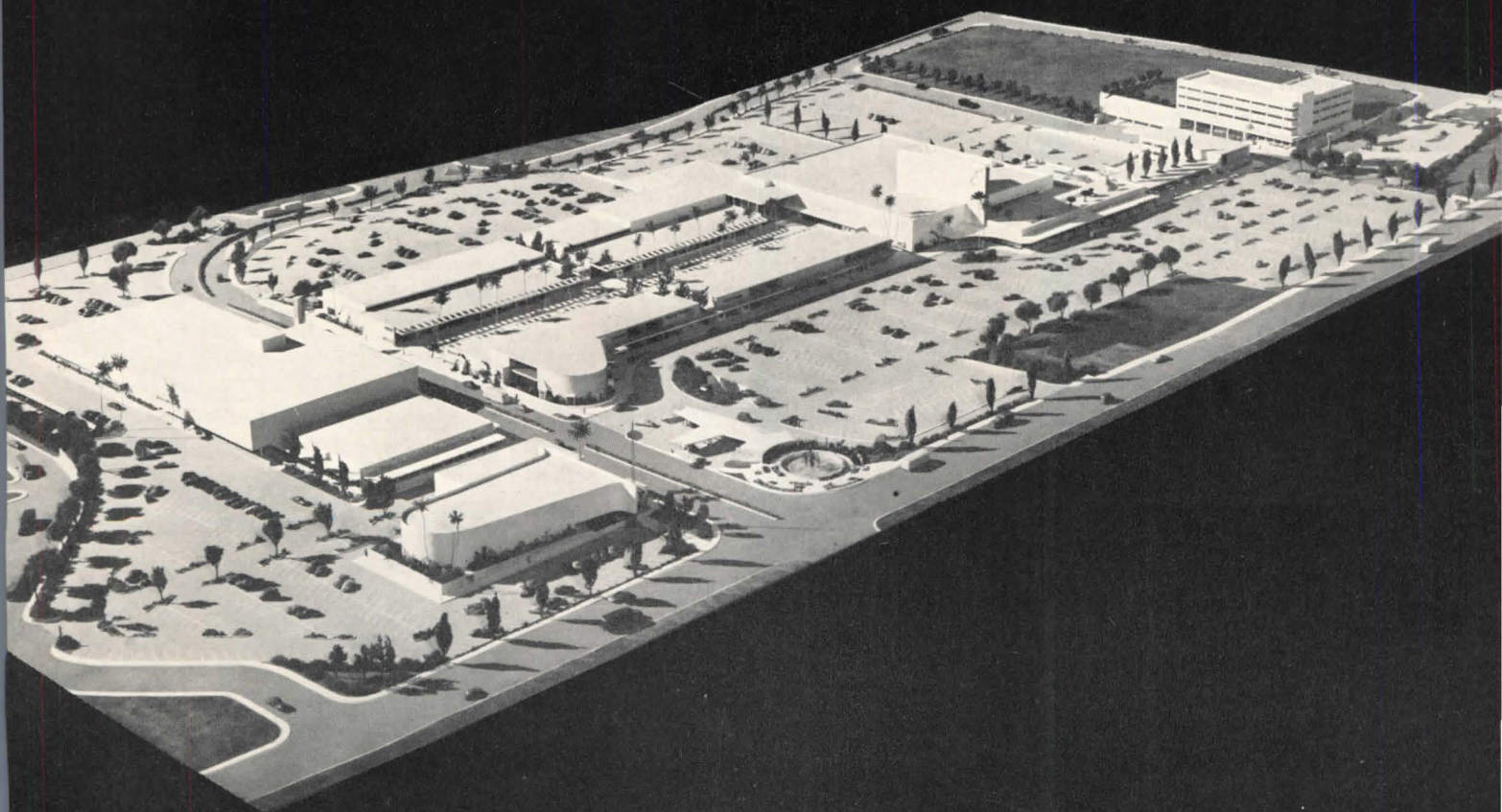
2. Balance of compatible stores. If the center is small and can support only a few stores, they should be all of one kind. These should be shopping goods stores, not convenience goods, except perhaps for a restaurant. This will create a maximum cumulative pull of a given kind. Customers on weekly shopping trips for food seldom shop for fashion apparel and vice versa. A collection of established fashion stores, since they are relatively few and far between, will pull from a greater time distance if there is ample parking.

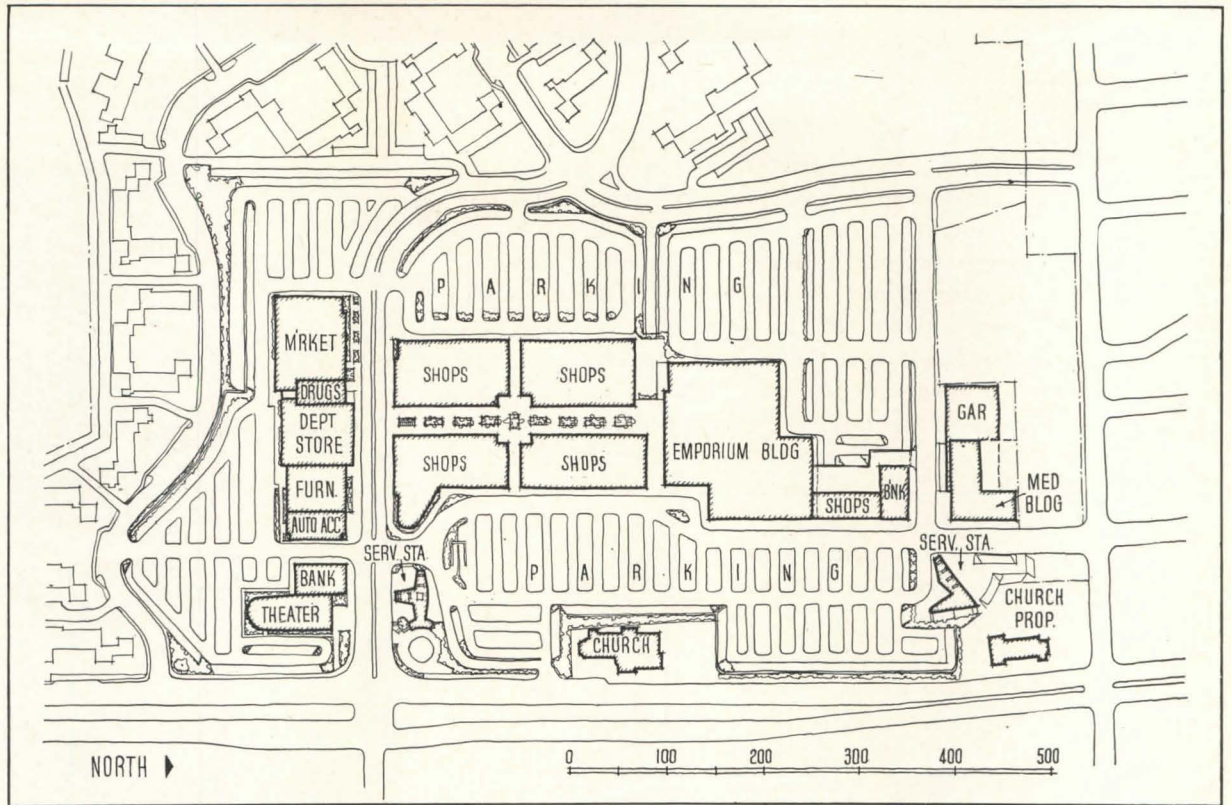
3. Location is best on a not too heavily traveled thoroughfare, where the center is the only important traffic generator. This requires that it be made up of well known and continually publicized stores.

4. Control of surrounding areas is usually not as important as with larger centers, for built-up areas of the character described usually have protective zoning. However, some control, if even ownership of scattered lots or parcels, is insurance against future destructive and often politically inspired zoning changes. The problems are more often to get such a tract zoned commercial, and to cope with obsolete building codes and restrictions on the style of the structures. These can often be overcome by proving that the center will provide a useful additional economic and tax base for the community without harming — but rather helping — existing business in the area.



**STONESTOWN SHOPPING**





## CENTER, SAN FRANCISCO, CALIF.

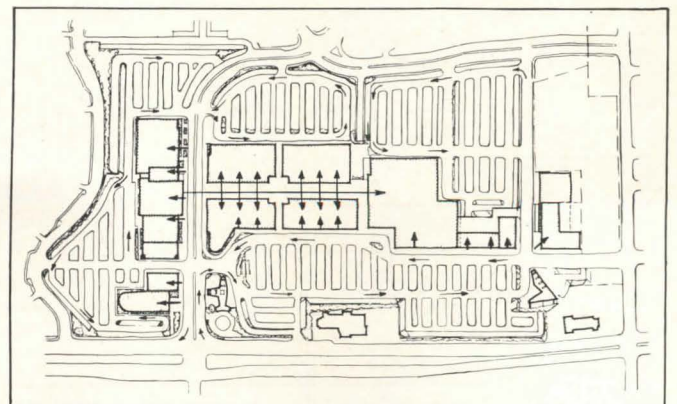
*Welton Becket, A.I.A., & Associates, Architects*



Disposition of buildings around the central mall is shown in the plan (above) and two large photos (left). This scheme serves to separate pedestrian and traffic flow, as indicated on chart below. The inset (far left) superimposes the project model on a photograph of its site

**T**HIS LARGE, CAREFULLY PLANNED SHOPPING CENTER in San Francisco's Lakeside district typifies the regional type of center discussed in the preceding article. A 35 acre site adjoining Stonestown, an extensive apartment development, was selected for the center by Harry and Ellis Stoneson, owners and builders of the project. The area is served by ample thoroughfares. It is bounded by a golf course, the San Francisco State College campus, and residential sections, all of which will serve to protect the center against uncontrolled commercial encroachment. The mall and two buildings for the center are under construction — a branch for the Emporium department store and a medical center.

A year of study and analysis of the area was spent before actual designing of the center was begun. Potential sales were estimated at \$48,000,000 per year, to approximately 400,000 people in the surrounding regions. On the basis of these figures, the size of the development was practically doubled as compared with the first concept. An analysis to determine size and number of outlets, indicated, among other things, that drugstores were below par in area, and that a theater should have a capacity of 1800 instead of smaller as originally planned.

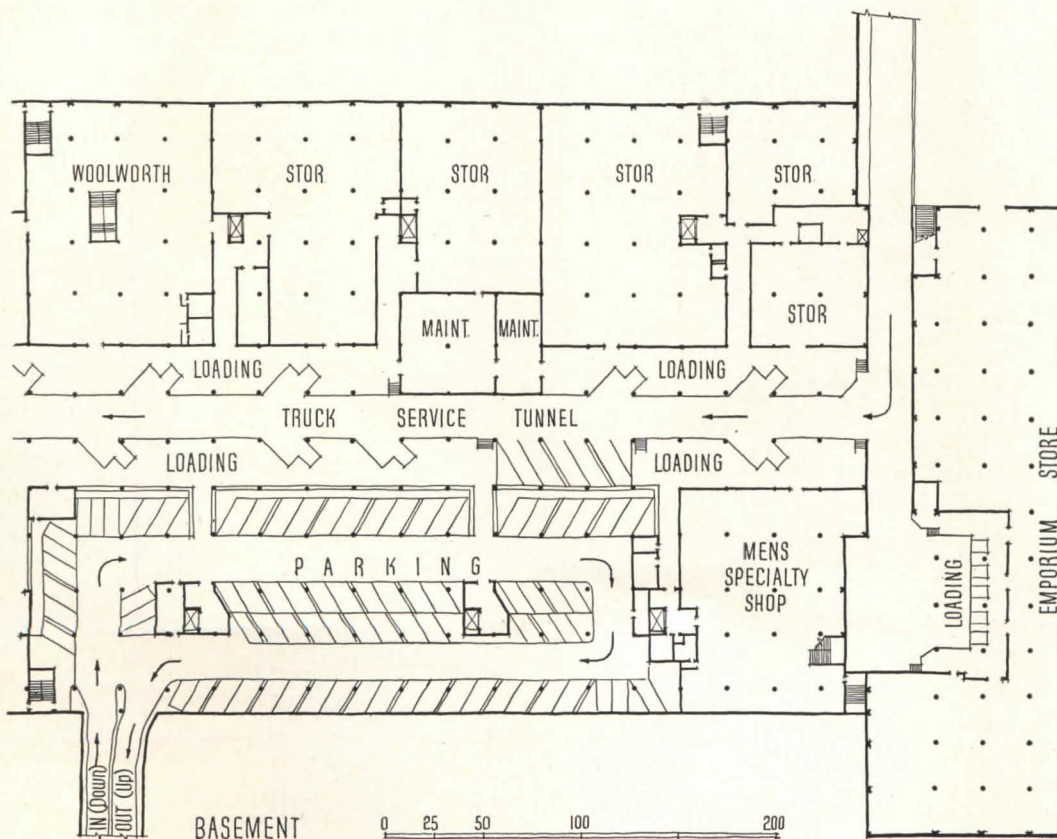


With the Emporium branch as the key store, the center will include a mall with speciality shops, and a secondary department store group. Commercial goods stores will include two super markets, drugstores, service stations, a restaurant, and such services as barber shops and repair shops. There will also be an office building, two banks, the theater and the medical building.

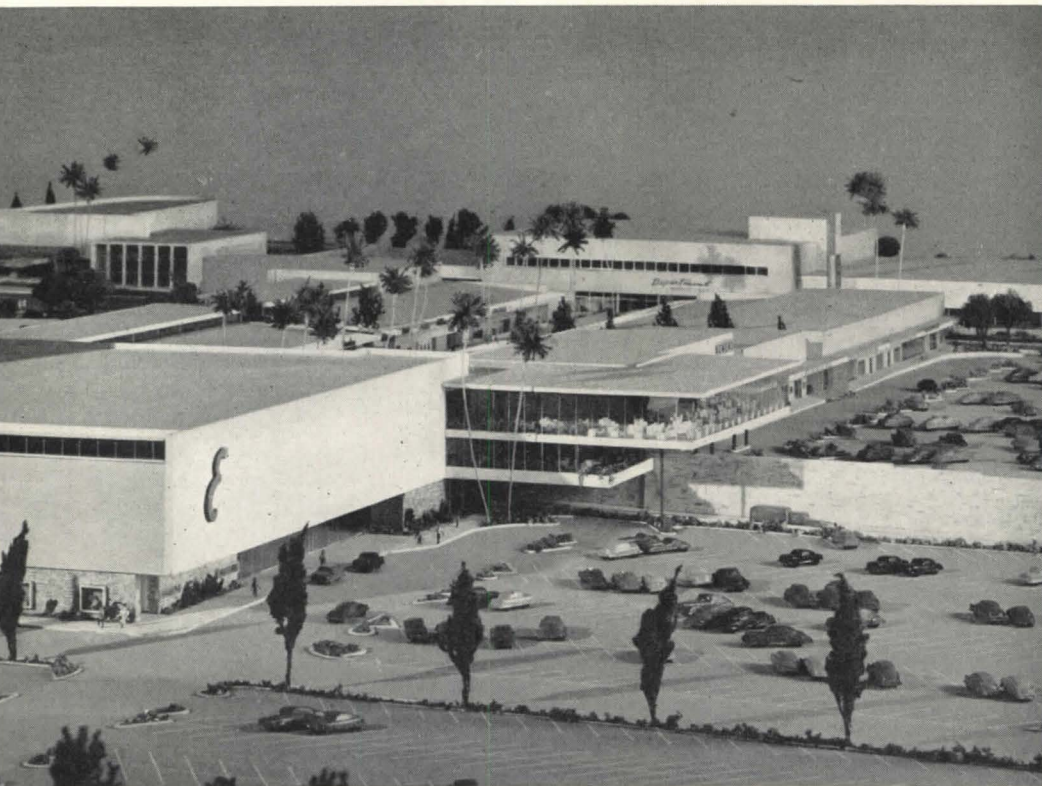
Parking is provided for 3000 cars in peripheral parking areas and several enclosed garages. Stores will be serviced from a subterranean street. The stores are disposed around a central mall axis to concentrate pedestrian shopping. Most of the shops also have street entrances. The location of each shop has been studied in relation to major units, its ability to attract customers, and to parking.

Designs of the various buildings have been coordinated into a unified whole, with the major department store dominating. They will be constructed of fieldstone, brick, concrete and glass. The structure of the Emporium store is designed to accommodate future expansion. The entire site will be landscaped to preserve the suburban setting.

Leases for the shops will be on a percentage basis, and will specify the types of signs that can be used.





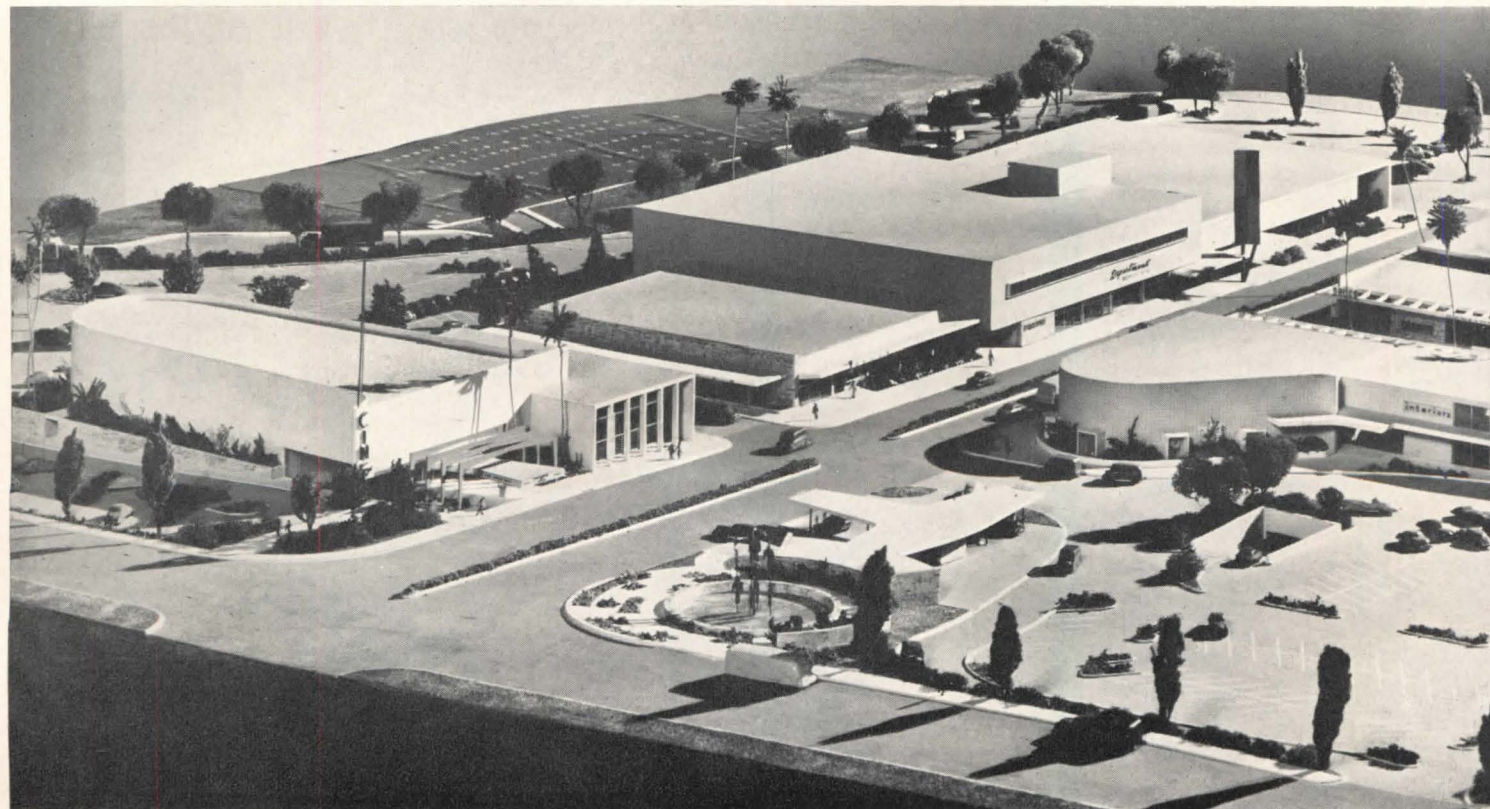
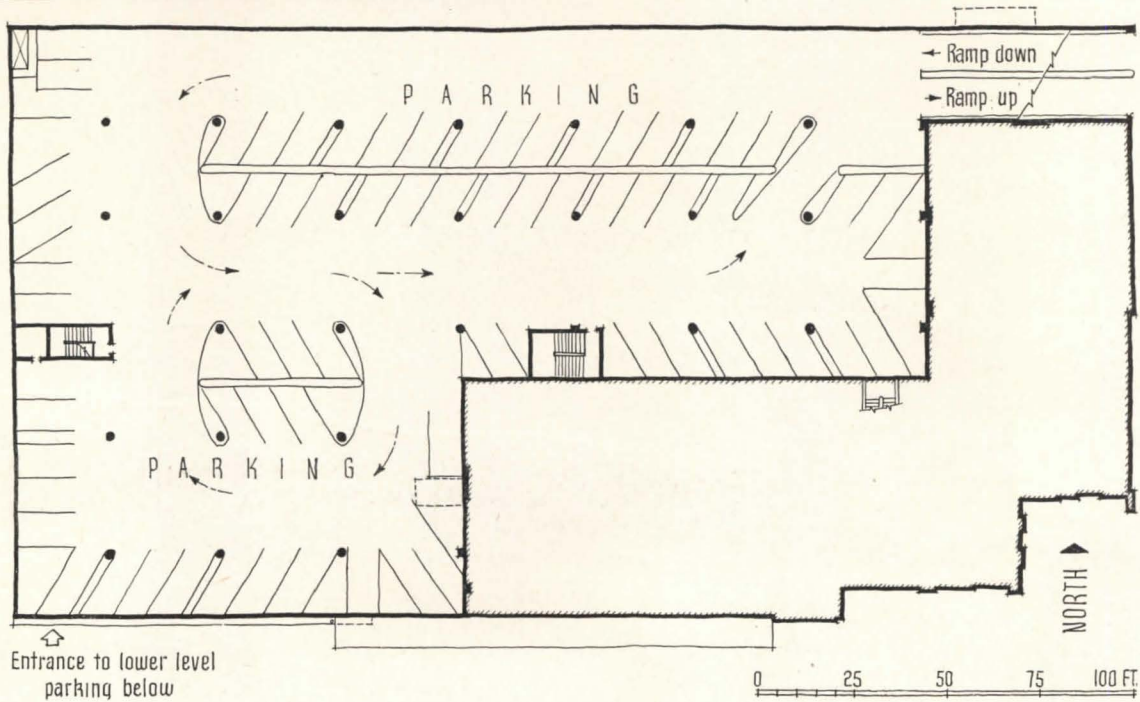


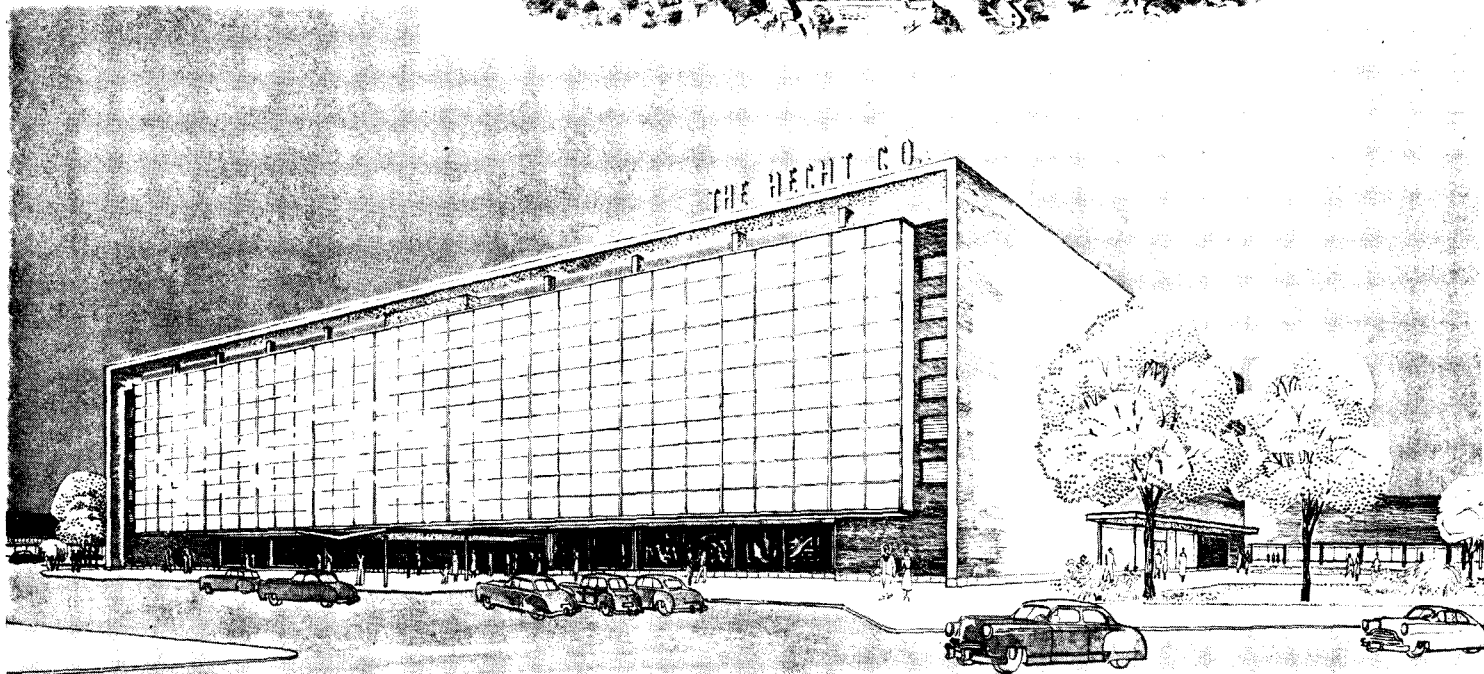
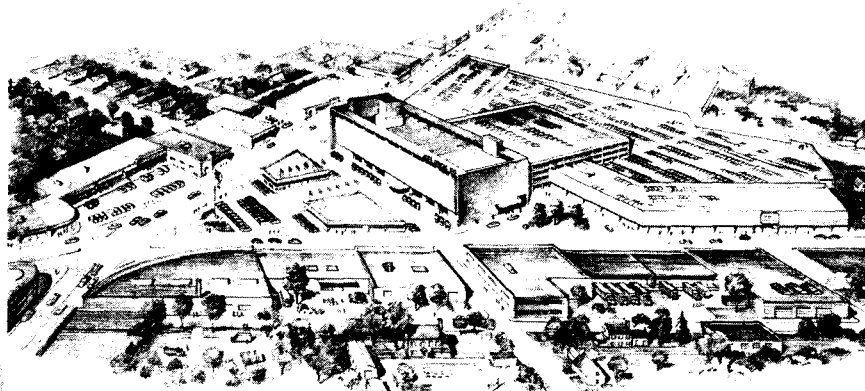
The dominant building of the center (left and below) is the branch of the Emporium department store, now under construction. It will carry a complete stock of shopping goods to create a major sales pull in the region. Competitive shops and stores will flank it to present a wide choice of goods to the shopper. Convenience goods stores and professional services terminate the group at either end. Loading facilities for the stores and parking garages are located beneath the central group (plan, far left). The service drive for trucks is visible in the lower right portions of the photos at left and below center





The final rendering of the medical center is shown above. Top floors of the L-shaped structure will house professional suites for doctors. The ground floor will include a bank, post office, pharmacy and 8 specialty stores. A two-level garage will flank the building (plan, left), and provide parking for 125 cars. Photo below shows theater (left), service station (center)





## SHOPPING CENTER FOR THE HECHT CO.



*Abbott, Merkt & Co., Architects and Engineers*

*Kahn and Jacobs, Consulting Architects*

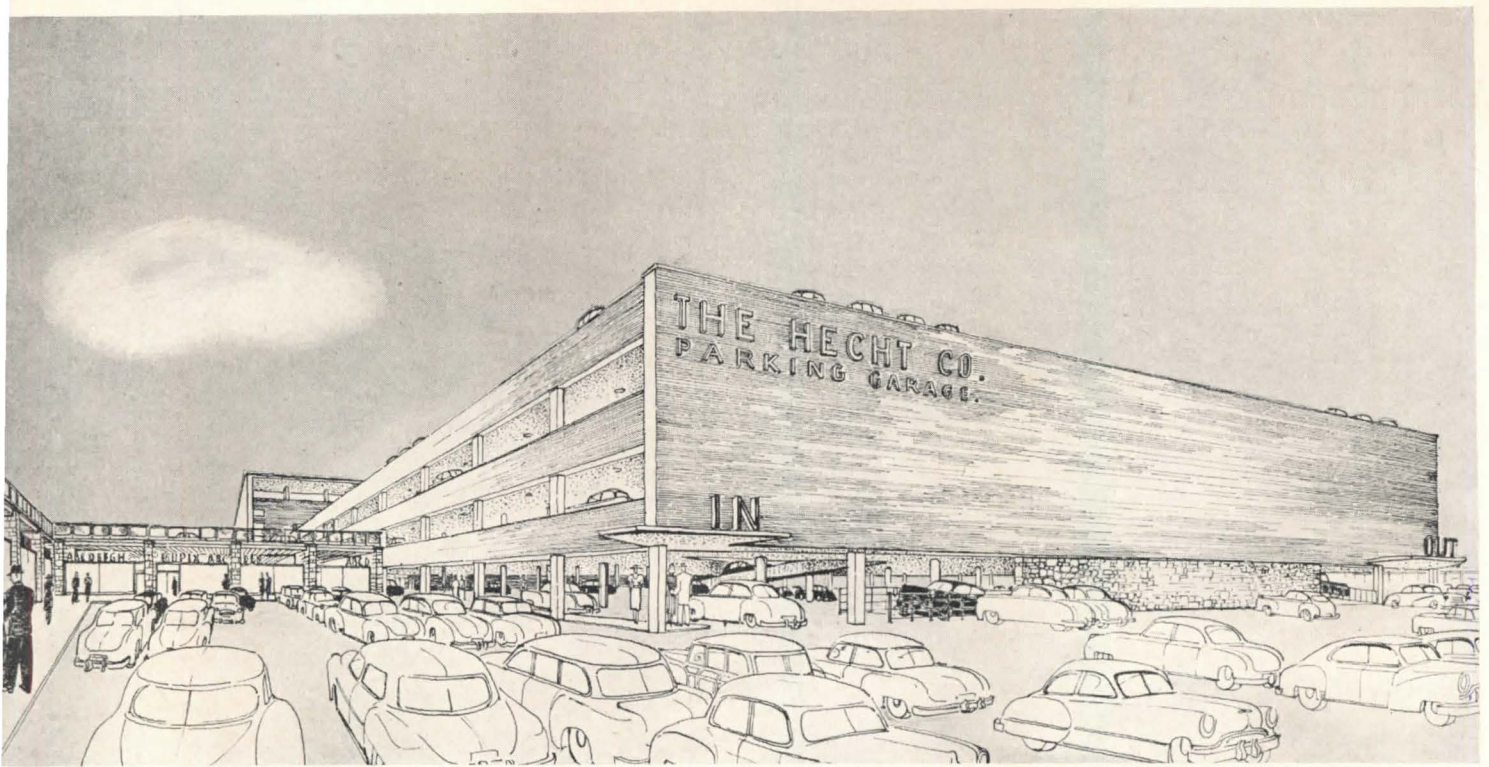
THE TREMENDOUS VALUE OF COMPETITION in promoting sales led The Hecht Co., a Washington, D. C., department store, to develop a 41-store shopping center in nearby Virginia. Most of the stores will sell merchandise in direct competition to the department store branch. The project is now under construction.

The center is located on an 18 acre, triangular plot, at the intersection of three major thoroughfares. Plans call for widening two of the roads to six lanes, one to five lanes. The Hecht Co. has dedicated the necessary land adjoining the center. Population of surrounding counties has increased 124 per cent in the past decade.

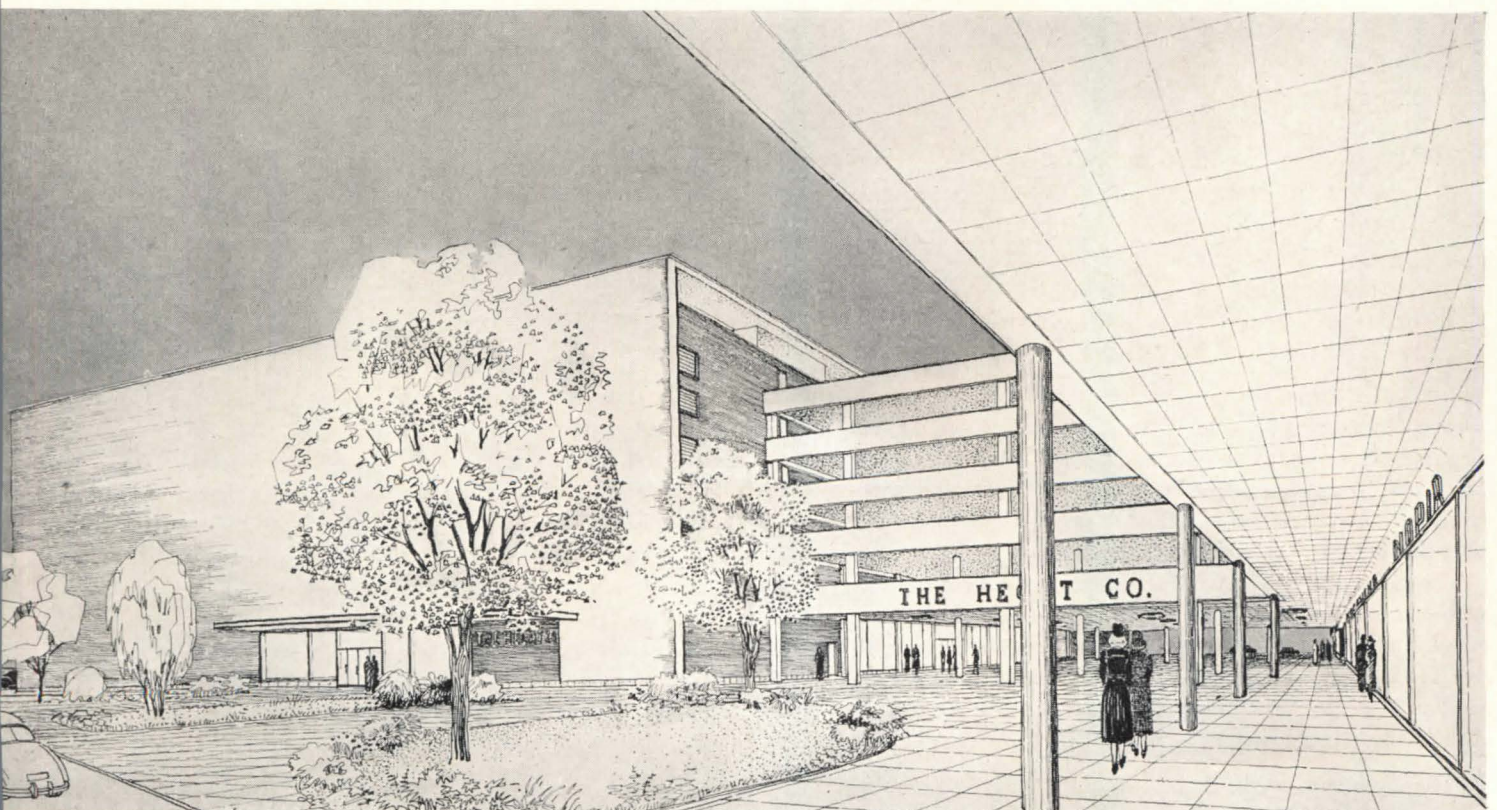
The high average family income in the area is estimated to give large potential sales.

In addition to shopping goods stores, the center will include supermarkets, drug, hardware and specialty food stores. There will also be a bank, postoffice, Western Union, and automobile showrooms. Shops will be built to specifications of the tenants, but in conformity to the overall architectural design.

The shape, and rather limited size of the plot led to the use of roof parking, with a four-tiered garage over the central area. A 90 ft wide promenade separates The Hecht store from the rest of the center.



Parking areas on the roof and in the parking garage (above) will accommodate 2500 cars at one time. It is estimated that this will handle 10,000 cars a day at the normal rate of turnover. Passageways will connect each floor of the parking garage to corresponding floors of The Hecht Co. store. Loading and receiving platforms will be located underground so that trucks making deliveries will not conflict with customer parking. The promenade between the department store and the other shops (below) will afford protection from sun and rain, and lead past the various display windows. Other landscaped pedestrian walks will surround the center





**I**N CONTRAST TO THE COMPLETE CENTERS presented on the previous pages, these branch stores for S. S. Pierce Co. and R. H. Stearns are separately conceived and managed units adjoining the Chestnut Hill Shopping Center, near Boston, Mass. The entire strip-like center includes two other privately built stores and a small group of developer-sponsored shops. The site (see plan, page 125) is located in a pleasant suburban setting between Hammond's Pond and the Worcester Turnpike. Good potential sales were indicated by the higher income group in the area, many of which are clients of the parent stores; and by the proximity of an apartment development across the turnpike. This highway is to be depressed in front of the center in the near future, with

## TWO STORES FOR BOSTON, MASS.

*Walter Dorwin Teague, Designer*

*Robert J. Harper and Carl R. Conrad, Associates*

*Edward A. Ashley, Engineer*

*Morton C. Tuttle Co., Builders*

adjacent service roads leading to the stores. Little effect is expected from this change, as the two stores don't depend greatly on impulse buying, due to the price range and nature of the goods: S. S. Pierce Co. sells specialty foods, R. H. Stearns is a department store featuring fashion goods and some housewares.

The two stores, planned jointly, share a 550-car parking area.

The exteriors of the stores employ sun louvers, baffles and overhangs as architectural features on the southern sides, to reduce glare and reflection on window areas. Extensive use is made of night lighting (photos, right). The structure of the Stearns branch is designed for expansion to double the original floor area. Interiors of both shops are planned to take advantage of lake and suburban views.

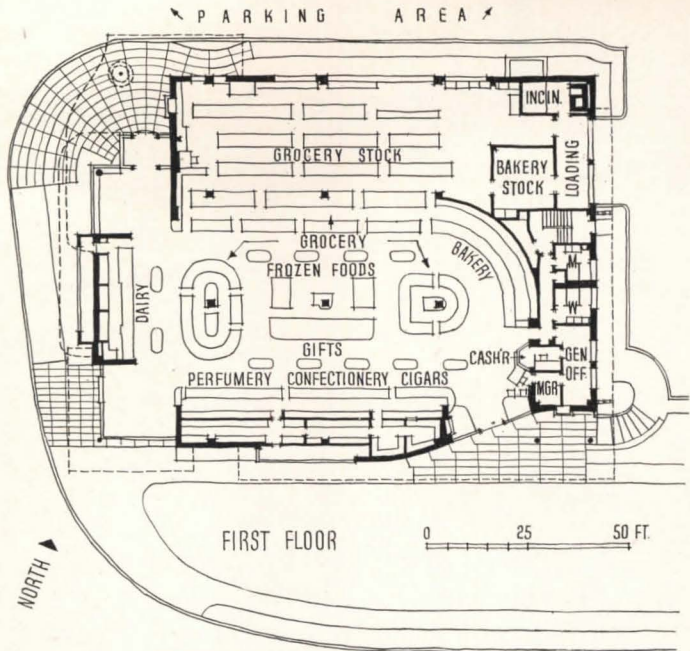


Richard Averill Smith, Photo



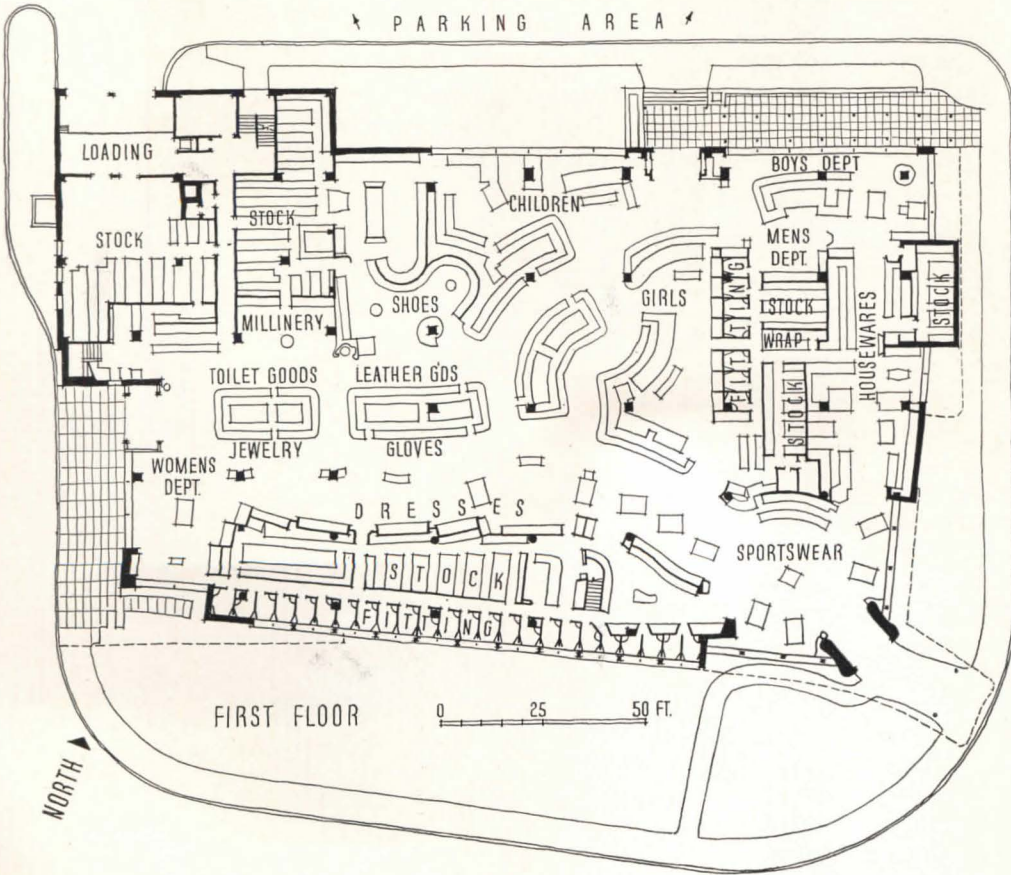
Richard Averill Smith, Photo





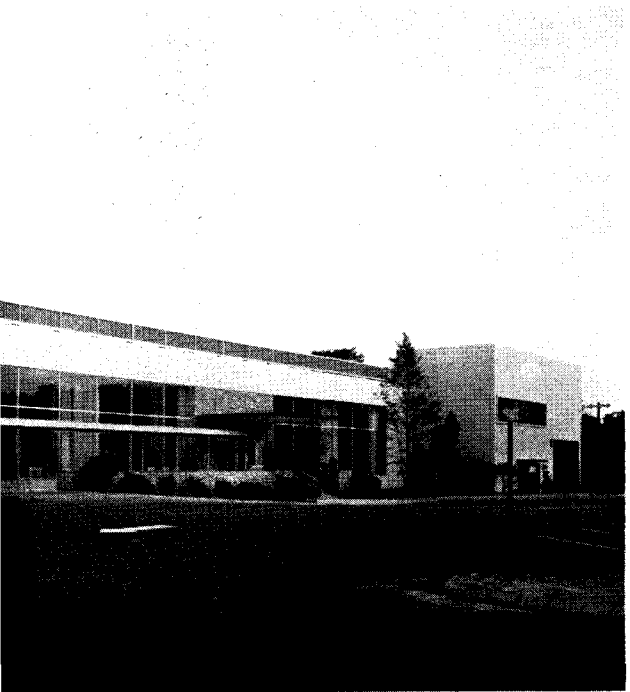
The plan for the S. S. Pierce Co. branch (above) affords two "fronts" for the building—one for the parking area to the north, one for the highway on the south (right). Loading is removed to one side

R. H. Stearns (below) is planned to look like a specialty shop. Departments for children, men and housewares are concealed from main sales area. Stock and fitting rooms are scattered for convenience. Related accessories are grouped together to facilitate sales

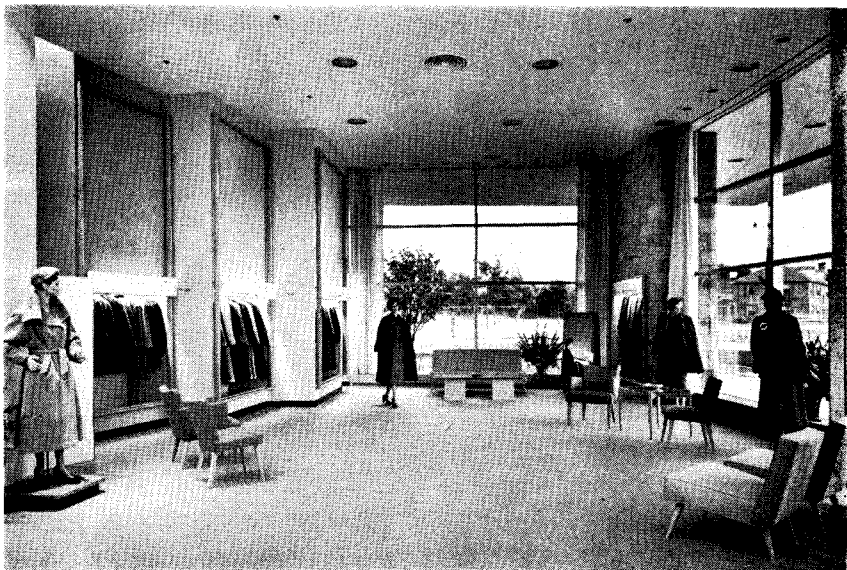




*The interior of S. S. Pierce Co. (above) is planned for maximum display of the maroon-labeled goods. Color and lighting are used for decorative effects, glazed areas give vistas of lake*



Richard Averill Smith Photos



*The north facade of R. H. Stearns (above) has large glazed areas, protective canopies for entrance. Street entrance (above right) overlooks tree-lined street, as does the women's department at right*

## STORE FOR WOODWARD & LOTHROP

*Chevy Chase, Maryland*



FOLLOWING THE TREND of decentralization, Woodward & Lothrop, a conservative Washington, D. C., department store, has established this branch in Chevy Chase, Md., where a good portion of its clients reside. Although it is a single outlying store, many of the principles of the ideal shopping center have been applied. The size of the branch was carefully studied so that it would adequately represent the wide range of goods offered by the parent store. Regional publicity can thus be effectively used by both stores. The original 6 acre site, located at the intersection of three avenues, provided parking for 500 cars. Three additional acres to the west recently have been purchased to accommodate 400 more cars. The parking spaces radiate from the building to lessen walking distances. The rear entrance to the building is at basement level, the other two at the first floor. Loading areas are completely separated from other activities.

*Starrett and Van Vleck, Architects*



## STORE FOR JOHN WANAMAKER

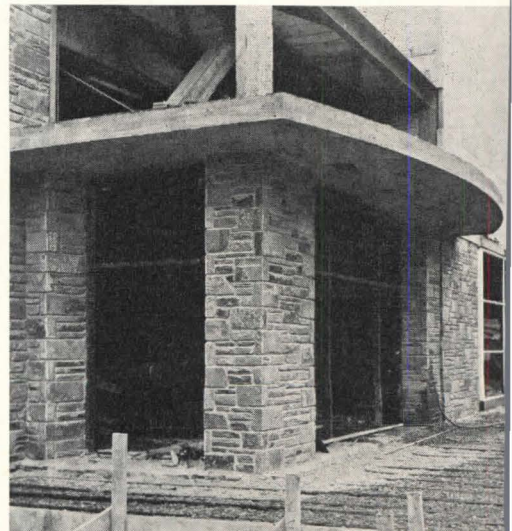
*Wilmington, Delaware*



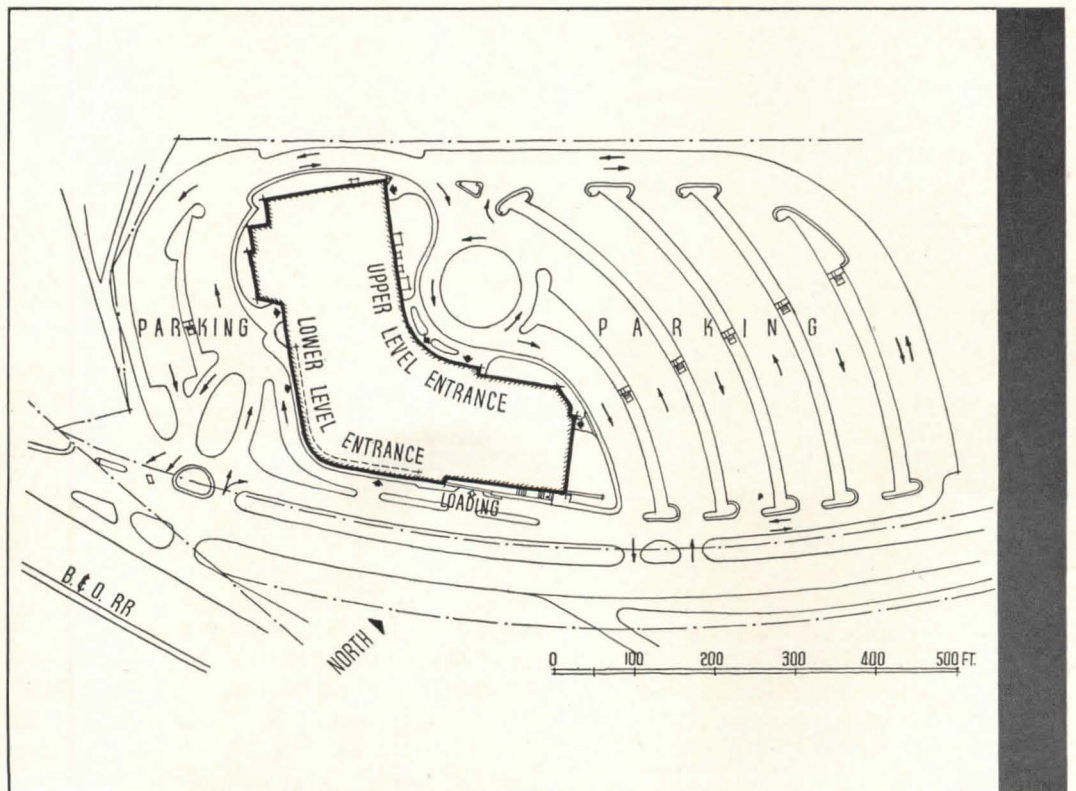
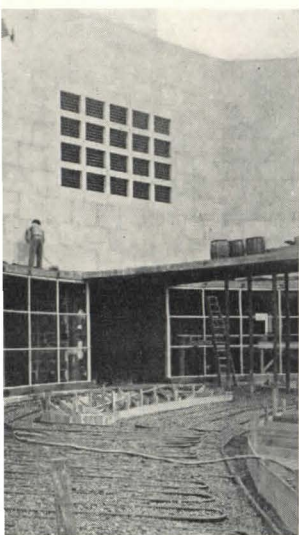
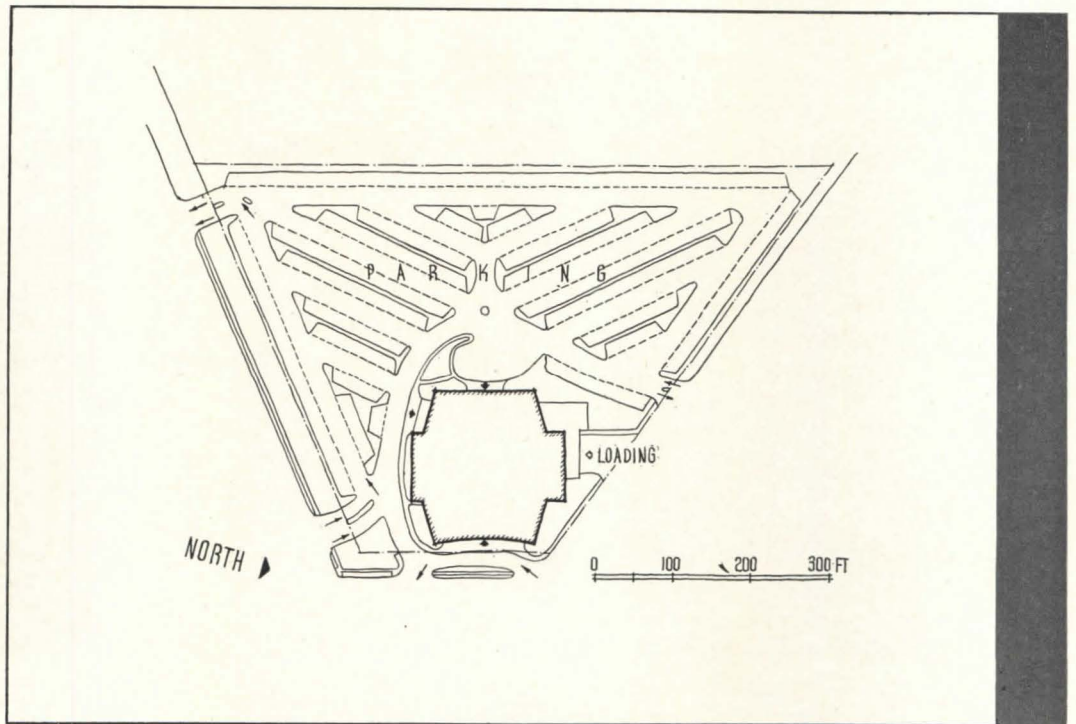
THE EFFECT OF THE AUTOMOBILE has also been felt in the location of new stores in smaller cities. Typical of this is a new store (right) for John Wanamaker's, which has stores in several cities. It has been built a mile from the heart of downtown Wilmington, Del. By such a move, the firm was able to obtain space for parking, and to assure easy access to the store via an adjacent thoroughfare cutoff.

Besides the usual department store services, the new unit provides a bank, first aid center and an auditorium. The building is on sloping ground, which permits entry at the second floor at the rear, at the first floor in the front. Moving stairs and elevators join the various levels. Entrance driveways and walkways surrounding the store are equipped with an underground snow melting system to encourage shopping during the colder months.

*Massena & duPont, Architects*









## WELDING SAVES



Left: In this 200-ft clear span harbor shed, Long Beach, Calif., 32 welded rigid frames support the roof. Saving in steel was 7 per cent (total steel used—2625 tons). Estimated cost saving over other types of structures was 20 per cent. Above: Open box columns were used to build an addition around an existing structure (second floor slab was lowered by long screws in columns). Welding eliminated 27 tons of steel—18 per cent reduction

### Part II: Prospects for Material and Cost Savings, by T. R. Mullen \*

\* President, Lehigh Structural Steel Co. President American Inst. of Steel Construction 1946-48.

CURRENT SHORTAGES of structural steel should emphasize to architects and engineers the savings in steel and economy offered the industry through use of welding. To date, the industry has not capitalized to the fullest extent on welding, although it is being adopted much more widely.

At one time the lack of technical data and experience was an obstacle to the use of structural welding. That day is past because of the knowledge acquired by fabricators in developing and improving techniques during and since World War II. Through the American Welding Society and the American Institute of Steel Construction, the most

detailed information is readily available to any architect or engineer.

Research during these years has given us automatic, semi-automatic and stud welders and improved electrodes which have improved the efficiency of structural welding.

Experienced labor is in supply also. Private industry trained thousands of welders during the war, while skilled riveters remain short in supply.

Welding saves steel because: (1) it minimizes and sometimes eliminates connection material; (2) the full section of a welded member resists tensile loads in contrast to a riveted one—rivet holes in a tension member, from a

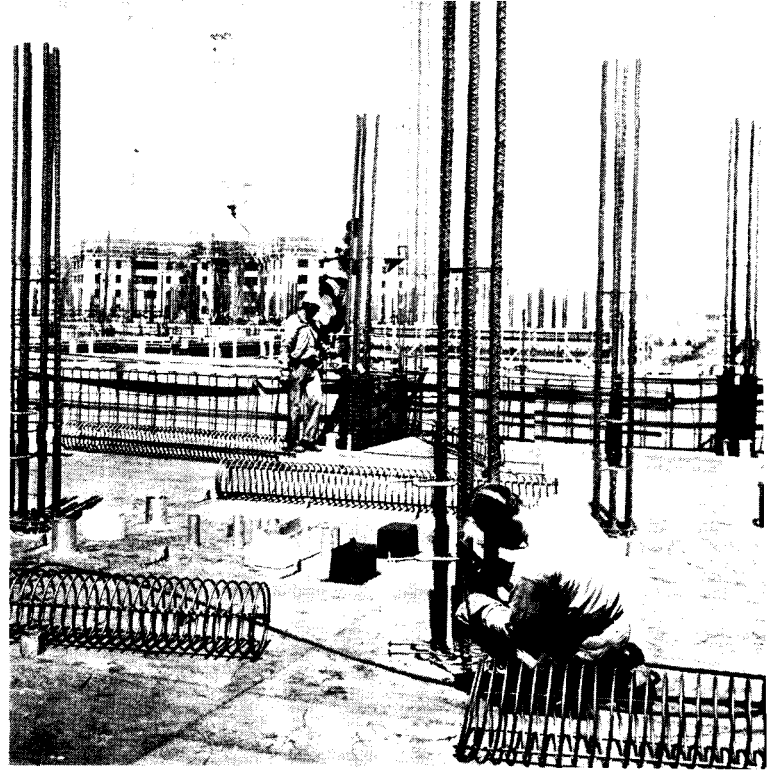
strength standpoint, have the same effect as removing a slice of steel the full length of the member, for a width equal to the diameter of the holes; (3) through continuity of design, for example in a rigid frame, less steel is needed because it is used more efficiently.

There are many buildings throughout the country offering proof that the simple connections of traditional beam and column work can be welded very satisfactorily with substantial steel saving.

There can be large savings in tonnage and cost when welding is used to build up trusses, plate girders and wind bracing connections.

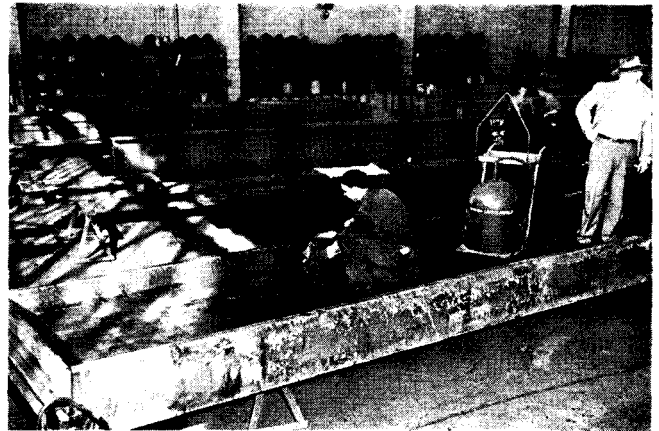
# STRUCTURAL STEEL

## Part I: Case Histories



Photos courtesy The Lincoln Electric Company

Above: Welding in the Baltimore Sun newspaper plant reduced steel tonnage, and it saved fireproofing material because the continuous welded structure could use shallower beams. Savings were 7 per cent in steel, 12 per cent in costs. Right, above: An unusual method of butt welding reinforcing bars, rather than overlapping them, saved 65 tons of steel per building in the eighteen 13-story apartments of Park La Brea Housing Project, Los Angeles. Elimination of steel congestion permitted uniform column size throughout. Right, below: Rigid frames being welded for a coliseum building in Ft. Wayne, Ind., with a new cost-saving hidden arc process. Frame of the Coliseum will take 1200 tons of steel. Eight per cent steel was saved.



Of some interest today is the fact that welding can save steel as well as simplify design details in the anchorage of tall towers such as are needed for telecasting.

Admittedly, all types of structural elements do not lend themselves to welding. Also, there may not always be significant reduction in total cost, but the important thing today is the saving in total tonnage. To obtain utmost economy, the designer should decide during the initial planning stages whether he will use welding or not. A design primarily intended for welding will result in considerable saving of material over one that may be either welded or riveted. In many cases, detail working

drawings can be prepared in less time on welded work than on riveted, provided the structure is designed for welding from the start.

The handling of structural pieces is a major factor in fabrication costs, and with welding there are fewer pieces and less weight. If the design calls for welding and riveting on the same member, the costs are greatly increased because it must be taken into two shops.

Proper design of connection details will eliminate certain shop operations and so reduce fabrication costs. For example, punching and drilling of heavy column sections can be eliminated when they are shop spliced by welding. Field

connection holes for beams are punched in light beam seats. Less handling of heavy, bulky material results.

Welding should have exceptional appeal to the architect because it permits such compact connections. With the elimination of rivet heads and connection material, the architect may obtain a smoother surface and outline for more attractive structures.

According to bricklayers, the brickwork covering of a welded structure is simpler to lay and less costly since such projections as clip angles, rivet heads and gusset plates have been eliminated.

Many proposed structures will be delayed until steel is in greater supply.

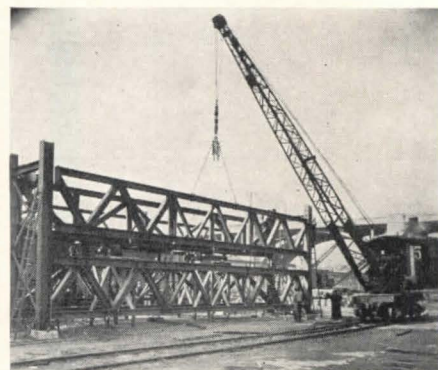
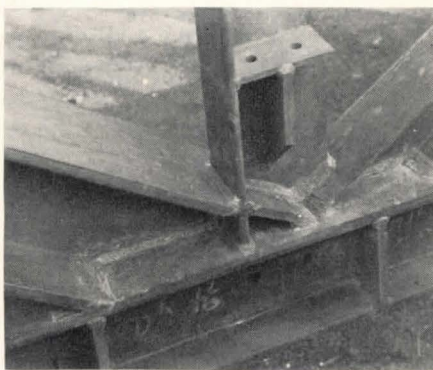
Additions and modifications of existing structures may have to suffice. Here again welding can be used to advantage. Often a design requiring field rivets will necessitate breaking completely through existing brickwork, exposing rooms to the weather. Welded connections merely require that face brick covering the structural members be removed to permit welding of connection angles to existing steel. In addition to the saving in steel, there are savings in masonry and labor.

Finally, an advantage of welding over riveting, that may not be measured materially, is the absence of noise. Additions to hospitals, schools, office buildings, etc., where daily business must be conducted without interruption during construction, can be made with little or no inconvenience.

We have erected welded structures in metropolitan areas where tenants in adjoining buildings were hardly aware of our presence until we passed their window levels. We have made additions to numerous hospitals by welding, for example the Jersey City Medical Center where we fabricated and erected a 21-story structure amidst the existing group.



Above: Note smoothness of the welded girder in contrast to riveted girders in left photo. Web stiffeners for the welded girder are plates, whereas angle stiffeners are required on riveted girders. Structurally these are the same, but angle stiffeners require much more material. Below: Closeup (left) of the bottom chord on a heavy truss (right) illustrates compactness of welded joint, and directness with which members are joined



## TECHNICAL NEWS

ARCHITECTS undoubtedly have been wondering what the potentialities are for panel cooling, and just how much research is being done. The big news is that panel heating-cooling systems will be installed in the Aluminum Co. of America building, Pittsburgh, and in an addition to Manufacturers' Life Insurance Co. building in Toronto.

Charles S. Leopold, Philadelphia consulting engineer who, in collaboration with Montreal engineers Wiggs, Walford, Frost & Lindsay, designed the system for the Toronto building, made known some of his most recent studies at the 57th annual meeting of ASHVE, held during January in Philadelphia.

The heating-cooling system comprises four elements: (1) *heating and cooling panels* of large aluminum extrusions backed by copper coils, placed not only in the ceiling but also under windows; (2) *diffusers* which distribute ventilation air, only about one-third being required as compared to conventional air conditioning; (3) *lighting troffers* which are little more than recesses with fluorescent lamps in them. Arrows in the photo point to cooling panels forming part of

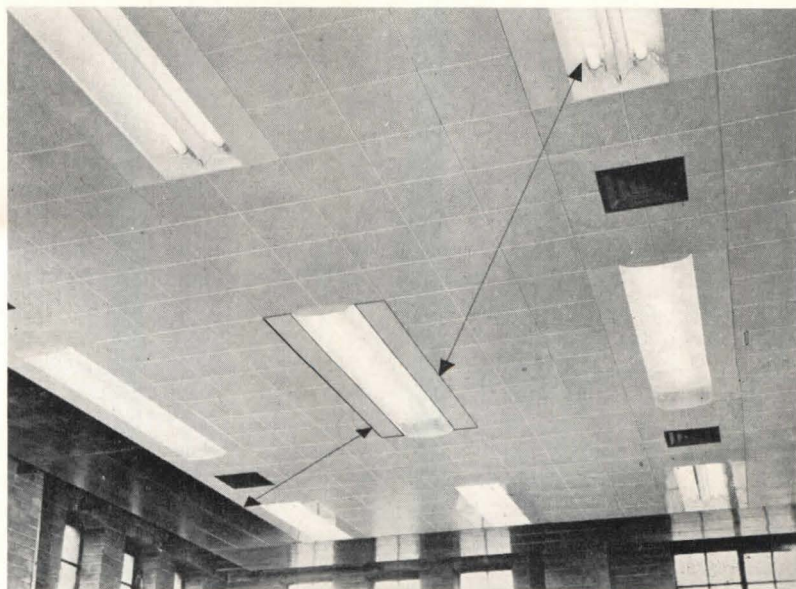
### Panel Cooling Planned for Two Buildings

the troffers as well as the perimeter panels; (4) *perforated aluminum acoustic tiles* making up the rest of the ceiling.

Leopold stated that, in general, a suspended metal ceiling panel cooling system will require from 20 to 40 per

cent of the ceiling, and still utilize water temperatures safely above the dew point.

He indicated that comfort can be maintained in summer with less need for individual controls than generally employed in zoned air conditioning.



Arrows point to various locations of cooling panels in Toronto building

# ENGINEERING ASPECTS OF STATLER CENTER

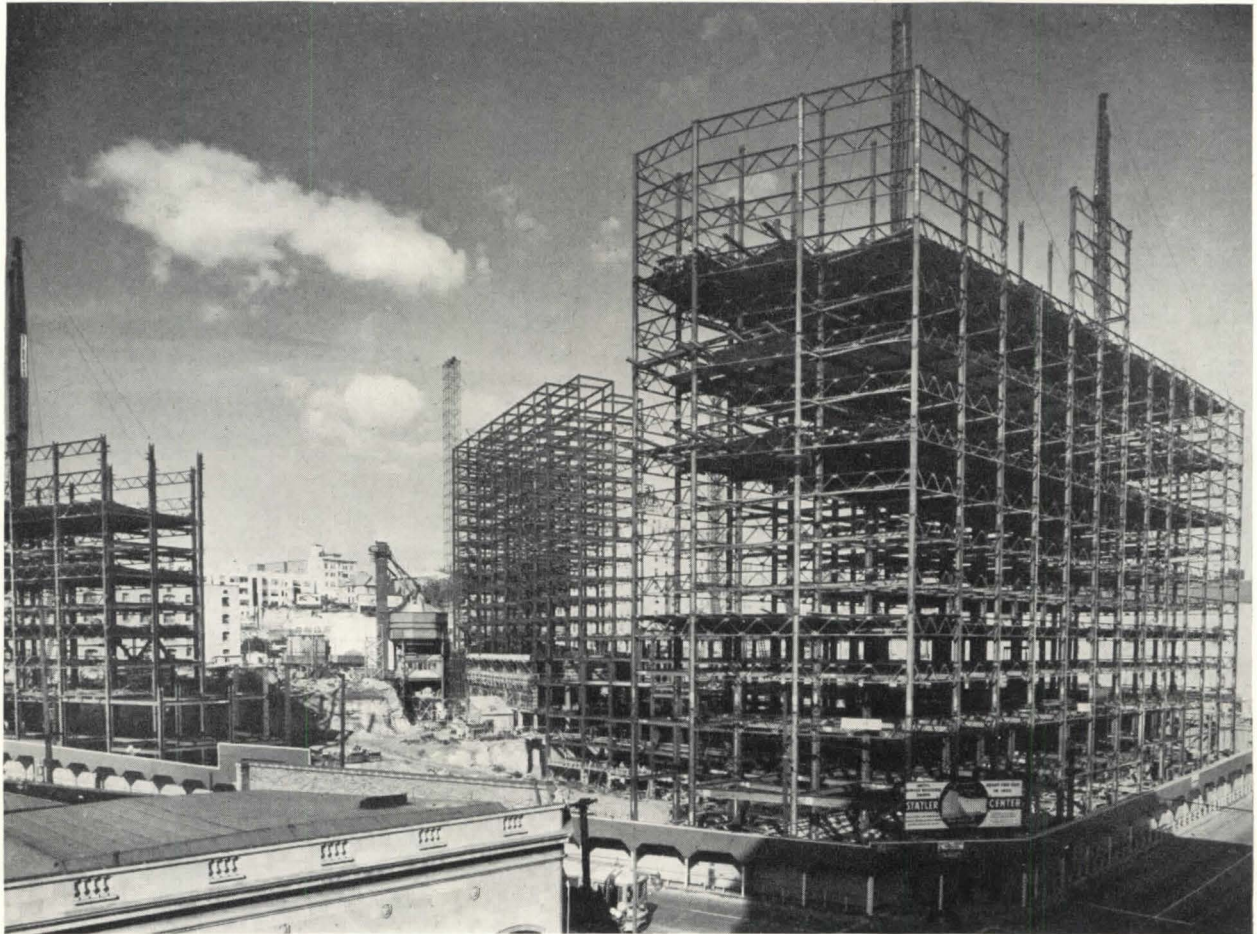
Particulars of structural, mechanical and electrical design, continuing the study on pages 89-104

Statler Center, Los Angeles

Holabird & Root and Burgee, Architects

William B. Tabler, Associate

Julius Shulman Photo



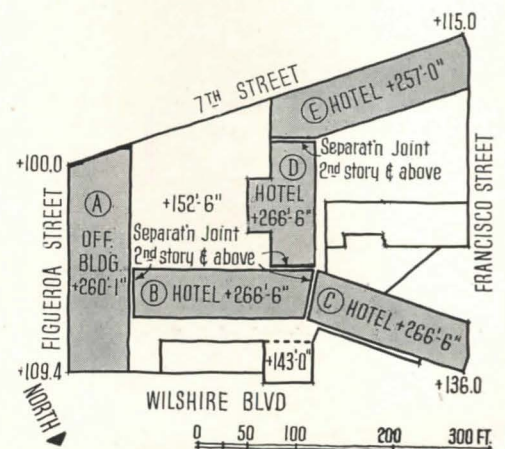
This photo, taken towards the corner of 7th and Figueroa Streets, shows state of construction on Jan. 20th of this year. Note the trusses for reinforcing and earthquake resistance of spandrel walls and the cement plant to left of frame in background

FROM the very start, structural, mechanical, and even electrical requirements played an essential part in the architectural conception of Los Angeles Statler Center. These requirements were dictated to a considerable extent by the desire for open planning and the decision to add an office building and shops to the hotel. Equally important were the earthquake resistance requirements mandatory in Los Angeles and the local building height restriction. In fact, this height restriction, coupled with the high air conditioning and ventilating demands

led to the development of a rather unconventional, but most logical, location for the fans and cooling equipment.

Engineering aspects of design affected by the above requirements include: (1) design and materials of the frame (or frames, since there are five independent buildings, structurally speaking, above the second floor level), (2) exterior wall material and type of fenestration, (3) location and design of air conditioning and ventilating equipment — in fact some of this equipment had to be redesigned to fit into the available space.

Separation joints between units A, B, C, D and E are designed to prevent damage in the event of a severe earthquake



## Structural Design

**Earthquake Resistance.** The plan, arranged to give both Wilshire Blvd. and Seventh St. hotel entrances and to provide every guest room with sunshine some time during the day, as well as to face the office building on another street, lent itself ideally to earthquake design. Statler Center is separated into five units so that seismic loads can be taken in each by the coaction of concrete walls and steel frames in efficient, clean design. Concrete exterior walls are being used because their rigidity provides high resistance against seismic forces. For this reason, the windows are not strip type, but rather are "punched" in the walls to preserve the inherent rigidity of the concrete.

Above the second floor level, the building is divided into units A, B, C, D and E (see plan, page 147) by 6-in. separation joints, designed to prevent damage in case these units might pound together during a severe earthquake.

In units B, C, and E, the seismic forces in the long direction are taken by the reinforced concrete enclosing walls, and in the short direction by the structural steel frame.

In units A and D, the seismic forces are taken entirely by reinforced concrete enclosing and interior walls.

Below the second floor, these forces are taken by interior concrete walls and the steel frame.

In all cases, the seismic forces are distributed to the structural elements in proportion to their relative rigidities. Direct loads due to overturning action are taken by the steel columns.

**General Structural Features.** Solid concrete floor slabs are poured monolithically with the structural steel fireproofing. The slabs were designed to distribute seismic forces to the frame and concrete walls at each floor, particularly at the second floor level, below which no separation joints occur.

All enclosing walls, except those near street level, will be painted concrete, monolithic with column and spandrel beam fireproofing.

Structural steel was left unpainted so as to insure maximum bond between concrete and steel skeleton.

All concrete except that in the foundations, retaining walls and ground slabs is made with a lightweight aggregate. Not only does the use of lightweight concrete save structural steel, but it also serves to mitigate the effect of seismic forces by reducing dead weight aloft.

Concrete is supplied under a strength and performance specification with mix-

ing done in a batch plant constructed at the site.

Interior partitions are either metal lath and plaster, hollow masonry units or concrete. Use of the 2-in. solid plaster partitions throughout guest room floors permits larger rooms and, according to the architects, sacrifices nothing over the conventional type in sound transmission or rigidity.

## Mechanical Design

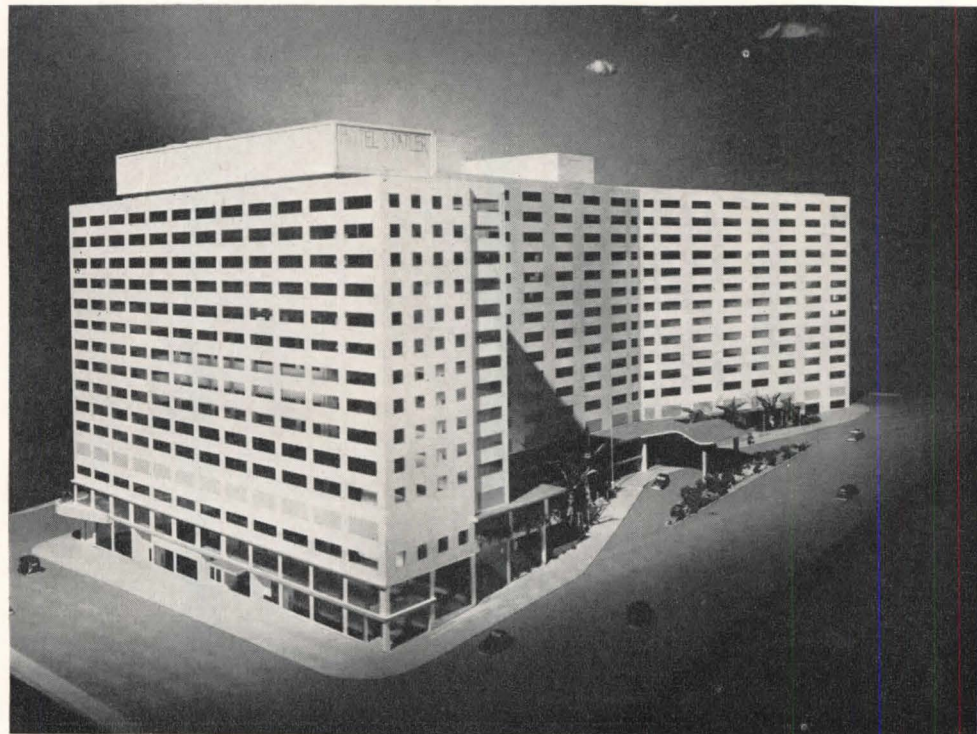
**Ventilation and Air Conditioning.** Instead of one central supply air fan room

of the Fan Gallery. The Fan Gallery also provides additional height below guest rooms to remove them farther from street noises.

Actually, the minimum story heights dictated by the building height restriction precluded use of a horizontal air distribution system — central main supply ducts with horizontal ducts radiating from them — since ceilings could not be furred down to enclose them.

The cooling tower is located on the roof of the office building and takes care of both air conditioning and commercial refrigeration. In the penthouses are ex-

Joseph Molitor Photo



Fan rooms are spotted conveniently around the perimeter of a single floor located between the Ballroom level and the first typical guest room floor. Thus ducts to spaces requiring largest amount of air conditioning can be very short. Note louvers for fresh air intake to the fan rooms (one row above the first typical floor in the office building which is the block in left foreground). On the roof of the office building are the cooling tower, exhaust fans and elevator machinery. See bottom plan on opposite page

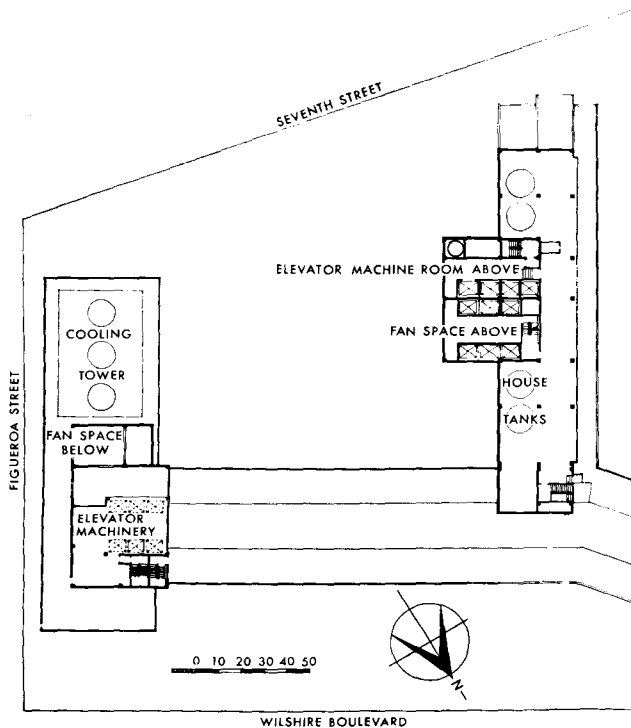
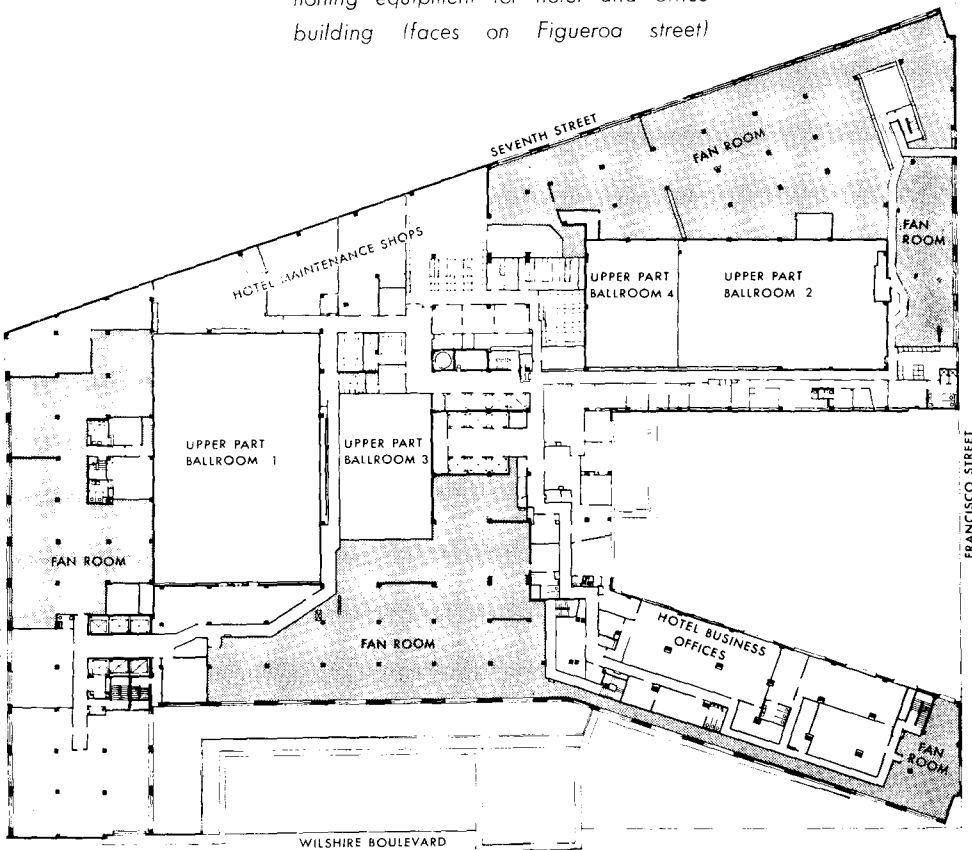
in the basement, there are five of them spotted advantageously around the perimeter of a Fan Gallery Floor sandwiched between the Ballroom level and first Typical Guest Room Floor. This means that spaces with the highest ventilation and air conditioning demands, the public areas, can be served by short, efficient supply ducts. There is no need for a huge fresh air intake duct since louvers are provided in the perimeter

haust fans for the garage, kitchens, laundry and toilets.

Conventional, low-velocity air conditioning is used for the public areas of the hotel. Shop areas are ventilated and are provided with chilled water so the tenant can install air conditioning if he so desires.

Air conditioning for the offices and guest rooms is another problem. Individual control has been provided because

Shaded areas on Fan Gallery plan indicate rooms which contain all air conditioning equipment for hotel and office building (faces on Figueroa street)



Roof plan shows equipment enclosed by penthouses seen in photo across page. Cooling tower is atop office building

it is expected in guest rooms, and desirable in the offices.

At first it was proposed to use the new double duct high velocity, all-air conduit system for both areas. In the hotel guest rooms, the conduits are run up through interior shafts with the special aspirating diffusers being located over the vestibule and manual controls in the entry way. Locating the diffuser here insures good mixing and distribution of the air. Also, due to the mild Los Angeles climate, it was not necessary to have under-window air conditioning units. This permitted furniture to be placed along outside walls.

In the office building, all-air conduits proved to be too large to enclose along exterior walls. Substituted was the familiar high pressure conduit system in which the conduit supplies tempered ventilation air, brought to desired temperature by heating and cooling coils located in under-window units.

**Heating.** Three large boilers and one small one (for valet shop use), located in the lowest level in the building, are fired by either gas or oil. Gas is the primary fuel. Oil is used only as a standby to take care of any interrupted service of gas.

Space between the suspended ceiling and the slab over the boiler room is mechanically ventilated, and the ceiling itself is insulated.

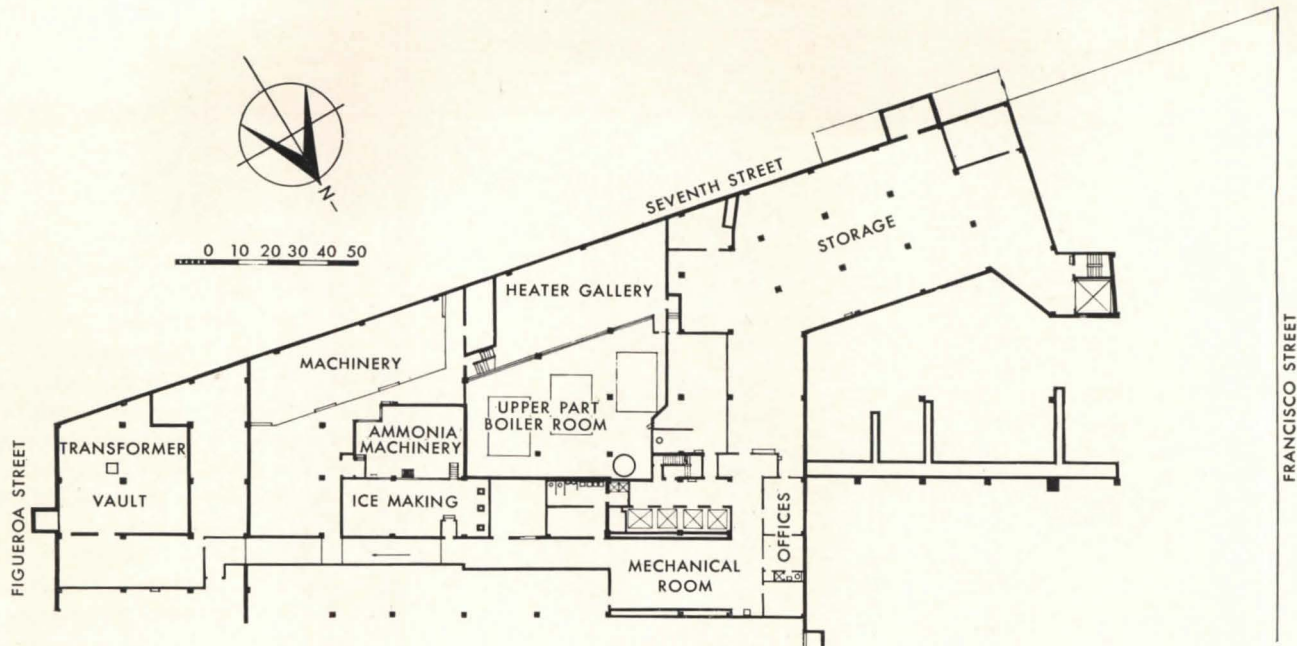
**Fire Protection.** All basement areas are equipped with automatic sprinkler systems. There is a dry standpipe system in each stairwell as well as a complete wet standpipe system within the building. All grease hoods in the kitchens are equipped with steam fire-quenching apparatus.

**Waste Disposal.** Garbage will not be dumped, but is to be processed into a saleable commodity by a dehydration plant. Vapors are exhausted.

### Electrical Design

**Voltage Supplied.** Power to the hotel is supplied by two substations at 4800 v, either of which can carry the full load, with continuous service being insured by automatic switching equipment.

**Distribution.** The office building has an underfloor duct system for both high and low voltage wiring. The duct system provides both receptacle outlets above and lighting outlets below the floor slab. Well thought out design is exemplified here by the access to the raceway being located in the corridors — tenants need not be disturbed when wiring changes are made.



*Lighting and Other Electrical Equipment.* Public area lighting is keyed to the needs of a downtown hotel, with the accompanying special demands of office building tenants who will want to put on shows in the ballrooms. In the ballrooms, recessed downlights and covered lighting, all on dimmers, make possible practically any combination to fit the occasion. The main ballroom has projection, sound and spotlight facilities and also provision for TV pickup.

A full range of voltages from 4800 to 110 v, is available in ballrooms, so that all types of equipment can be displayed for manufacturers' shows.

The garden and pool can be softly lighted from the sides or flooded with light from spotlights on the roof. The pool also has underwater lighting.

Lighting in the garage driveway is of graduated intensity so that guests will not encounter too abrupt a change when driving in or out.

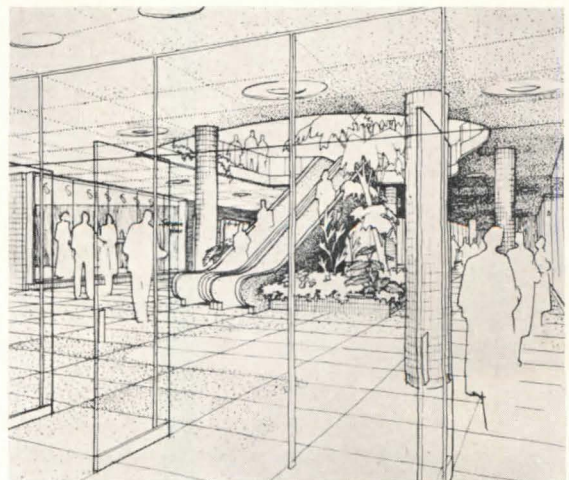
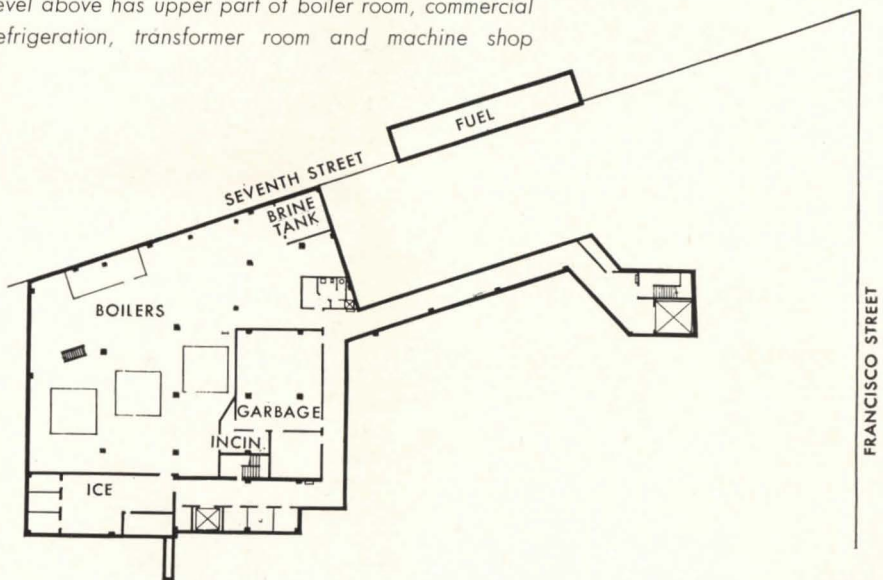
Guest rooms will have provision for radio and television.

### **Vertical Transportation**

Guests arriving at the principal entrance on Seventh St. reach the main lobby by means of moving stairways due to the difference in elevation of various street entrances. A belt conveyor transports luggage.

Principal vertical transportation is supplied by 19 elevators, two dumbwaiters and two subveyors. Passenger and service elevators travel at a speed of 700 fpm, and are equipped with telephones. Passenger elevators have loudspeaker systems for music.

Boiler room is on the lowest level (plan below). Next level above has upper part of boiler room, commercial refrigeration, transformer room and machine shop



Right: moving stairway takes guests from 7th Street entrance up to the main lobby floor



# PRODUCTS for Better Building

## Heating and Ventilating Exposition

Three hundred and fifty manufacturers exhibited their lines at the Tenth International Heating & Ventilating Exposition, held at the end of January in Philadelphia. The show was under the auspices of the American Society of Heating & Ventilating Engineers, and was said to have been the largest display of its kind ever to be held.

Noteworthy features of the show included many packaged heating units which are more compact and attractively finished for use in kitchens. Nearly every manufacturer of heating apparatus showed gas-burning equipment, due to the introduction of natural gas in the East. There were also many types of conversion burners, which permit quick change to any of several types of fuels. Some of the individual products exhibited include:

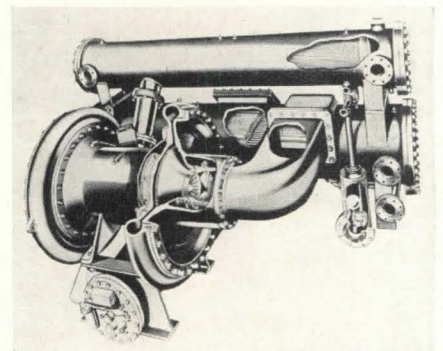
- The Trane Co. introduced a new hermetic centrifugal compressor and water chiller, called *Centravac*, to serve



Typical displays at heating exposition

the 45- to 150-ton refrigeration range. The unit is said to be the first of its type to combine the advantages of centrifugal compression, hermetic sealing and variable capacity. These features are said to substantially lower operating, maintenance and installation costs for refrigeration for air conditioning systems in

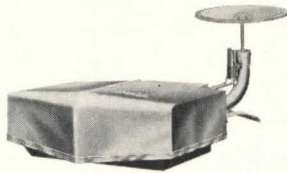
(Continued on page 164)



New centrifugal compressor displayed by The Trane Co. (above)

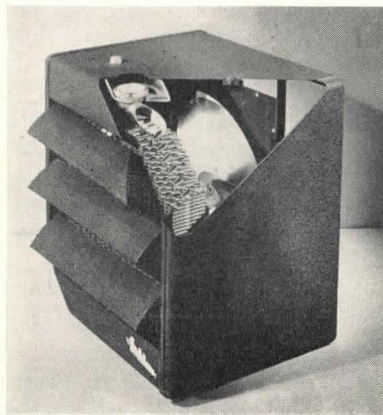


Horizontal furnace by Norman Products Co. has dual-use gas burner (below)

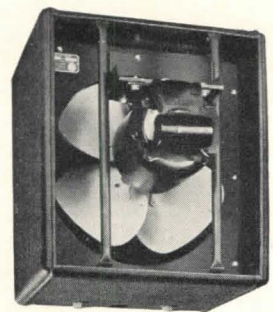


## Unit Heaters

The *Fedders Series 15 unit heaters* are claimed to combine high efficiency with trouble-free operation. Designed for use in plants, offices, stores, etc., the units are well adapted to installations where floor and wall space are at a premium. They are built in a graduated range of sizes and capacities for use with steam or hot water. Heating elements are streamline copper tubes, which are claimed to give efficient heat transfer. The units are mounted in lightweight mono-piece cabinets, with motor and fan set in rubber to deaden noise. Fedders-Quigan Corp., Buffalo 7, N. Y.



Unit heater features simple construction



MARCH 1951

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Product sections are accompanied by numbers, more specific sub-sections by letters. Files are set up for each of these divisions. Individual catalogs are arranged in alphabetical sequence of manufacturers' names under each sub-section. To identify its proper place in the file, each catalog is marked with a special indicator: the major section number, followed by the sub-section letter are placed above a line; below the line is the capitalized first letter of the manufacturer's name, followed by the second letter in lower case.

Major section no. 3a sub-section letter  
Ab first letters of mfr's name

When two firm names in a sub-section have the same first two letters, the third letter is added

- Masonry
  - Granite
  - Marble
  - Stone (structural slate, limestone, bluestone, soapstone)
  - Precast units (synthetic exterior stone)
  - Terra cotta
  - Brick, tile (common & face brick, glazed brick, tile)
  - Cement, lime (masonry cement or lime, portland, stucco, aggregates)
  - Pressure relieving joints
- Wood
  - Lumber
  - Plywood
  - Woodwork (moulding, trim, ornaments, entrances, frames, wood stairs, shutters, wood columns)
  - Wood treatments (termite preventive, fireproof treatments, termite metal shields)
- Metals
  - Aluminum

- Thermal Insulation
  - Building insulation (board, wool, blanket, felt, bat, sheet)
  - Cold storage insulation
  - High temperature insulation (boiler, pipe coverings)
  - Underground pipe insulation
- Sound Control
  - Acoustical materials
  - Fastening systems
  - Vibration isolation
- Lath, Plaster, Wallboard
  - Metal lath, trim, accessories (base beads, screeds, furring clips, steel stud partitions, metal ceilings)
  - Plaster bases, plaster, wallboards (plaster partitions, wallboard for painting, papering, etc.)
- Flooring, Wall Covering
  - Gratings, grids
  - Safety treads (floor plates, stair nosings)
  - Tiles (ceramic floor & wall tile,

## LITERATURE FOR THE OFFICE

### Tilework

*Tile Handbook. Specifications and construction notes for tilework.* This handbook, compiled by Don Graf, supersedes material formerly covered in *Basic Specifications for Tilework K-300* and *Tile Handbook T-1*. A special feature of the book is the provision of explanatory text and drawings referenced to each section of the tile specifications, arranged in parallel columns. This statement of the reasons behind the various specification provisions should be of great value in the intelligent use of the specification itself. It is a definite step toward elimination of the use of specifications by rote, which so often results in including material not pertinent to the particular job under consideration. In the interest of making sure that all work intended to be performed is actually covered, *Tile Handbook* takes particular pains to indicate what work is normally included in the tilework contract, and related work that may be included if so specified.

### Apartment Designs

*Twenty-Three Garden Apartment Designs. New Ideas in Architectural Treatment. Planning and Structural Framing for Military Housing, Suburban Apartments, Low-Cost Public Housing.* The apartment designs presented won prizes in the recent competition covering eight-family garden-type apartments of wood frame construction. The structures, intermediate between two- and three-story flats and detached or semi-detached houses, are claimed to be adaptable to all sections of the country.

In addition to the plans which comprise most of the book, there are typical designs illustrating clear span trussed rafters. 52 pp., illus. Timber Engineering Co., 1319 Eighteenth St., N.W., Washington, D. C.

### Vinyl Cork Tile

*Dodge Vinyl Cork Tile. The new flooring that combines the best features of both vinyl and cork.* Bulletin describes tile for use in homes, hospitals, churches,

naires with and without hangers. The units are both general line and slimline, and are shown with lucite diamond and polystyrene lenses. The patternizer, a standard channel section for connecting standard channels at 90 deg for continuous row wiring of geometric patterns, is shown in photograph and diagram. A spotlight and accessories also are included. There is thorough data on illumination performance of lighting units with both louver and lens enclosures. 12 pp., illus. The Miller Co., Meriden, Conn.

### Aluminum Finishes

*Finishes For Aluminum.* This revised edition (first ed., 1947) supplies basic information on the several processes for applying surface finishes to aluminum and details the characteristics of the finishes produced. Included is information on 10 cleaning treatments, 15 mechanical finishes, 16 chemically produced finishes, 11 electrolytic oxide finishes, organic and specialized finishes.

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CLASSIFICATION SYSTEM FOR ARCHITECTURAL FILES: I

The new simplified classification system used for filing manufacturers' catalogs in the 1951 Sweet's File Architectural was described in a recent article in ARCHITECTURAL RECORD (November 1950, page 162). It was felt that some architects may want to set up a similar system to file individually received catalogs and data sheets. With this in view, the entire listing of major product sections and sub-sections is presented here. The method used by Sweet's to file catalogs under these headings is as follows:

Under this system, major product sections are accompanied by numbers, more specific sub-sections by letters. Files are set up for each of these divisions. Individual catalogs are arranged in alphabetical sequence of manufacturers' names under each sub-section. To identify its proper place in the file, each catalog is marked with a special indicator: the major section number, followed by the sub-section letter are placed above a line; below the line is the capitalized first letter of the manufacturer's name, followed by the second letter in lower case.

Major section no. 3a sub-section letter  
Ab first letters of mfr's name

When two firm names in a sub-section have the same first two letters, the third letter is added.

CLASSIFICATION SECTIONS

- 1. Contractors, Special Services
  - a — General contractors
  - b — Misc. contractors, services
  - c — Testing
- 2. Foundations
  - a — Engineering, contracting (caissons, piling, shoring, underpinning)
  - b — Steel casings

- 3. Structural Systems
  - a — Construction systems, floor and roof (flat slab reinforced concrete and shell domes, vacuum process for hardening concrete)
  - b — Arches, trusses (arch roofs, wood trusses, timber connectors)
  - c — Structural shapes, joists, reinforcing (metal shapes, concrete filled columns, precast concrete joists, steel joists, reinforcing rods, bars, wire mesh)
  - d — Metal panels, roof decks
  - e — Poured and cast slabs, planks, tiles (gypsum, concrete, other types)
  - f — Concrete construction accessories (forms, form liners, inserts, clips, concrete expansion joints)
  - g — Building specialties, tools (joist hangers, caps, bases, pipe columns, expansion bolts, anchors, timber connectors)

- 4. Masonry
  - a — Granite
  - b — Marble
  - c — Stone (structural slate, limestone, bluestone, soapstone)
  - d — Precast units (synthetic exterior stone)
  - e — Terra cotta
  - f — Brick, tile (common & face brick, glazed brick, tile)
  - g — Cement, lime (masonry cement or lime, portland, stucco, aggregates)
  - h — Pressure relieving joints

- 5. Wood
  - a — Lumber
  - b — Plywood
  - c — Woodwork (moulding, trim, ornaments, entrances, frames, wood stairs, shutters, wood columns)
  - d — Wood treatments (termite preventive, fireproof treatments, termite metal shields)

- 6. Metals
  - a — Aluminum
  - b — Bronze, brass, copper
  - c — Steel, iron
  - d — Porcelain enamel
  - e — Ornamental metal work (hand rails, weathervanes, bronze signs, tablets)
  - f — Flagpoles, masts
  - g — Fire escapes, stairs, railings
  - h — Misc. metal work (castings, basement window area walls, pipe railings)
  - i — Welding equipment

- 7. Glass, Plastics
  - a — Glass (window, plate, figured, wire, decorative, bulletproof, mirrors)
  - b — Glass blocks (ventilators for glass blocks)
  - c — Glazing, caulking compounds (putty)

- d — Plastics
- 8. Roofing, Siding
  - a — Built-up roofing
  - b — Sheet roofing, siding (metal, protected metal, asbestos-cement, flat or corrugated, fasteners)
  - c — Asphalt, asbestos shingles
  - d — Wood shingles
  - e — Slate
  - f — Metal, clay tiles
  - g — Flashing (metal or fabric) (gutters, hangers, downspouts, copings, snowguards, etc.)
  - h — Building paper (vapor seal paper, water stops)

- 9. Waterproofing, Dampproofing (materials and treatments) (membrane, integral, metal protected, coatings, hardeners, concrete curing paper, caulking compounds)

- 10. Thermal Insulation
  - a — Building insulation (board, wool, blanket, felt, bat, sheet)
  - b — Cold storage insulation
  - c — High temperature insulation (boiler, pipe coverings)
  - d — Underground pipe insulation

- 11. Sound Control
  - a — Acoustical materials
  - b — Fastening systems
  - c — Vibration isolation

- 12. Lath, Plaster, Wallboard
  - a — Metal lath, trim, accessories (base beads, screeds, furring clips, steel stud partitions, metal ceilings)
  - b — Plaster bases, plaster, wallboards (plaster partitions, wallboard for painting, papering, etc.)

- 13. Flooring, Wall Covering
  - a — Gratings, grids
  - b — Safety treads (floor plates, stair nosings)
  - c — Tiles (ceramic floor & wall tile, metal or plastic tile, small units or sheets)
  - d — Structural glass
  - e — Marble, slate, stone
  - f — Terrazzo, special cement & brick (cement & aggregates for terrazzo, dividing strips, oxychloride cement & magnesia)
  - g — Asphalt, mastic, plastic
  - h — Linoleum, rubber, cork
  - i — Wood (laying systems)
  - j — Floor treatment, maintenance (vacuum cleaners, floor maintenance machines, waxes, polishes, etc. for all types of floors)
  - k — Carpets (carpet grippers, rug cushions)

(Continued on page 157)

- 20. Skylights, Ventilators
  - a — Skylights
  - b — Ventilators, louvers

21. Store Fronts

- 22. Partitions, Wirework, Fences
  - a — Office partitions (metal, wood, wallboard)
  - b — Toilet partitions
  - c — Folding, rolling partitions
  - d — X-ray partitions
  - e — Hospital cubicles

- napkin dispensers, drinking cups & dispensers, electric driers)
- f — Laundry equipment
- g — Chutes

26. Waste Disposal, Cleaning Equipment

- a — Incinerators (rubbish chutes)
- b — Vacuum cleaning systems

27. Pipe, Fittings

- a — Piping (iron, steel, brass, bronze, copper, clay & lead pipe hangers)

- b — Intercommunicating, signaling systems (general signal, public address systems, telephones, telephone booths, etc.)
- c — Time systems (elec., time clocks, watchman's time systems, time recorders, program systems)

33. Vertical Transportation

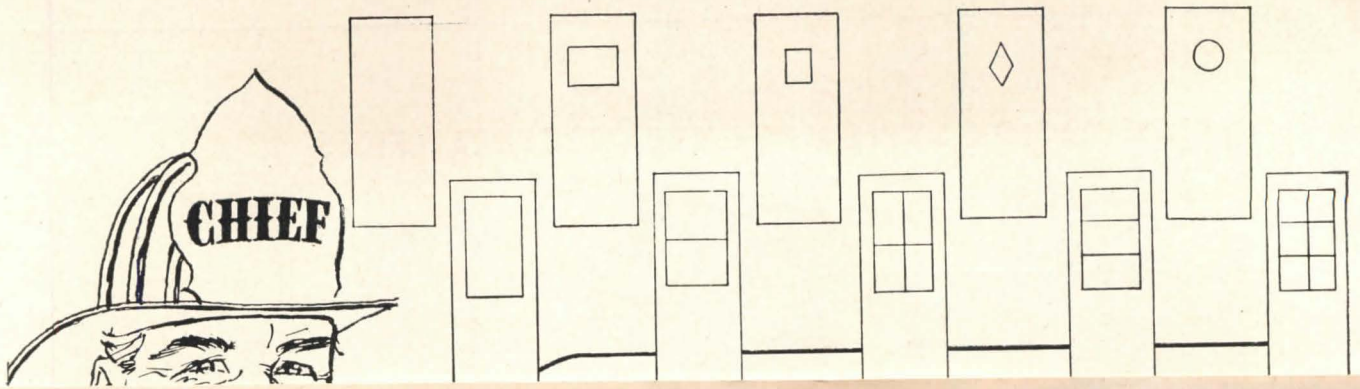
- a — Elevators, dumbwaiters, moving stairways
- b — Cars, doors, entrances
- c — Ash hoists, conveyors

INDEX TO USES OF LOCK FUNCTIONS

Numbers refer to lines previously published, sheets 19-21\*

Office, Public					
----------------	--	--	--	--	--

Architectural Engineering  
TIME - SAVER STANDARDS  
Engin



Kimsul\* insulation helps give  
 Hotpoint "Electrified" House  
 the ultimate in comfort!

*Hotpoint House of the 50's,  
 Plandome, Long Island, N.Y.  
 —"the most electrified  
 house ever built."  
 Matern & York, architects;  
 Walter Uhl, builder.*




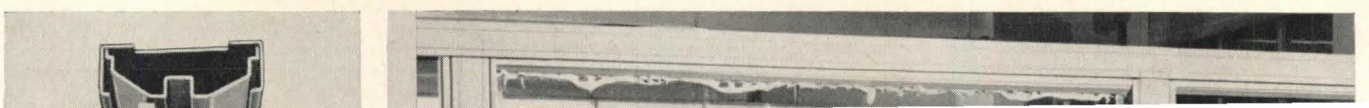
For the thrill of a lifetime, thousands of people are flocking to see the world's most electrified home in Plandome, Long Island. They're seeing coffee start to perk automatically . . . screens and windows move with the flick of a switch . . . garage doors open and close by radar. Yet, the insulation — one of the most important luxury features that help give this Hotpoint House the ultimate in comfort — cannot be seen. It's installed in the ceilings and sidewalls — and by no strange coincidence, the planners of this "rarest" of all homes

specified new Reflective KIMSUL\*. With its reflective aluminum foil vaporseal cover and many-layer stitched fiber blanket, KIMSUL employs the most effective method of stopping heat loss ever devised. It's light, easy and pleasant to handle, can be properly installed without skilled labor and special equipment. KIMSUL does not sift or settle to leave part of the wall or ceiling unprotected — provides permanent, uniform protection over every inch of covered area. It's resistant to fire, moisture, vermin and mold — super-flexible

for use in caulking and fitting behind pipes, wiring, or other "tight-spots." Today, compare these facts about KIMSUL with those of any other insulation. You'll then see why it was specified for today's most modern new home. For complete technical data, see Sweet's Architectural and Builders Catalogs, or write to:

**Building Products Division  
 KIMBERLY-CLARK CORPORATION  
 Neenah, Wisconsin**

The  ALLMARK of Leadership in Movable Steel Interiors




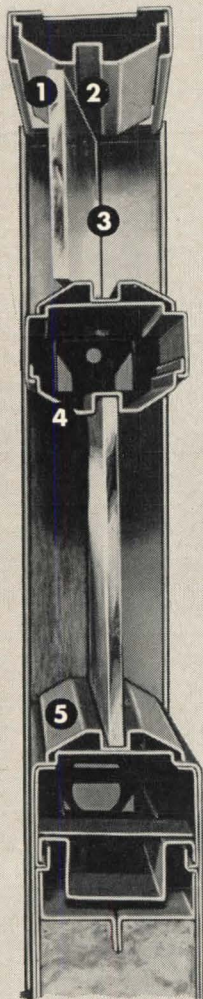
## HARDWARE-22: Lock Functions

Prepared by Seymour Howard, Architect, Instructor  
at Pratt Institute, with the cooperation of the American  
Society of Architectural Hardware Consultants

<b>INDEX TO USES OF LOCK FUNCTIONS</b>						
<i>Numbers refer to lines previously published, sheets 19-21*</i>						
<b>Door Type</b>	<b>Office, Public and Commercial Buildings</b>	<b>Schools</b>	<b>Hospitals</b>	<b>Hotels</b>	<b>Apartments</b>	<b>Residences</b>
Main Entrance	17, 18, push, pull or panic bolts	panic bolts	17, 18	17, 18	8, 17, 18	6
Store and Shop Entrances	9, 12, 17, 18	—	9, 17, 18	9, 17, 18	9, 17, 18	—
Exterior Doors to roof	1, 14	1, 14	1, 14	1, 14	1, 14	6
French Doors	—	—	—	—	—	2, 9, 16 or 17 or cremone, espagnolette double extension or special mortise bolts
Exterior Fire Stair Doors	panic bolts	panic bolts	panic bolts	panic bolts	panic bolts	—
Other Exterior Doors	5, 6, 8	5, 6, 8	5, 6, 8	5, 6, 8	5, 6, 8	2, 6
Vestibule, Lobby, passage corridor, stair Doors	1, 14, 17, push, pull	1, 14, 17, push, pull	1, 14, 17, push, pull	1, 14, 17, push, pull	1, 14, 17, push, pull	—
Public Toilet Locker, Dressing room Doors	8, 11, push, pull	8, 11, push, pull	8, 11, push, pull	8, 11, push, pull	—	—
Fire Exit Doors	panic bolts	panic bolts	panic bolts	panic bolts	panic bolts	—
Auditorium Doors	panic bolts	panic bolts	—	panic bolts	—	—
Corridor Doors to offices, apt., teacher's, hotel guest rooms	5, 7, 8, 12	5, 7, 12	—	13	6, 8	—
Communicating Doors	4, 17	4	4	4	4	4
Classroom Doors	—	14, 15	—	—	—	—
Ward, Bed, Treatment Doors	—	—	16	—	—	—
Private Toilet, Bathroom Doors	2	2	2	2	—	—
Banquet, Private Dining Room Doors	—	—	—	17	—	—
Bed-pan, Utility, Diet-Kitchen, Dining Kitchen, Operating, Delivery, Anaesthesia Room Doors	—	—	16	—	—	—
Bath, Bedroom Doors	—	—	16	1, 3	3	3
Closet, Locking	7, 11, 16	7, 11, 16	7, 11, 16	7, 11, 16	7, 11, 16	7, 11, 16
Closet, Non-Locking	1	1	1	1	1	1
Other Interior Doors (locking)	7	7	7	10	9	9
Other Interior Doors (non-locking)	1	1	1	1	1	1
Wire-shaft, Pipe Space, slop sink, Janitor's closets (always locked)	11	11	11	11	11	11

\* Note: Although lock types are arranged in the preceding tables according to similarity of function, all locks in one line are not necessarily suitable for all types of buildings. Choice of lock should be made with consideration as to weight, durability and security appropriate to the specific type of building.

The  ALLMARK of Leadership in Movable Steel Interiors



1. Movable Member Raised for Inserting Glass.
  2. Slots for Hooks in Movable Member.
  3. Grooves in Verticals Are Deep Enough to Receive Extra Width of Glass.
  4. Movable Member Pulled Down to Center Glass.
  5. Fixed Chair Rail.
- Operations Reversed for Removal of Glass.



## The *Leader* with Telescopic Glazing ... a patented Hauserman feature

Telescopic Glazing is another exclusive Hauserman feature that assures convenience year-in and year-out. It's another refinement in detail that helps provide that over-all Hauserman perfection in appearance and convenience.

Telescopic Glazing has no unsightly screws or exposed fastenings of any kind. And it eliminates marring or denting that accompanies drive-on mouldings. What's more, Telescopic Glazing permits clean, quick replacement of broken units.

Hauserman has more exclusive, patented features than any other type of movable wall. Write for the new 1951 Hauserman *Movable Steel Interior* catalog picturing and detailing all Hauserman advantages. Your nearby Hauserman office or representative can give you expert engineering assistance on any partitioning requirement. *The E. F. Hauserman Company, 7152 Grant Avenue, Cleveland 5, Ohio.*



Organized for Service  
Nationally Since 1913



Partitions • Wainscot Railings  
Complete Accessories

HARDWARE-23: Lock Dimensions

Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

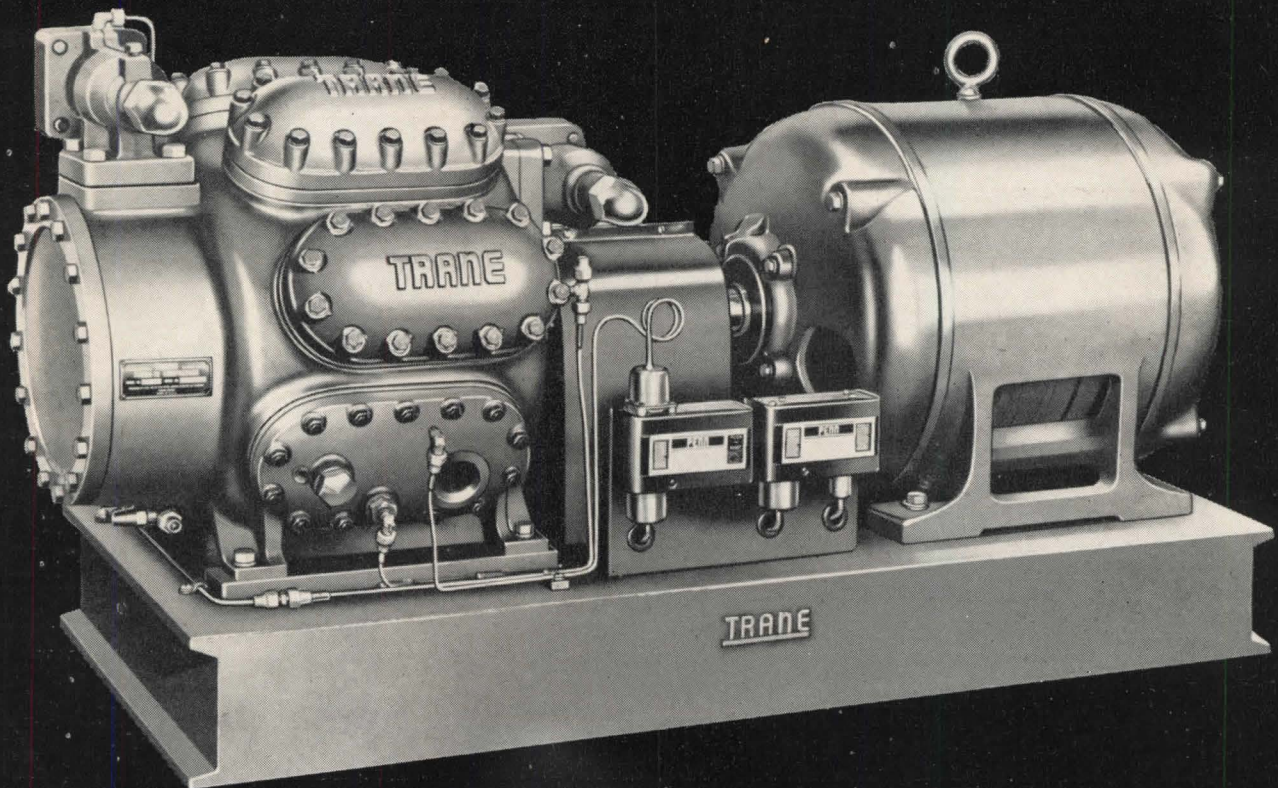
Government specification locks (FF-H-106a)							All dimensions are minimum, in inches
Series No. and Type	Case	Backset	Front *	Bolt	Bolt Throw	Door Thickness	Notes
<b>2</b> Tubular	3/4 to 1 diam. 3 3/4 long-max	2 3/8 to 2 1/2	2 x 7/8	5/16 x 1/2	7/16	1 1/8	"Designed primarily for housing & residential buildings" (FF-H-106a)
<b>3</b> Mortise, Bit-Key	3 1/2 high x 3 1/4 deep x 5/16 thick	2 1/2 ± 1/32	5 1/2 x 7/8	latch 5/16 x 7/16 dead 1 3/16 x 3/8	3/8 7/16	1 3/8	
<b>5</b> Mortise, Bit-Key	4 1/4 x 3 1/2 x 5/8	2 3/4 ± 1/32	6 x 1	latch 5/8 x 7/16 dead 7/8 x 3/8	7/16 7/16	1 3/4	
<b>6</b> French door, Bit-Key	4 x backset + 3/4 x 5/8	1 1/2 ± 1/32 (2" may be specif.)	5 7/8 x 7/8	latch 5/8 x 7/16 dead 7/8 x 3/8	7/16 7/16	1 3/8	
<b>8</b> French door, Cyl. lock	5 1/2 x backset + 1 x 3/4	1 1/2 ± 1/32 (2" may be specif.)	7 7/8 x 1 1/16	latch 2 7/32 x 5/8 dead 1 1/8 x 7/16	1/2 1/2	1 3/4	
<b>85</b> Mortise, Cyl. lock	5 1/2 x 3 1/2 x 5/8	2 1/2 ± 1/32	7 3/4 x 7/8	latch 2 7/32 x 5/8 dead 1 1/8 x 7/16	1/2 1/2	1 3/8	
<b>86</b> Mortise, Cyl. lock	5 1/2 x 3 3/4 x 3/4 (6 x 4 1/4 x 1-max hollow metal doors)	2 3/4 ± 1/32	8 x 1 1/4 beveled (8 x 1 1/4 exact, for h.m. doors)	latch 1 x 5/8 dead 1 1/8 x 1/2	1/2 1/2	1 3/4	
<b>87</b> Mortise, Cyl. lock (Fire doors)	same as 86	same as 86	same as 86	latch (plain or antifriction) 1 x 5/8	3/4	1 3/4	3/4" throw required for underwriters labeled doors
<b>90</b> Unit lock	2 high x 2 7/8	2 3/4 ± 1/32	part of case, beveled	latch (hinged) 5/8 x 1 1/4 dead 5/16 x 7/8	1/2 1/2	1 3/4 (can be specif. 1 3/8 min, 3 max)	
<b>98</b> Same as 90 (Fire doors)	same as 90	same as 90	same as 90	latch (hinged) 5/8 x 1 1/4 auxil. latch	3/4 5/16	same as 90	3/4" throw required for underwriters labeled doors
<b>121</b> Cyl. entrance door, Mortise, Handle one side	5 1/4 x 3 1/2 x 5/8	2 1/2 ± 1/32	7 5/8 x 7/8	latch 2 7/32 x 5/8 dead 7/8 x 7/16	1/2 1/2	1 3/4	
<b>123</b> Same as 121, Handle both sides	5 1/4 x 3 3/4 x 3/4 (6 x 4 1/4 x 1 max hollow metal door)	2 3/4 ± 1/32	7 3/4 x 1 1/4 (8 x 1 1/4 beveled, for h.m. doors)	latch 1 x 5/8 dead 1 1/8 x 1/2	1/2 1/2	1 3/4	
<b>140</b> Mortise, Integral-type (factory assembled)	3 x 2 3/8	2 3/4 ± 1/32	4 1/4 x 1 1/4	latch 1 1/16 x 2 7/32 auxil. 1/4 x 2 7/32 dead 1/4 x 2 7/32	1/2 3/8 1/2	1 3/4 (can be specif. up to 2 1/4)	
<b>145</b> Unit, Integral-type	3 x 2 3/8	2 3/4 ± 1/32	2 7/8 x thickness of door	same as 140	same as 140	same as 140	
<b>160</b> Cylindrical (light duty)	2 to 2 1/8 diam (concentric with knobs)	2 3/8 ± 1/64 (can be specif. 5, 7, 10)	2 1/4 x 1 (can be specif. bevel)	latch 1 1/16 x 1/2 auxil. plunger as needed	3/8	1 3/8 to 2-max	
<b>161</b> Cylindrical (heavy duty)	2 to 2 1/8 diam (concentric with knobs)	2 3/4 ± 1/64 (can be specif. 5, 7, 10)	2 1/4 x 1 1/8 beveled	latch 7/8 x 5/8 auxil. plunger as needed	1/2 (3/4 can be specified)	1 3/8 to 2 (can be specif. for thickness)	3/4" throw required for underwriters labeled doors
<b>181, 182</b> Tubular cyl., Dead locks & Night Latches	7/8 to 1 diam (concentric with bolt)	2 3/8 to 2 1/2	2 x 1	5/8 x 1/2	1/2	1 3/8 to 2	
<b>183</b> Cyl. Mortise, Night Latch	3 1/4 x 3 1/4 x 3/4	2 1/2 or 2 3/4	5 x 1 1/8	3/4 x 5/16	1/2		
<b>184</b> Mortise, knob, latch	1 5/8 x 3 1/8 x 5/16	2 1/2 ± 1/32	3 3/8 x 1 3/16	5/16 x 7/16	3/8	1 3/8	
<b>185</b> Mortise, knob, latch	2 1/4 x 3 1/2 x 5/8	2 3/4 ± 1/32	4 x 1	1 1/16 x 5/16	1/2	1 3/4	
<b>187</b> Classroom, Bit-Key, Mortise	5 1/4 x 3 3/8 x 1 1/16	2 3/4 ± 1/32	7 x 1 1/16	5/8 x 7/16	7/16		
<b>188</b> Classroom, Bit-Key, Dead-lock	3 x 3 1/8 x 5/16	2 3/4 ± 1/32 (2 1/2 can be specif.)	4 3/4 x 1	7/8 x 7/16	7/16		
<b>189</b> Mortise, Bit-Key, Dead-lock	2 1/8 x 3 3/8 x 5/8	2 3/4 ± 1/32 (2 1/2 can be specif.)	4 x 1	7/8 x 7/16	7/16		
<b>190, 191</b> Cyl. Mortise, Dead-lock	2 3/8 x 3 3/8 x 3/4	2 1/2 ± 1/32 (1 1/2, 2 or 2 3/4)	4 1/8 x 1 1/16	1 5/16 x 1/2	1/2		
<b>192</b> Asylum, Bit-Key, Dead-lock (Mortise)	3 x 4 x 1 3/16	3 ± 1/32	5 1/2 x 1 1/4	1 3/4 x 5/8	5/16		

\* Flat, unless otherwise indicated

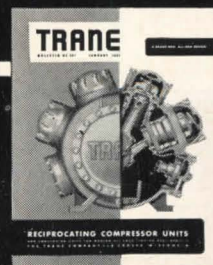
TIME - SAVER STANDARDS Architectural Engineering

# NEW TRANE COMPRESSOR...

**New internal capacity control...new force  
feed oil system...new compact design**



Full information and data on the new Trane Compressors available at your nearest Trane Sales Office, or at the main office in La Crosse, Wisconsin. See Reciprocating Compressor Bulletin DS-36I.





# NEW REFRIGERATION EFFICIENCY

## Saves space, cost, service on comfort and process applications

Brand new, all new, the Trane Reciprocating Compressor is designed to set a new high in refrigerating efficiency, performance and endurance.

The trim and compact Trane Compressor Unit is a real power-saver in operation. With its completely new, completely enclosed capacity control system, power consumption is reduced under reduced cooling loads. Trane Compressors automatically respond to load changes with favorable tonnage-to-horsepower efficiency even under greatly reduced loads. This smooth-running step-down and step-up operation requires no outside controls or adjustments.

Direct drive, constant speed design, plus unloaded starting, permit the use of standard general purpose motors. Special large-area filters cut wasteful oil foaming and pressure losses during start-up periods.

The new Trane Compressor is built for extra years of trouble-free service. Specially treated suction and discharge valves are designed to wear 900% longer; on test, needed no attention after the equivalent of 8 seasons of continuous operation. Bearings serve years longer because of an enclosed forced feed lubrication system. This system sends clean oil to bearings and prevents impurities from reaching bearings.

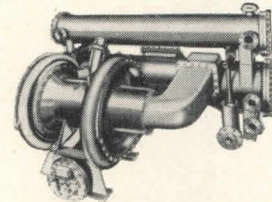
When it comes to quiet, vibration-free performance, the new Trane Compressor is a standout again. Special Trane designed valves are cushioned to muffle noise at its source. The internal capacity control system operates through oil pressures, silently and effectively.

So smooth running is the Compressor that a penny can be balanced on the machine through all stages of its operation!

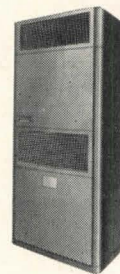
The new Trane Compressor is available in six compact models, with 4, 6 or 8 cylinders. Capacities range up to 50 tons.

The new improved Compressor makes it easier and more logical than ever to design a complete air conditioning system around Trane products. Trane Fans, Coils, Climate Changers (for a central system), Custom-Air and UniTrane units (for a unit system), and Trane Compressors can work together to supply year-around comfort in any building. Individually, each of these products is outstanding. Working together, they are unmatched for air conditioning efficiency.

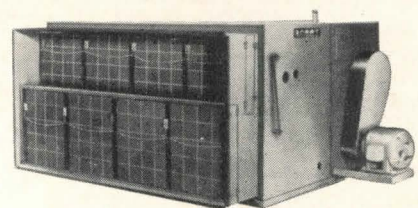
For full information about the new Reciprocating Compressor and Condensing Units, see the Trane representative in your area, or write the main office, La Crosse, Wisconsin.



**The New CenTraVac**, a complete hermetically-sealed water chilling system, brings centrifugal refrigeration economies to a new and wider range of jobs. Direct drive, with automatic power reduction that parallels capacity reduction. Capacities starting from 45 tons. CenTraVac Bulletin DS-399 gives full information.



**The 1951 Trane Self-Contained Air Conditioner** supplies year-around comfort for stores, restaurants, offices. Uses less floor space. Delivers comfort directly or through ducts. Accessible hermetic compressors. Unit capacities up from 3 tons. See Self-Contained Air Conditioner Bulletin DS-362 for complete data.



**The Trane Climate Changer** is a complete year-around air conditioner, heating or cooling, humidifying or dehumidifying, filtering and moving air. It can do all, or any combination of these jobs for comfort or process work. Climate Changer Bulletin DS-303.



Luxury air conditioning for a luxury hotel—every room in the famous Shamrock Hotel in Houston is an oasis of air conditioned comfort. Trane-built room units form the system supplying this comfort.

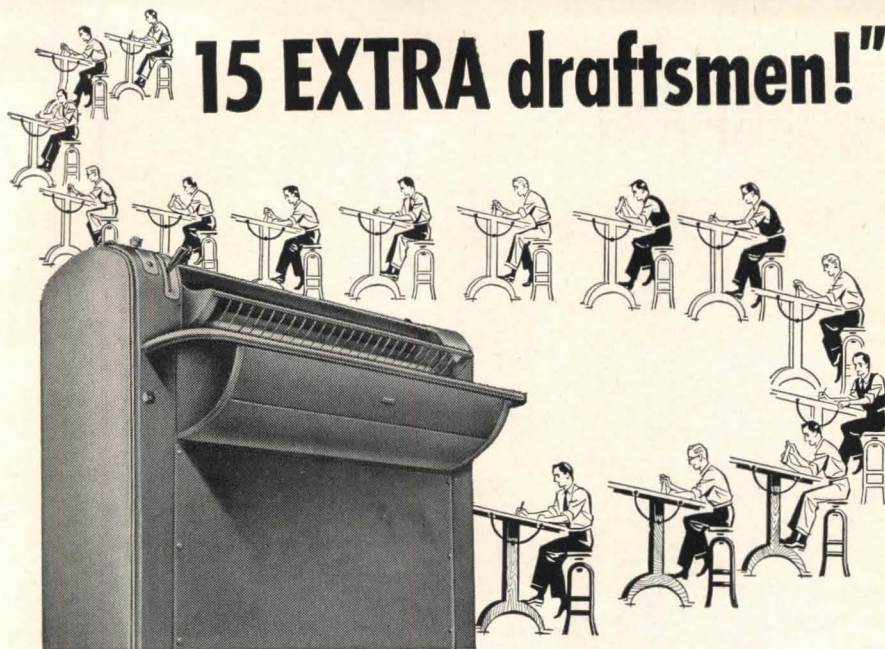
# TRANE

THE HOUSE OF WEATHER MAGIC

THE TRANE COMPANY, LA CROSSE, WISCONSIN  
EASTERN MFG. DIVISION • SCRANTON, PA.  
TRANE COMPANY OF CANADA, LTD., TORONTO

MANUFACTURING ENGINEERS OF HEATING AND AIR CONDITIONING EQUIPMENT • OFFICES IN 80 CITIES

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says THE TRANE COMPANY of La Crosse, Wisc.

**OZALID—the speedy copying process that's 60 TIMES FASTER than costly, old-fashioned "copying"!**

The Trane Company, one of America's foremost manufacturers of heating, ventilating and air conditioning equipment, writes: "Now with the aid of our Ozalid equipment, the 44 draftsmen in our Product Design Department turn out as much work as 59 or 60 draftsmen could normally produce."

Skilled manpower is not wasted. This saving in time and labor is vital to the operation of companies like Trane—and the whole economy.

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By using Ozalid, Trane's draftsmen can add new designs to existing product plans with a minimum of time and trouble. In a matter of seconds, duplicate masters are made. Design changes are made on the

duplicates, which now become the new masters, while the originals are returned to file.

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With duplicate masters, Ozalid easily fills the weekly demand for tens of thousands of prints to keep Trane's factories humming and their customers satisfied.

And, Trane reports, Ozalid copies — from original or duplicate master — are not only reproduced faster, but are easier to read, easier to stack and more nearly error-proof.

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No matter what your copying problem is, you can profit from Ozalid's versatility — as hundreds of companies, large and small, have learned. Get the full story on Ozalid. Send for your copy of "The Simplest Business System" today. It's free.

## PRODUCTS

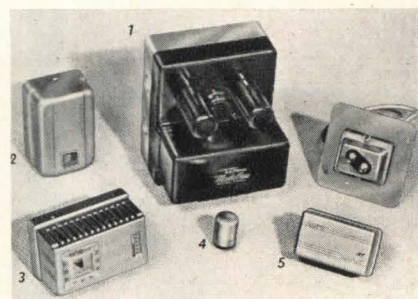
(Continued from page 151)

office buildings, hotels, etc. The unit is also said to be quiet and vibration-free in operation. It requires no special foundations, floor construction or sound-proofing. The Trane Co., La Crosse, Wis.

- The Norman Products Co. showed a horizontally designed forced-air gas furnace, the *Norman Southerner*, which is planned to save floor space in small homes. The unit can be installed in the attic, basement, closet, under the floor, or in any small out-of-the-way area. Only 16 to 21 in. clearance is needed. The furnace is available in four sizes. The largest measures 21½ by 23 by 52 in. It operates on any type of gas, and is also available in a *TWINfuel* gas-to-gas model. This last type has an automatic burner which uses city gases on moderate winter days, and switches to LP gas during cold snaps when the gas company's peak load occurs. No adjustment is needed for primary air in the automatic changeover from one fuel to another. Norman Products Co., 1150 Chesapeake Ave., Columbus 12, Ohio.

- The Minneapolis-Honeywell Regulator Co. featured their electronic *Moduflow* temperature control system for domestic heating equipment. Especially designed for homes with two or more heating zones, the system (see photo) consists of: an electronic relay amplifier (1), outdoor anticipator (2), electronic clock-model thermostat (3), a plug-in cycler (4), and an averaging (inside) thermostat (5). The amplifier, with the

(Continued on page 166)



Devices for temperature control system

Cut Copying Costs  
... use

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Johnson City, New York  
Gentlemen: Please send free illustrated booklet that fully explains the Ozalid process.

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Ozalid in Canada—Hughes Owens Co., Ltd., Montreal

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When floors must combine distinctive beauty and exceptional durability, Armstrong's Rubber Tile is first choice. It has unusual clarity of color and graining plus the ability to withstand the wear of concentrated traffic. Various design and service requirements can be met with the choice of colors, sizes, and gauges.

Entrance foyer and main lobby  
Richard A. Gleeson Library, University of San Francisco  
Milton T. Pflueger, Architect

**ARMSTRONG'S RUBBER TILE**  
ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA

# HERE'S HOW TO PREVENT COSTLY FALLING ACCIDENTS



37 Falling Accidents  
Every Hour\*

## A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

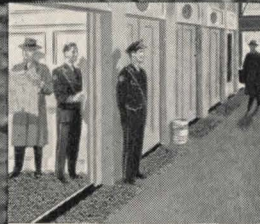
This revolutionary ABRASIVE Floor Plate makes it possible for you to give your workmen the best non-slip protection against costly falling accidents.

A. W. ALGRIP is made by rolling abrasive grain, the same type used in grinding wheels, uniformly as an integral part of the upper portion of steel plate. Result: A floor plate that's non-slip even on steep inclines. ALGRIP requires no maintenance attention and wear exposes new abrasive particles so it keeps its gripping qualities. Wet or dry ALGRIP is non-slip. It's easy to keep clean and can be cut and installed overnight.

Architects, engineers, designers and safety engineers are specifying A. W. ALGRIP for industrial and commercial applications. Get complete information about this revolutionary ABRASIVE Floor Plate now. Write for booklet B-20

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ALGRIP installed in elevators and on sills keeps passengers safe from slipping accidents.



ALGRIP is ideal for installation on engine and boiler room floors.

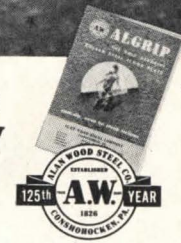
## A.W. ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE ALAN WOOD STEEL COMPANY CONSHOHOCKEN, PA.

125 YEARS OF IRON AND STEEL MAKING EXPERIENCE

Gentlemen:

Please send me your 8-page information-packed booklet B-20.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_  
COMPANY \_\_\_\_\_  
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SUPER-DIAMOND Floor  
Plate • Plates • Sheets  
• Strip • (Alloy and  
Special Grades)

## Architectural Engineering

### PRODUCTS

(Continued from page 164)

plug-in cyclor, interprets, amplifies and appropriately acts upon signals from the sensing elements of the system. The outside and inside thermostats average the various conditions to modify the temperature. Clock permits prearranged settings. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.

• A new model *Precipitron* electronic air cleaner was shown by Westinghouse Electric Corp. The unit, designed for use with heating and air conditioning systems, is compact and completely factory assembled. The cabinet has been restyled to provide a smaller, lighter



Air cleaner (at left in photo) can be used with existing heating systems

unit. Other changes made include a horizontal air flow arrangement to simplify duct connections and the reduction of over-all power requirements by 25 per cent. Westinghouse Electric Corporation, Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

• New *Electriglas* radiant heat baseboard panels were displayed by the Appleman Glass Works. The units are designed for prime or supplemental heating of homes or buildings. The glass panel is encased in a steel frame, and has a chemical electrical element fused to the back surface. The surface temperature of the glass reached approximately 240 F. Panels are available in two sizes: a 300 watt (1024 Btu) unit 42 in. long,

(Continued on page 168)

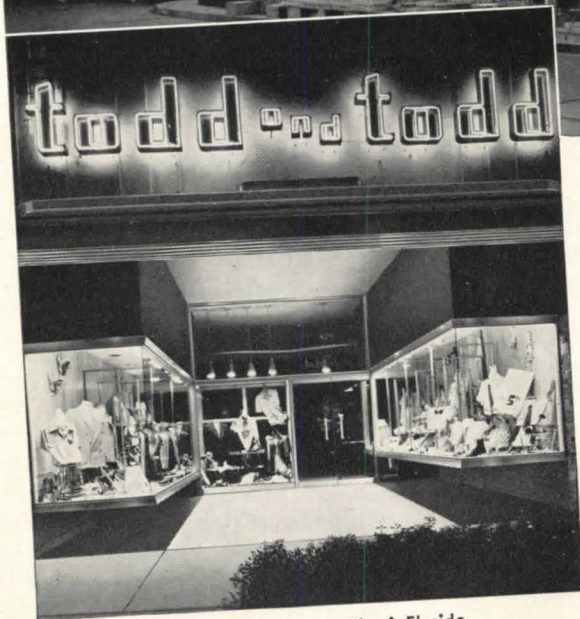
\*17% of the 222 occupational injuries which occur every hour are due to falls. Source: National Safety Council's 1949 edition of *Accident Facts*.

Build PRESTIGE  
and PATRONAGE with

**Brasco**  
SAFETY-SET  
STORE FRONTS



Architects: Simpson-Peck, Inc., Chicago



Architect: Edwin T. Reeder, A. I. A., Miami, Florida

MORE than a finely engineered safe setting for plate glass, Brasco Construction is an important element in the architect's plans to build prestige and patronage for the store owner. With trim, smart lines, rich and enduring finish, Brasco Fronts add the touch of smartness to individualized architectural treatment.

The lower height of Brasco sash (only 25/32") definitely improves modern *Sellelevision*\* design by enlarging visible glass areas. The attractive and inviting store interior is revealed to best advantage. Brasco's deeper, safer glass grip is maintained in all sash and bar members. Sturdy steel reinforcements provide additional protection against shock and wind pressure.

Our entire Safety-Set store front line is fabricated in both heavy gauge stainless steel and anodized aluminum. Other Brasco products for distinguished store front architecture include handsome glass door frames and our outstanding new line of aluminum doors and complete entrances. Write Dept. R 103 for full size construction details.

\*©



★ ★ A COMPLETE LINE FOR EVERY DESIGN ★ ★

**BRASCO MANUFACTURING CO.**  
HARVEY • (Chicago Suburb) • ILLINOIS  
Specialists in Metal Store Front Construction for more than 40 Years

**Proved by  
1,300,000  
Pair of Feet**

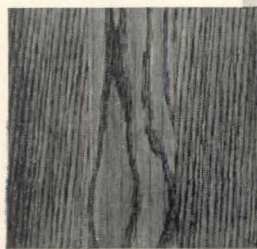


**PARKAY Hardwood  
Floors in Model  
Home Withstand  
Grueling Traffic**

Over 1,300,000 visitors trod the Parkay ready-finished hardwood floors in the model home sponsored by Living Magazine at the 1950 Chicago Fair. At conclusion of the 90-day exhibit the architects—Tsuruoka, Osborne, Martini & Melun, Evanston, Ill.—wrote the following: "... although the flooring was not refinished during the Fair and had only minor daily attention, it wore beyond our expectations and retained its fine appearance ..."

Here's proof that Parkay— $\frac{3}{16}$ " thick—offers all the wear of standard floors—that its factory finish makes for lasting beauty. And remember—Parkay's speedy application to any sound subsurface with special adhesive saves valuable time on both new and remodeling jobs alike.

Parkay flooring, made of choice American Oak, is available in two styles—9" x 9" Tiles and 9" wide Broadboard. For complete details see Sweet's Architectural File or write direct for free samples and literature. Parkay, Inc., Louisville 9, Ky.



**PARKAY**

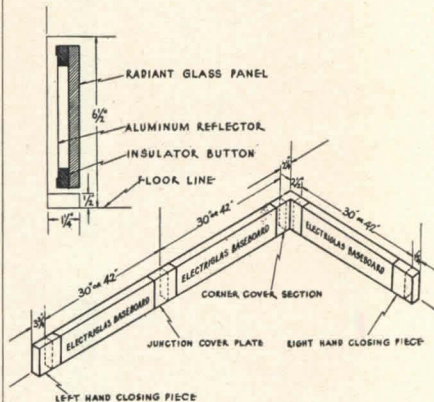
READY-FINISHED HARDWOOD FOR FLOORS AND WALLS



**Architectural Engineering**

**PRODUCTS**

(Continued from page 166)



New type radiant baseboards employ panels of electrified glass

and a 200 watt (683 Btu) unit 30 in. long. Both are  $6\frac{1}{2}$  in. high,  $1\frac{1}{4}$  in. deep. Sections are held together by  $\frac{1}{2}$  in. conduit nipples, lock nuts and bushings. Appleman Glass Works, Bergenfield, N. J.

**Floor Cleaning Products**

*Super Shine-All*, a floor cleaner for wood, linoleum, cement, terrazzo, asphalt and rubber tile; and *Kurl-Off*, a paint and varnish remover said to eliminate sanding, are among new maintenance products available. Also currently available on the market is the *Hiltonian*, an electric machine capable of doing the triple-purpose job of scrubbing, waxing, polishing. These products are included in the new mobile floor clinic service, a fleet plan which at present demonstrates to schools, institutions, hospitals and industry in Colorado, Iowa, Illinois, Ohio and New Jersey. Plans for service in other states are underway. The Hillyard Chemical Co., St. Joseph, Mo.

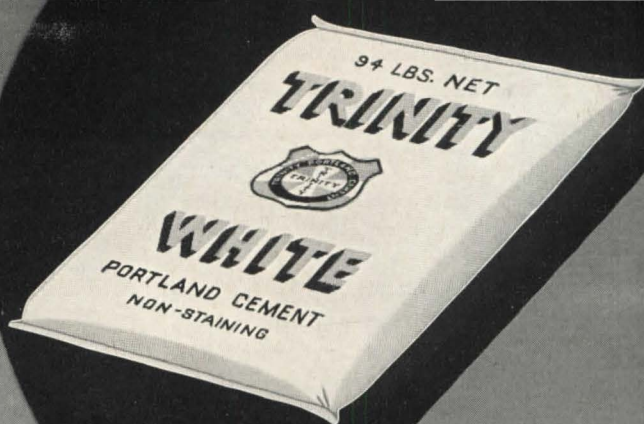
**Precast Lightweight Wall Panels**

*Bildrok*, a lightweight building material for loadbearing or curtain walls and fireproof partitions, is composed of mineral aggregates with Portland Cement binder. Used for exterior surfaces, it is said not to require any further treatment except painting if desired.

(Continued on page 170)

# Trinity White

## PORTLAND CEMENT



... for architectural concrete units, terrazzo, stucco, cement paint



Wherever beauty and good appearance are important factors—  
use Trinity White. It is the *whitest* white cement. It is a true  
portland cement that meets ASTM and Federal specifications.

Trinity Division, General Portland Cement Co., 111 W. Monroe St., Chicago;  
Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles;  
305 Morgan St., Tampa; Volunteer Building, Chattanooga.

as white



as snow

*the whitest white cement...*

PLAIN OR  
WATERPROOFED

**PRODUCTS**  
(Continued from page 168)

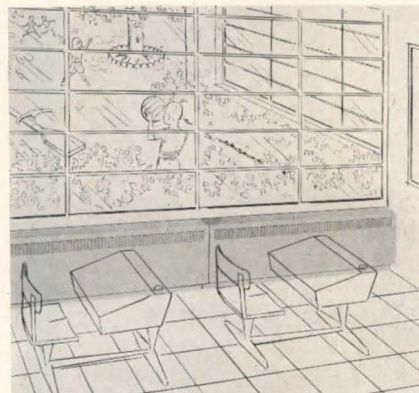
The panels can be cast with individual patterns and designs on special order. They are obtainable in flat or curved surfaces as well as lintel and notched lintel, standard V-joint, fluted and corner panels. In addition to qualities of being fireproof and of having structural strength, the manufacturers claim rapid erection with Bildrok; permanent protec-

tion against rot, termites and vermin; insulation value; flexibility in design and construction; and facility in being worked with carpenters' tools. In construction 16-gauge (or heavier) steel channels are used to anchor top and bottom panels. American Bildrok Co., 2001 W. Pershing Rd., Chicago 9, Ill.

**Sill-Type Radiator**

Another exhibit of the recent Heating and Ventilating Exposition was the new *Sil-Type Radiator*. The units are designed especially for buildings featuring

continuous sash construction. They are made of rust-resistant metal with a prime coat, and are available in any sill depth or height. According to the manufacturers, the units offer several economies: they permit temporary heat, provide a sill, and form the finished wall under the windows.



*Sill high radiators are designed for use in buildings with continuous sash*

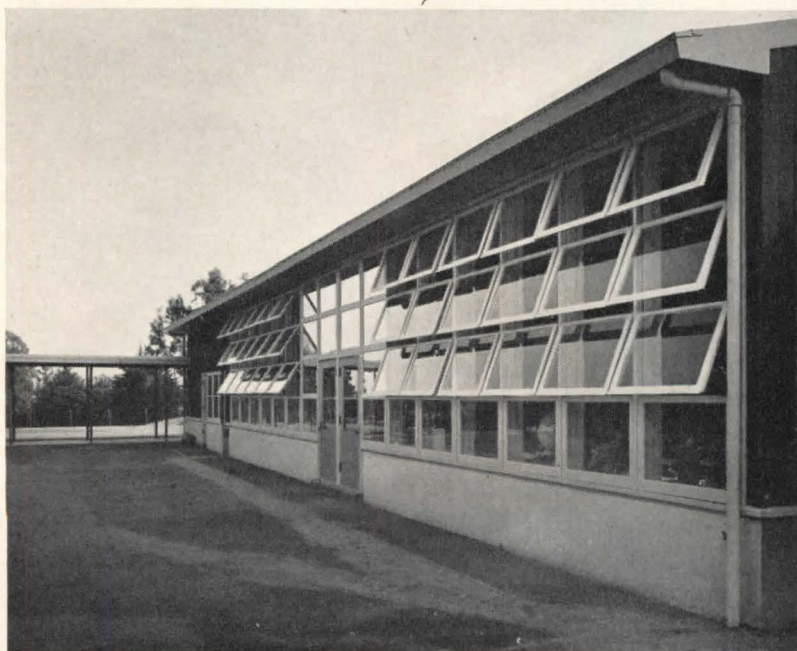
**better control of VENTILATION**

**better control of LIGHT**

with *Dalmo*

**AUTOMATIC MULTIPLE WINDOWS**

**WOOD PROJECTED AWNING TYPE**



*A Classroom Wing—Green Hills Elementary School, Millbrae, Cal. Architects: Masten & Hurt, A.I.A., San Francisco*

Dalmo Windows give full control of ventilation from 1% to 100% of the window opening. The angle of the open sash directs air currents upwards, eliminating drafts. The air diffuses from the ceiling and circulates evenly through the room. The open sash sheds rain, deflects wind and allows controlled ventilation under all weather conditions.

Dalmo Windows allow the use of venetian blinds or ordinary shades. The sash can be operated without disturbing blind or shade. Ordinary shades may be attached to the sash itself to control daylight illumination and give uniform light distribution without interfering with ventilation.



1304 Wilshire Boulevard, Los Angeles 14, California  
Eastern Sales Office: Thorntown, Indiana



The radiators combine radiant and convected heat, and are said to keep both outside glass walls and the entire floor areas warm. Heating elements are of seamless steel tubing with heavy gage steel fins. Tests are said to have shown but a 3 degree variance between floor and ceiling temperatures in large glazed rooms. The Rittling Corp., Rand Bldg., Buffalo, N. Y.

**Clothes Dryer**

The new *Hotpoint Automatic Dryer* operates by condensing moisture from the heated air by means of a fine spray of cold water. With this new method of clothes drying the manufacturer says dirt and dust do not get into the clothes once the automatic drying cycle begins, all lint and moisture are pumped out into a sink or drain outlet, and no special venting and piping are needed. This new type dryer need not be installed on an outside wall.

The machine is controlled by two dials, one for automatic time setting, the other for selection of high, medium or low heat. The machine shuts itself off when the drying cycle is completed. Capacity is 8 lbs, which, it is claimed, is sufficient to accommodate a full load of clothes from the Hotpoint LC3 washer, which the new dryer matches in styling. Hotpoint, Inc., 5600 West Taylor St., Chicago 44, Ill.

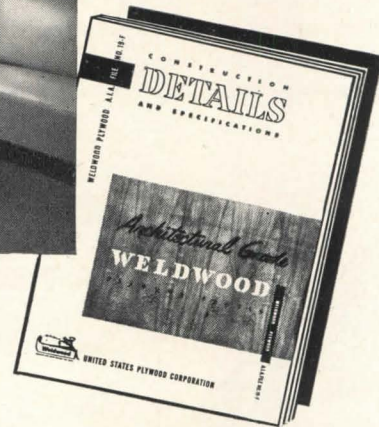
(Continued on page 172)







The beauty of Weldwood Architectural Plywood, in Brazilian Rosewood and Rift Oak, impresses one instantly upon entering the reception room of the Arthur Murray Dance Studio, East 43rd Street, New York. Architect: Morris Lapidus. Installation by M. Gerber Const. Co., Inc.



## New Plywood Reference Manual

...now available to Architects

Here, for the first time, is a new, fully illustrated Weldwood manual especially prepared for architects. It provides a wealth of valuable reference information in a single easy-to-use source — virtually a complete "short course" in the types, characteristics and uses of architectural grades of plywood.

The following is a partial list of contents . . .

### TYPES OF PLYWOOD

Sequence Matched Sets, Algoma grade, Custom Matched Sets.

### TYPES OF VENEER CUTS

Quarter Round, Half Round, Sliced, Rotary Cut . . . Butt, Crotch, Fiddleback, Swirl, Blister, Burl, Stumpwood, etc.

### CHART OF VENEER CHARACTERISTICS

Texture, Color Figure, Origin, Veneer Length, etc., for 36 Woods.

### CHANGE IN SPECIFICATIONS

As another step in our policy of standardization and simplification, all stock panels of Weldwood Lumber Core Hardwood Plywood are now being manufactured in 3/4" thickness instead of 13/16". This permits interchangeability with Weldwood veneer core panels which have always been made in 3/4" thickness.

### TYPES OF VENEER MATCHING

Book Match, Slip Match, and 8 different types of 4-way Center and Butt Matching described and illustrated.

### HOW TO MAKE CORNERS

Various Types of Inside and Outside Corners described in detail.

### HOW TO MAKE JOINTS

Various Types described and illustrated.

### HOW TO MAKE CURVED PANELS and SECTIONS FINISHING and FIREPROOFING DATA

### ROOM PANELING and COUNTERFRONT LAYOUTS

### HOW TO SPECIFY

### CHART OF RELATIVE AVAILABILITY OF DIFFERENT WOODS

Use coupon for your free copy of this valuable book. You will find it an indispensable addition to your library.

*Interior grade Weldwood plywood is guaranteed for the life of any building in which it is installed.*

United States Plywood Corporation  
55 West 44th Street, New York 18, N. Y.

AR-3-51

Gentlemen:

Please send me a free copy of the illustrated manual, "Construction Details and Specifications of Architectural Grade Weldwood Plywood."

Name.....

Address.....

City.....State.....



## WELDWOOD Plywood

Manufactured and distributed by

UNITED STATES PLYWOOD CORPORATION New York 18, N. Y.

and U. S.-MENGEL PLYWOODS, INC., Louisville 1, Ky.

Branches in Principal Cities • Distributing Units in Chief Trading Areas • Dealers Everywhere

**PRODUCTS**  
(Continued from page 170)

**High Pressure Diffuser**

A small new air diffuser for use with high pressure duct systems has been introduced by the W. B. Connor Engineering Corp. While the system does not quite meet the silence and temperature requirements of offices, it is very suitable for department store installations where

exposed duct work is involved. It is also recommended for remodeling work.

The unit is 13½ in. O.D., 3½ in. deep. It is fastened to the bottom of duct work by sheet metal screws. The unit operates with duct static pressures ranging between 1.25 and 2 in. W.G., with duct velocities up to 3000 fpm. It is fitted with a perforated damper, interior baffle and jet exit to permit the high pressure, high velocity air to be handled in a satisfactory manner.

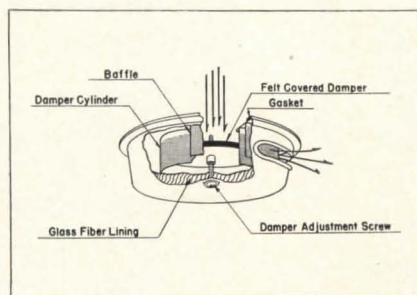
Air enters the diffuser through the damper, which is provided with an ad-

justable felt-covered piston. This piston, which is adjusted by a central damper screw, varies the amount of perforated area through which the air can pass, thus varying capacity from 90 to 180 cfm and enabling complete shut off.

After passing through the damper, air is directed by the baffle to a jet exit extending partially around one side of the unit. The baffle keeps the very cold, high velocity air from being directed into the occupied zone, while the jet exit is sized to insure proper diffusion between the capacity limits, up to 20 ft, without drafts.



Above: typical store installation of new high pressure diffuser. Below: details of diffuser unit



In a typical installation, diffusers are located 7 ft apart on 14 by 7 in. runout ducts which are 20 ft apart, and are mounted approximately 9 ft from the floor. W. B. Connor Engineering Corp., 500 Fifth Ave., New York 18, N. Y.

**Deep Freeze Unit**

Among the 1951 *Philco Home Freezers* is an 8.1 cu ft model which will hold up to 320 lb of frozen foods. The unit, designed for special home storage and freezing, is divided into two separate compartments. Each end of these can be regulated either for standard zero degree storage, or for "sharp freezing"

(Continued on page 174)

**Ask for this credential when you buy concrete**

The Bureau rating plate is available to all manufacturers who meet its quality standards and requirements.

However sympathetic you may be to the profit motive, you don't want *your* jobs served by truck mixers that are too small to properly mix a standard batch.

Deficiencies in drum cubics cannot be measured by the eye. *But you can instantly detect the absence of this rating plate.*

This rating plate on a truck mixer guarantees that it has the proper design and *full amount of free mixing space* needed to produce quality concrete. Look for it whenever you approve or buy concrete ready-mixed.

Affiliated with The National Ready Mixed Concrete Association

**Truck Mixer Manufacturers Bureau**

BLAW-KNOX DIVISION  
Pittsburgh, Pa.  
CHAIN BELT COMPANY  
Milwaukee, Wis.

CONCRETE TRANSPORT MIXER CO.  
St. Louis, Mo.  
THE JAEGER MACHINE COMPANY  
Columbus, Ohio

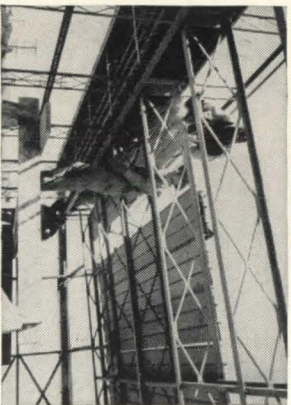
THE T. L. SMITH COMPANY  
Milwaukee, Wis.  
WORTHINGTON PUMP & MACHINERY CORP.  
Dunellen, N. J.

**THE ACTUAL IS LIMITED:  
THE POSSIBLE IS IMMENSE**

NEW LINCOLN PLANT CREATED BY INCENTIVE-INSPIRED CO-ACTION IN DEVELOPING POSSIBILITIES IN PRODUCT

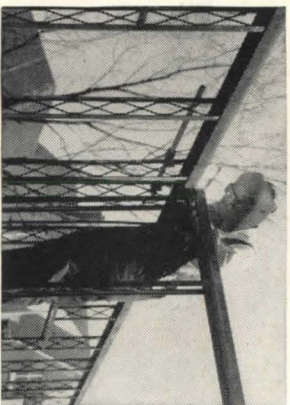
© LE Co. 1951

**SAVES \$10,000**



30% Less Steel required for this garden shop, built with welded design for Sears Roebuck & Company, Compton, California. Construction cost cut from \$30,000 to \$20,000.

**CUTS COST 50%**



Direct Saving of 50% over masonry realized in the construction of these multiple-story apartment dwellings in Shorewood, Wisc.

**the IMMENSITY  
of the POSSIBLE**  
... simpler design  
less construction time

**SEE HOW WELDED DESIGN  
SIMPLIFIES ERECTION**

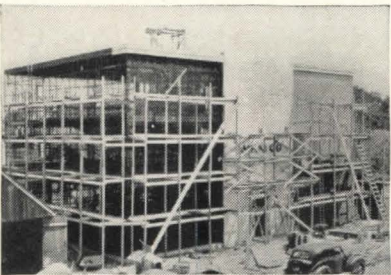
## CUTS CONSTRUCTION COST \$16,000

**T**HE unit cost of this three-story office building has been reduced from \$2.65 per square foot to \$1.07 per square foot using welded sectional frames of steel studding.

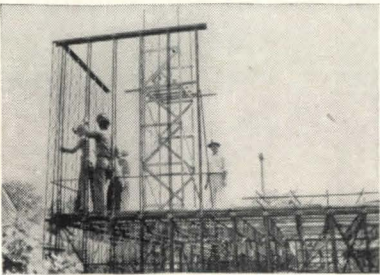
Representing an over-all saving of approximately \$16,000, this building was erected in only 3 weeks, less than half the time otherwise required, and without the use of scaffolding. Its welded steel construction is fireproof, shrinkproof and free from warpage and provides greater ease for installing plumbing, wiring and insulation.

### HOW TO DESIGN FOR LOWER COST

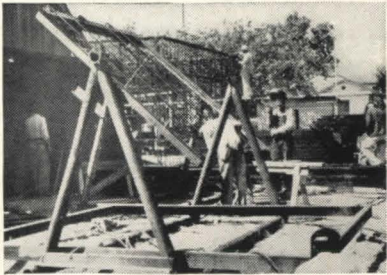
Latest structural design data is presented in the new 9th Edition Procedure Handbook of Arc Welding Design and Practice. Price only \$2.00 postpaid in U.S.A.; \$2.50 elsewhere.



The new WKM Valve Co. three-story office building. The Matthews Construction Co. and the Brown Construction Co., contractors.



Second floor all-welded sectional panel held in place for tack welding.



On-the-ground prefabrication of 10-foot panel sections in assembly jig for fast, downhand welding.

Studies in Structural Arc Welding free on request. Designers and engineers write on your letterhead to Dept. 161,

**THE LINCOLN ELECTRIC COMPANY**  
CLEVELAND 1, OHIO

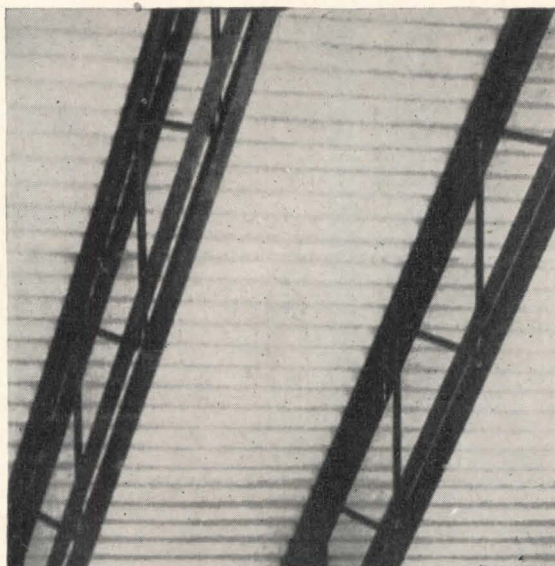
# One Word Specification

# Corruform

## For Steel Joist Construction

When you specify Corruform you get one standard product developed to meet your needs, uniform in quality, available anywhere without restriction on your choice of the major construction materials with which Corruform is used.

Patented Corruform is a 100,000 psi steel base for concrete in joist construction. Millions of square feet of Corruform testify to its service to architects and performance to contractors.



### SAFE

— because Corruform was developed to provide an extra-tough, secure steel base which maintains structural principles and structural integrity.

### GOOD LOOKING

— because the pleasing corrugated pattern makes an attractive exposed ceiling. It remains true and level. Corruform is available plain, galvanized or vinyl primed for painting.

### ECONOMICAL

— because, made of 100,000 psi steel, it performs adequately without waste. Corruform carries concrete without sag, stretch, bend or leakage.

### STANDARDIZED

— to meet the specification requirements for joist construction, one gauge — .0156" steel — one shape — 2 3/16" x 1/2" deep corrugations — weight 3/4# per square foot with fasteners, steel of guaranteed average strength 100,000 psi — single test minimum strength 95,000 psi.

**SEND FOR  
AIA FILE  
TODAY**



**GRANCO STEEL  
PRODUCTS CO.**

(Subsidiary of Granite City Steel)  
Granite City, Illinois

Architectural Engineering

### PRODUCTS

(Continued from page 172)

(15 deg below zero). The front of the unit is sloping to supply more storage space at the top. Two-thirds of the space is above knee-level, and contents are deposited in easily lifted storage baskets. Counterbalanced hinges, according to the manufacturer, insure that the lid can be opened easily, stay open automatically, close gently. Built into the lid is an interior light, with metal shade, that flashes on at the raising of the lid. Also included is a guard bell, a warning signal that rings when the interior temperature rises above 12 deg above zero. Freezer finish is made of white porcelain. It is equipped with a non-corrosive evaporator as well as a hermetically sealed power system. Dimensions are 36 in. high, 29½ in. deep, 42 in. wide. The Philco Corp., Philadelphia, Penn.

### Waterproofing

*Dashide*, a transparent above-grade waterproofing, is said to give permanency through deep penetration. Cracking, chipping, peeling and crystallizing of the material due to extreme heat is said to be prevented. Although this product is for use mainly on exterior masonry walls, it has been found successful on limestone, cinder block, cement block, wood and fibrous materials, and glass block. All surfaces are claimed to be thoroughly sealed after one or two applications, and discoloration effects non-existent. In addition to heat- and waterproof qualities, *Dashide*, says the manufacturer, is resistant to acids and alkalis. Application can be with either brush or spray gun. The Dasco Co., Inc., 1602-04 Thames St., Baltimore 31, Md.

### Remote Control Dictation

The *TeleVoice System* for remote control dictation is a new method which utilizes from one to twenty telephones, directly connected to a central recording instrument located near the secretary. Using this system, claims the manufacturer, a secretary can transcribe letters from many people without leaving her desk. The system is designed for use by those with a low volume of letter writing.

(Continued on page 176)

MODERN DOOR CONTROL BY *LCN* • CLOSER CONCEALED IN HEAD FRAME

OFFICES OF NARAMORE, BAIN, BRADY & JOHANSON, ARCHITECTS & ENGINEERS, SEATTLE, WASHINGTON

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



**PRODUCTS**

(Continued from page 174)

To operate, one picks up his modified phone, presses a button in the handle and gives his letter or memo into the receiver. Means of listening back and facility for recording corrections are included. If another person is using the recorder, a warning light flashes. The secretary controls the recording discs which are on her machine. Thomas A. Edison, Inc., West Orange, N. J.

**Steel Framework For Houses**

J&L Junior Beams for use in house construction are actually much less expensive than it would seem, say the manufacturers. Cost of material for this type of construction, they claim, is more than offset by labor saving from speed of construction. In one example, the entire steel framework for a 2½ story house required five men only one day.

The structure rests upon a continuous girder at the base. Junior Beam floor joists, bolted between the flanges of the



Steel framework for 2½-story house is said to save on labor costs

main girder and braced laterally with sag rods, are said to give the floors enough rigidity to withstand a land subsidence without damage. Jones & Laughlin Steel Corp., Pittsburgh 30, Pa.

**Plastic Fabrics**

"Pigskin," "Texas" and "South Seas" are the names given three new vinyl fabrics, introduced for use on

(Continued on page 178)



**Let Us Send You This New Complete Data on KINNEAR ROLLING DOORS**

Your free copy of this brand new book brings you full, up-to-date details on all types of upward-acting doors for every need—including specifications on door sizes, headroom requirements, opening preparation, and so on. It shows you how and why the space-saving upward action of Kinnear Doors gives you highest efficiency at every opening.

In addition to the rugged, all-metal Kinnear Rolling Door—featuring the famous Kinnear-originated "curtain" of interlocking slats—it presents other Kinnear upward-acting doors. These include the sectional-type Kinnear RoL-TOP Doors (wood or all-metal), Kinnear Bi-Fold Doors (wood or all-metal), featuring two sections that "jackknife" upward and out of the way, and Kinnear Steel Rolling Fire Doors, the interlocking slat doors with special features for maximum fire safety. Kinnear Steel Rolling Grilles for protection that does not block light, air, vision, or sound are also shown. Write for this new Kinnear Catalog today!

**KINNEAR ROLLING DOORS**



**SAVINGWAYS  
in  
DOORWAYS**

The KINNEAR Mfg. Co. Factories: 1860-80 Fields Avenue, Columbus 16, Ohio  
1742 Yosemite Ave., San Francisco 24, Calif.



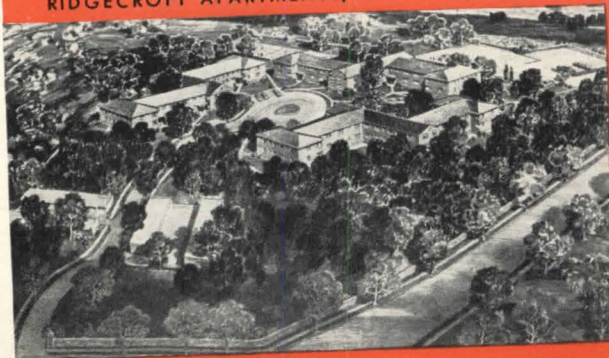
BAYVIEW GARDENS, ROSLYN, N. Y.



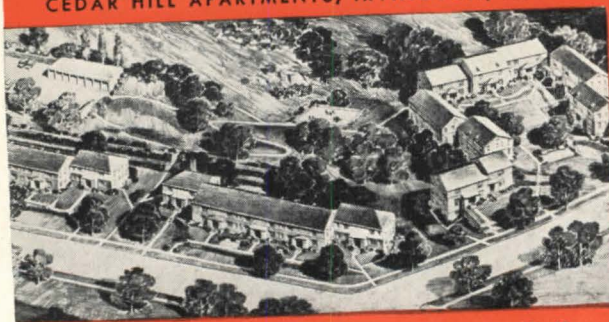
BEECHWOOD VILLAGE, AUBURNDALE, N. Y.



RIDGECROFT APARTMENTS, TARRYTOWN, N. Y.



CEDAR HILL APARTMENTS, IRVINGTON, N. Y.



RUMSEY GARDENS, YONKERS, N. Y.



architect . . Gustave W. Iser  
and  
engineer . . R. W. Billharz

## United on *Sarcotherm* Modulating Heat Control

To give these outstanding apartments perfect heating comfort under all weather conditions

Yes, team work pays! It brings increased efficiency as well as superior design. The addition of Sarcotherm heat control to the combination made sure of owner satisfaction.

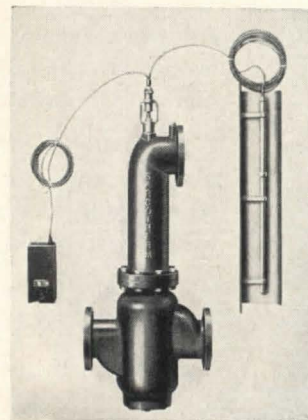
Sarcotherm is the simple, mechanical outdoor control, ideal for hot water or radiant heat.

For apartments, hospitals and institutions, it can be made fully automatic by adding the Centralized Program Panel.

Ask a Sarcotherm engineer to see you today. There is one near you. Or write for new bulletin ST-5011.



Typical centralized program panel.



Sarcotherm weather-compensated control valve.

SPECIFY SARCOTHERM  
SEE SWEETS CATALOG  
SECTION  $\frac{29E}{SA}$

# Sarcotherm

SARCOTHERM CONTROLS, INC. • Empire State Bldg. • NEW YORK 1, N. Y.

20



## Amazing Re-Discovery WOOD WINDOW UNITS

All over the country, architects, builders and home owners are discovering that *wood* window units are the most modern windows available today.

They are finding, for instance, that precision-made stock-design wood windows come as completely assembled units, equipped with up-to-date sash balances and efficient weatherstripping—ready to install.

They are finding that wood sash and frames reduce condensation problems—are immune to rust and corrosion.

They are re-discovering the fact that wood windows can be finished in popular "natural" tones, or easily painted and re-painted in the colors of the owner's choice.

Remember, modern wood window units give lifetime service because they are scientifically treated to resist stain, decay, insect attack or humidity. Wood Window Information Service, 38 South Dearborn Street, Chicago 3, Ill.

---

**See your local lumber dealer  
for wood window units**

## Architectural Engineering

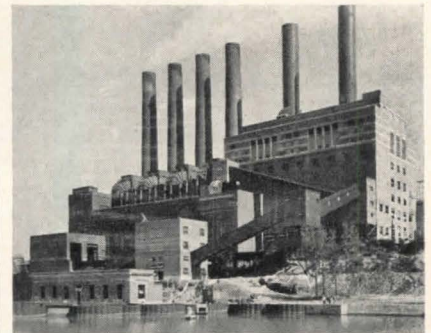
### PRODUCTS

(Continued from page 176)

"both the traditional and contemporary furniture." "Pigskin" comes in seven colors, "Texas" in thirteen colors. These two simulate leather finishes, the former being deeply grained and the latter having a warm patina. "South Seas" was inspired by a straw braiding, and comes in six colors. The manufacturer states that it is primarily for use in dinettes, small occasional pieces and summer furniture. Available in standard thicknesses, the fabrics are 54-in. wide. The Pantasote Co., 444 Madison Ave., New York 22, N. Y.

### Porcelain Enameled Sheets

The coal conveyor gallery at the Cleveland Electric Illuminating plant is built of standard corrugated steel roofing and siding sheets which have been coated with porcelain enamel. This treatment is said to make the sheets



*Porcelain enamel protects corrugated steel roofing and siding at plant*

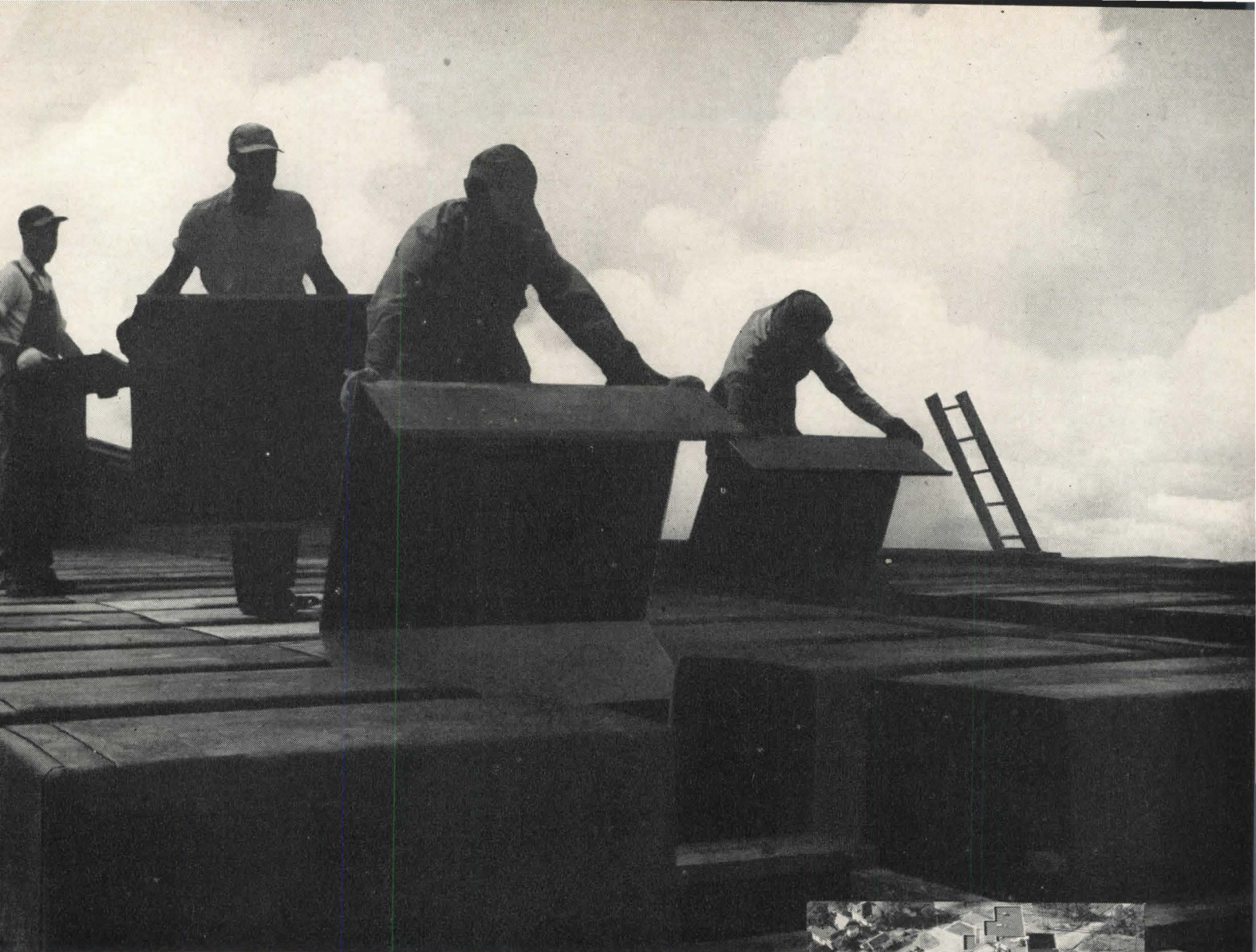
impervious to moisture, freezing and thawing, sunlight and other deteriorating influences. It is claimed that other installations in industrial locations are known to have existed for 25 years without maintenance or visible deterioration. The Erie Enameling Co., Erie, Penna.

### Fluid Bakelite Tile

*Savinoleum*, said to create a tile-like finish by using any surface for a foundation, can be brushed or sprayed on floors, walls, ceilings, woodwork, etc. It is designed for kitchens, bathrooms,

(Continued on page 180)





## *Save* **Men...Money...Material** *with* **Concrete Joist Construction**

In these days of critical shortages—when men and money and material must be used to the very fullest, there is one method of building that truly meets the need on every count—it's Ceco's Meyer steelform construction. For here is a building way that saves as it serves:

*Saves* men because less time and labor are required in providing open wood centering and form work.

*Saves* money because less concrete is used...the dead load is kept at a minimum...less lumber is needed...and since removable steelforms

can be used over and over again, only a nominal rental fee is charged.

*Saves* material because only a minimum of critically short steel is needed—and even here less concrete is necessary than required by other concrete floor constructions.

Ceco originated the removable steelform method of concrete joist construction. The company is first in the field—actually providing more services than all competitors combined. So, when concrete joist construction fits the need, call on Ceco...the leader over all.

### **CECO STEEL PRODUCTS CORPORATION**

General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

**CECO  
STEEL**®



**HOSPITALS**—Ceco Concrete Floor Joist Construction is ideally suited to hospitals since it provides fire-safe, sound-proof buildings at economical cost. Widely used in Veterans Hospitals.



**CONCRETE JOISTS** eliminate much of the concrete below the neutral axis, saving money, saving material. Suited to buildings with long spans: stores, offices, apartments, hotels.

*In construction products* **CECO ENGINEERING** *makes the big difference*

## PRODUCTS

(Continued from page 178)

cellars and other interior uses, and has numerous exterior applications as well. Savinoleum may be applied either directly to an existing surface or to *Savinoleum Base* (this prepares rough or porous surfaces for Savinoleum, and may also be sprayed or brushed). Savinoleum, claimed to be especially resistant to acids, water, stains, etc., is available in

18 colors and may be waxed to enhance its lustre. Each can covers from 200 to 400 sq ft, depending on texture and porosity of the surface to which it is applied. Pavinoileum, Inc., 342 Madison Ave., New York 17, N. Y.

### Portable Copying Machine

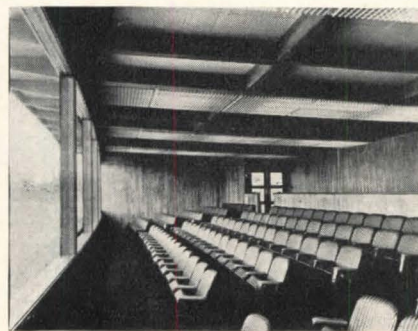
The *BW Copyflex* is a new type of copying machine, designed to make low-cost direct positive copies anywhere in a business office. The machine uses the BW Diazo process, which requires no inks, tray developing, special lighting,

stencils, negatives, etc., as are ordinarily required. The process is based on paper coated with an aniline dye, which is bleached within the machine by actinic light rays to form an exact black and white copy of the material desired. Both sides of an original can be copied by using a special reflex film, which is also exposed and developed within and by the machine. Copies may be made of original matter up to 11½ in. wide by any length. No adjustments are said to be necessary.

The machine measures 29½ in. wide, 28 in. deep and 50 in. high. The cabinet has a neutral hammertone finish. No installation is necessary; the device is merely connected to a standard 60 cycle, 100 volt a-c electric outlet. It is said to be easily moved from room to room as needed, and to require no special training for operation. Charles Bruning Co., Inc., 100 Reade St., New York 13, N. Y.

### Plastic Seating for Drive-In Theater

*Lumite woven saran* has been chosen as upholstery fabric for the chairs of the "walk-in" seating section in the El Rancho drive-in movie theater, San Jose, Calif. This is said to be the first such theater to have an enclosed seating section to replace the usual open air seats provided for patrons who walk to the theater. Capacity is 163.



Durable plastic covers seats in "walk-in" section of drive-in theater

According to the manufacturer, the fabric has durability plus ease and economy of maintenance, in addition to the colorful weave pattern. The upholstery features a tweed weave of solid elm green for the seats, with the backs done in a stripe of rust, grey and green. Lumite Division, Chicopee Manufacturing Corp., 47 Worth St., New York 18, N. Y.

(Continued on page 182)

**GLOBE SPRINKLERS**

**FIREMEN EVERY 10 FEET**

**IS ANY BUILDING TRULY "FIRE-PROOF"?**

No type of building is actually more "fire-proof" than a furnace. Consider, then, what happens to flammable contents when ignited in such a structure. Prevent *FIRE* in any building . . . by installing *GLOBE* Automatic Sprinklers, now.

**GLOBE AUTOMATIC SPRINKLER CO.**  
NEW YORK . . . CHICAGO . . . PHILADELPHIA  
Offices in nearly all principal cities

**THEY PAY FOR THEMSELVES**

# Here are the Answers to the most frequently asked questions about the RLM LABEL



**Q** What do the initials RLM stand for?

**A** The "R" stands for Reflector, the "L" for Lighting equipment and the "M" for Manufacturers—*Reflector and Lighting Equipment Manufacturers*.

**Q** What does the RLM Label stand for?

**A** The label affixed to a lighting unit certifies that the reflector meets the minimum specification and performance standards, determined and established by the RLM Standards Institute.

**Q** Who sponsors the RLM Standards Institute?

**A** Incorporated as a non-profit organization, the Institute is sponsored by twenty manufacturers who voluntarily elect to manufacture industrial lighting equipment in accordance with RLM Standard Specifications.

**Q** How are RLM Standard Specifications established?

**A** The RLM Technical Committee, with the counsel of outstanding illuminating engineers, continuously reviews present specifications and suggests improvements and prepares new specifications. The Committee's recommendations then are reviewed by the Board of Trustees and finally submitted to the Institute Members for ratification. The adoption of new specifications requires approval by at least 80% of the membership.

**Q** How does the RLM Label assure conformance to RLM Standards?

**A** Representatives of the Electrical Testing Laboratories periodically visit the plants of all manufacturers participating in the RLM Specification-Certification Program. These ETL inspectors are authorized to take lighting units right off the assembly line or out of stock at random and make the required tests. They may also obtain test samples direct from distributors' stocks in order to check conformance to RLM minimum standards.

**Q** Who are the Electrical Testing Laboratories?

**A** Electrical Testing Laboratories, Inc., 2 East End Ave., New York 21, N. Y., is an independent testing organization which has conspicuously served industry for over 50 years. With this impartial and scientific organization rests the sole responsibility of determining whether or not an industrial lighting unit measures up to every individual quality standard that qualifies it to bear the RLM Label.

**Q** What are the 4 Basic Tests made by Electrical Testing Laboratories?

**A** (1) Quality of reflecting surface, (2) Reflection factor, (3) Shielding angle and reflector dimensions, and (4) Photometric test for light distribution and efficiency.

**Q** In addition to design and construction features that meet certain minimum standards, what else does the RLM Label assure the buyer?

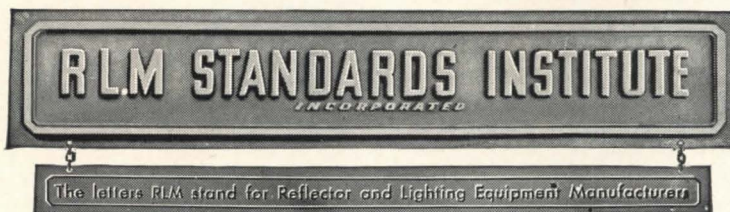
**A** It provides the buyer with a warranty of uniform quality. In addition to the periodical inspections and tests made by the Electrical Testing Laboratories, the manufacturer warrants that every unit shipped by him meets the published specifications of the Institute.

**Q** How many different types and sizes of RLM Units are there?

**A** There are 18 basic types of RLM Units and 35 different sizes made by one or more of the 20 member-manufacturers. At present there is available a total of over 250 different makes and types of units which either bear the RLM Label or are on submittal for testing and certification at Electrical Testing Laboratories.

**Q** How may I obtain free copies of all existing RLM Specifications and a check list of RLM-Member Manufacturers?

**A** Send for the 44-page RLM Specifications Booklet and the new RLM Bulletin 1050. Write RLM Standards Institute, Suite 827, 326 W. Madison St., Chicago 6, Ill. Your copies will be mailed gladly without cost or obligation.



**PRODUCTS**  
(Continued from page 180)

**Plastics Surfacing**

*Textolite*, General Electric's plastics surfacing for table tops, work surfaces, bars and counters, doors, show cases, window sills and elevator interiors, announces a new range of colors for 1951, based upon research giving national color preferences. Available in stand-

ard grade or cigarette-proof grade, the surfacing is supplied in two finishes: "high-gloss" and "velvet"—the latter, according to the manufacturer, is non-reflective. The tops are said to be stain-resistant, and unharmed by boiling water, hot grease, alcohol, ink, etc. Composed of resin-impregnated laminations welded under heat and pressure, this plastics surfacing comes in widths from 24-in. to 48-in., and lengths from 96-in. to 108-in. Custom overlays and inlays are also available. Standard thickness is  $\frac{1}{16}$ -in., and special thicknesses over  $\frac{1}{16}$  in. and hardboard core can be

furnished. Chemical Dept., General Electric Co., Pittsfield, Mass.

**Factory-Galvanized Steel Window Frames**

The Detroit Steel Products Co. has devised a new method for factory-galvanizing *Fenestra* windows. The process aims to produce maintenance-free steel windows at low costs, for industrial plants, warehouses, etc. Special processing tanks are used, large enough to handle a 12-by 10-ft window frame in one operation. This is said to afford considerable saving over the former method of having such units prepared on special order in commercial galvanizing shops.

The "hot-dip keyed-in" galvanizing process will be applied to architectural, industrial, residential and apartment type steel windows. The units are then Bonderized, and may be painted if desired. The finish is claimed to resist the most destructive atmospheric conditions. Galvanizing is applied after fabrication so that all of the metal area, including ends and rivets, is coated with zinc. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit, Mich.

**Infra-Red for Cooking**

Expected to go into commercial production within a short time are infra-red cooking lamps for stoves, planned for 1250 watts and employing a new type of heat resistant glass. It is claimed that heat output is instantaneous, that the

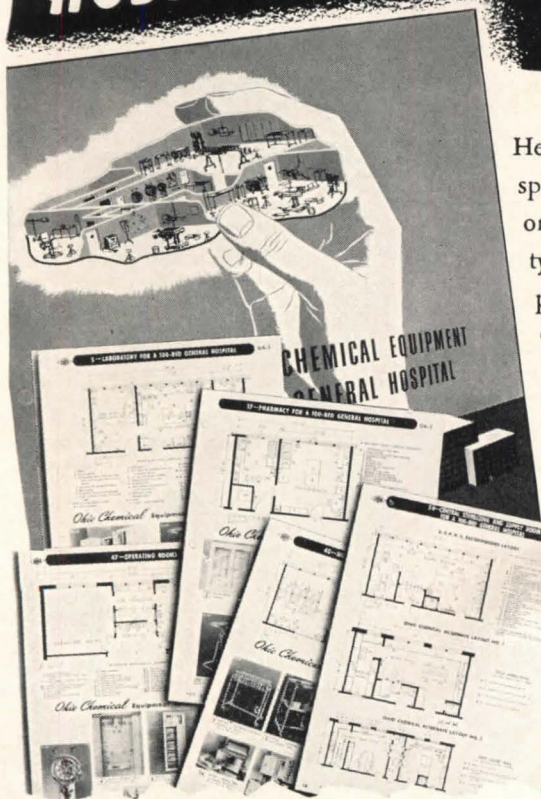


New stoves will use infra-red lamps for speedy cooking

lamps burn with a ruby glow and have a smooth level surface. Lamps are said to hasten action when small amounts of food are being cooked. Infra-Red lamps are intended for original equipment as well as for conversion. Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N. Y.

(Continued on page 184)

**NEW HOSPITAL PLANNING GUIDE FREE!**



Here in one booklet are layouts, specifications, and equipment recommendations for 17 different types of hospital rooms. This 28-page booklet, prepared by Ohio Chemical in collaboration with the U. S. Public Health Service, is yours free as a valuable aid to your hospital planning.

Ohio also provides free engineering consultant service based on a half century's experience of close co-operation with hospital superintendents, surgeons, engineers and architects.

**WRITE FOR FREE COPY**

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# PRIDE in your work

is shared by  
**this sound conditioning expert**

You see a finished structure, translated from your imagination and skill into a building with beauty and usefulness . . . and of course you're proud. This pride is shared by your Distributor of Acousti-Celotex Products because he helped you achieve effective sound conditioning . . . *just as you planned it*, without tampering or compromise.

Your specifications are a trust to this Sound Conditioning expert. The trust is backed by experience . . . *active* responsibility in solving specific problems of sound conditioning. His service to you is based on professional training, knowledge of job-proved methods, and a complete line of top-quality materials necessary to meet every specification, every requirement, every building code.

Call in your Acousti-Celotex Distributor at the planning stage.

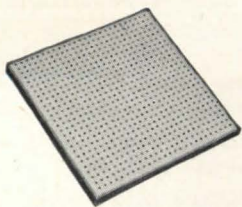
His service will continue until the problems are solved and the installation is completed . . . completed *just as you planned it*. To be sure . . . that every solution to sound conditioning problems has the appearance you imagined, the efficiency you demanded, consult your local Distributor of Acousti-Celotex Products, your conveniently located representative of the world's most experienced Sound Conditioning organization.



**ACOUSTI-CELOTEX**  
TRADEMARK REGISTERED U. S. PAT. OFF.

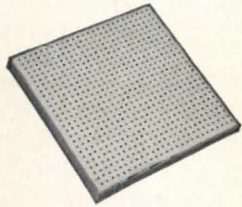
*Sound Conditioning Products*  
PRODUCTS FOR EVERY SOUND CONDITIONING PROBLEM

120 S. La Salle St., Chicago 3, Illinois  
Dominion Sound Equipments, Ltd., Montreal, Quebec, Canada



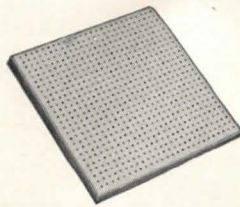
**ACOUSTI-CELOTEX\***  
**CANE FIBRE TILE**

A lightweight, rigid unit, combining acoustical efficiency with a durable, smooth surface. Perforations (to within 1/8" of the back) assure repeated paintability, easy maintenance. Available in a variety of sound-absorbent ratings. Dry rot proofed by exclusive Ferrox\* process.



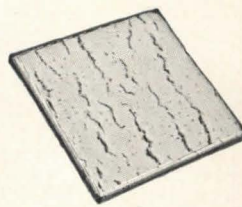
**ACOUSTI-CELOTEX\***  
**MINERAL TILE**

Made of mineral fibre, felted with a binder to form a rigid tile with a universal rating of incombustibility. Perforated with small holes extending almost to the back, this tile provides high acoustical absorption plus unrestricted paintability by either brush or spray method.



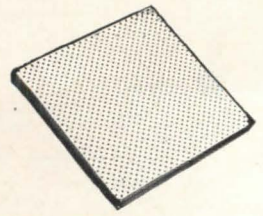
**ACOUSTI-CELOTEX\***  
**FLAME-RESISTANT SURFACED TILE**

A cane fibre tile with a flame-resistant surface. This tile meets *Slow Burning* rating contained in Federal Specifications SS-A-118a. It may be washed with any commonly used solution, satisfactory for good quality oil-base paint finishes, without impairing its flame-resistant surface characteristics and without loss of sound-absorbing capacity. Repainting with Duo-Tex flame-retarding paint will maintain peak efficiency. Supplied in all sizes and thicknesses of regular cane tile.



**ACOUSTI-CELOTEX**  
**FISSURETONE\***

A totally new mineral fibre acoustical tile. Attractively styled to simulate travertine. It beautifies any interior and effectively controls sound reverberation. Lightweight, rigid and incombustible, it is factory-finished in a soft, flat white of high light-reflection rating.



**ACOUSTEEL\***

Combines a face of perforated steel with a rigid pad of sound-absorbing Rock Wool to provide excellent sound-absorption, together with attractive appearance, durability and incombustibility. The exposed surface of perforated steel is finished in baked-on enamel. Acousteel is paintable, washable, cleanable.

\*Trademarks Reg. U. S. Pat. Off.

PRODUCTS

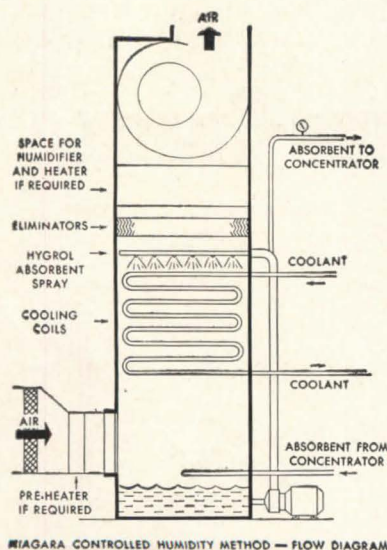
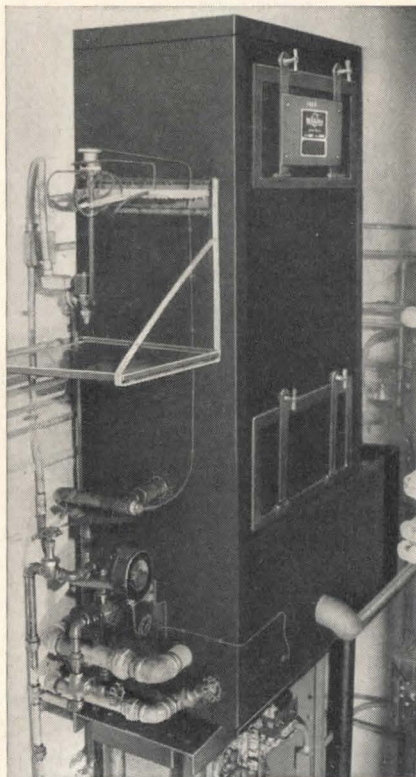
(Continued from page 182)

# New "Controlled Humidity" Method Gives a Better Solution to Air Conditioning Problems

## "Hygrol" Absorbent Liquid Dehumidifies Fresh Air Without Refrigeration

NIAGARA Air Conditioners or Dehumidifiers using "Hygrol" liquid absorbent give precise control of air temperature and humidity... at lower operating cost, with large savings in space and with smaller and less expensive equipment, in many applications.

This method dehumidifies the air by passing it through a chamber in which "Hygrol" spray removes its moisture and produces a low dew point. The "Hygrol" solution resulting is continuously and automatically re-concentrated, providing always full capacity in



Write for Bulletin 112

## NIAGARA BLOWER COMPANY

Over 35 Years Service in Industrial Air Engineering

Dept. AR, 405 Lexington Ave.

New York 17, N. Y.

Experienced District Engineers in all Principal Cities

### Metal Window Unit

The Rusco Prime Window (vertical slide type) is a ready-to-install metal window unit combining glass and screen panels, weatherstripping and double window insulating sash. The window is available with either metal or wood surround. Use of the unit, according to the manufacturer, reduces the builder's field



Metal window unit has wood surround for easy installation

air conditioning and assuring always a constant dehumidifying capacity and a trustworthy, constant condition for your material, apparatus, process or room to be conditioned.

"Hygrol" is a liquid, not a salt solution; it stays pure and non-corrosive; it does not cause maintenance or operating troubles in food plants or in chemical processes.

Investigate this new Niagara Method for "comfort" air conditioning as well as to protect quality in hygroscopic material, or processes or instruments, or to prevent condensation damage to metals, parts or products.

labor cost considerably, as the installing procedure is simple and no on-the-job painting is required except on wood surrounds.

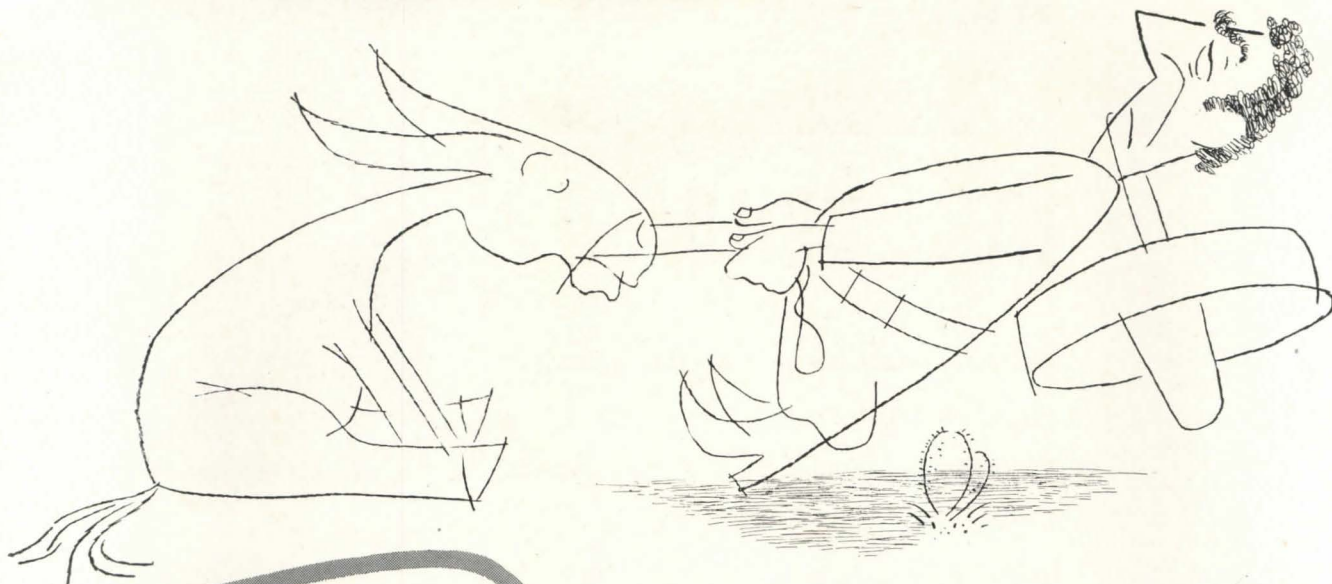
All working parts are made of tubular, hot-dipped galvanized Armco Ingot Iron Zincgrip, finished with baked-on outdoor aluminum enamel. To install, the builder plumbs and nails the wood or steel surround to studs or sets attached metal fins in masonry.

Glass and screen panels, it is said, are easily removed from the inside for cleaning. Glass is bedded in mastic and held in place by a removable stainless steel spline. The plastic screening is held in place by a removable plastic spline.

The window units are available with or without insulating sash, and are supplied completely assembled. All standard types and sizes are available and with the use of mullions can be joined into various combinations. The F. C. Russell Co., Cleveland 1, Ohio.

(Continued on page 188)

## WHEN THE PROBLEM IS STARTING



**THE ANSWER IS  
BRYANT**

Every Bryant Fluorescent Starter is manufactured under the strictest supervision to assure dependable performance and long life. Each starter is:

- Made from the highest quality materials
- Precision assembled to exact specifications
- Individually inspected and electrically tested on actual lamp load

### "NO-BLINK TYPES"

These starters eliminate blinking and flickering of lamps which have reached the end of their useful life, thereby protecting the ballast and prolonging the life of the starter.

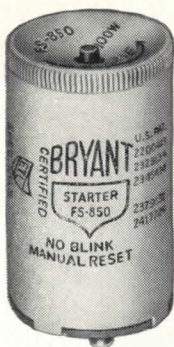


#### AUTOMATIC RESET

(Restores the circuit as soon as new lamp is inserted.)

**Two pin**—for 40, 85, 90 and 100 watt lamps.

**Four pin**—for 85, 90 and 100 watt lamps.



#### MANUAL RESET

(Circuit restored by pushing small red button in top of starter, after new lamp has been installed.)

**Two pin**—for 15, 20, 30 and 40 watt lamps.

**Four pin**—for 85, 90 and 100 watt lamps.

### STANDARD TYPES



**Two pin**—for 4, 6, 8, 15, 20, 25, 30, 40, 85, 90 and 100 watt lamps,—18 watt "Circlarc" and 32 watt "Circline" lamps.

**Four pin**—for 85, 90 and 100 watt lamps.

Listed as Standard by Underwriters' Laboratories, Inc.



J-99852

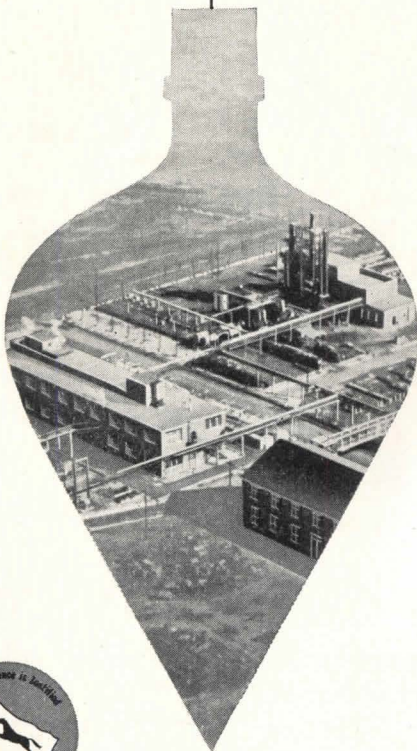
## THE BRYANT ELECTRIC COMPANY

**Bridgeport 2, Connecticut**  
CHICAGO • LOS ANGELES

# WHAT YOU PLAN

# WE'LL BUILD

Industrial plant or hospital, bridge or tunnel, we will construct faithfully according to your plans. Every assignment, large or small, is important to the experienced men who supervise your construction project. Our record shows a high percentage of jobs completed ahead of schedule, at less than estimated cost.



Section of America's FIRST Streptomycin Plant for Merck & Co., at Elkton, Va. Entire plant completed in 13 months—a "turn-key" job, ready to run a full year before any other streptomycin plant in the country. *CONSULTING ARCHITECT: George P. Butler.*



## MERRITT-CHAPMAN & SCOTT CORPORATION

FOUNDED IN 1860... NOW IN OUR 91ST YEAR

GENERAL OFFICES:

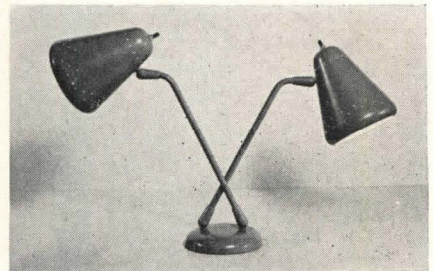
17 BATTERY PLACE, NEW YORK 4, N. Y.

CLEVELAND • BOSTON • NEW LONDON

## Architectural Engineering

### PRODUCTS

(Continued from page 184)



Double lamp by Kurt Versen serves for either general lighting or bedroom use

### Lamps

• The new line of Kurt Versen lamps has dropped the familiar tear drop reflector shade this year in favor of a bluebell shape. Bands of perforations in the reflector are another innovation. The Uni-Versen swivel, further developed, is said to permit a complete 360-degree angle swing to enhance flexibility in light direction. Curved tubular arms replace the former long flexible arms. Among the new models is an all-purpose table and desk lamp with a plain base; a twin unit, two-reflector lamp with crossed stems (for use as general lighting and bedroom reading); a twin reflector model with Uni-Versen swivels (general and local lighting); an all-purpose pin-up or table model; a pin-up wall bracket with slanted perforated reflector—for general lighting or reading; and a polished brass floor model with a three-arm cluster, plastic silk shades. Kurt Versen Co., Englewood, N. J.

• Two new series of lamps, one Italian and one American, recently have been introduced by Lightolier. The Italian, one-of-a-kind collection includes floor lamps, table lamps, wall brackets, ceiling fixtures and lighting pieces. An example of the latter is one which can be telescoped from 5 ft to 28 in. for use either as a floor or table lamp. Materials are polished brass with shades of white matte metal.

Designs by Gerald Thurston and Edward Wormley are features of the American collection. Flexibility and adapta-

(Continued on page 190)



# marble

*modernizes the friendly bank*



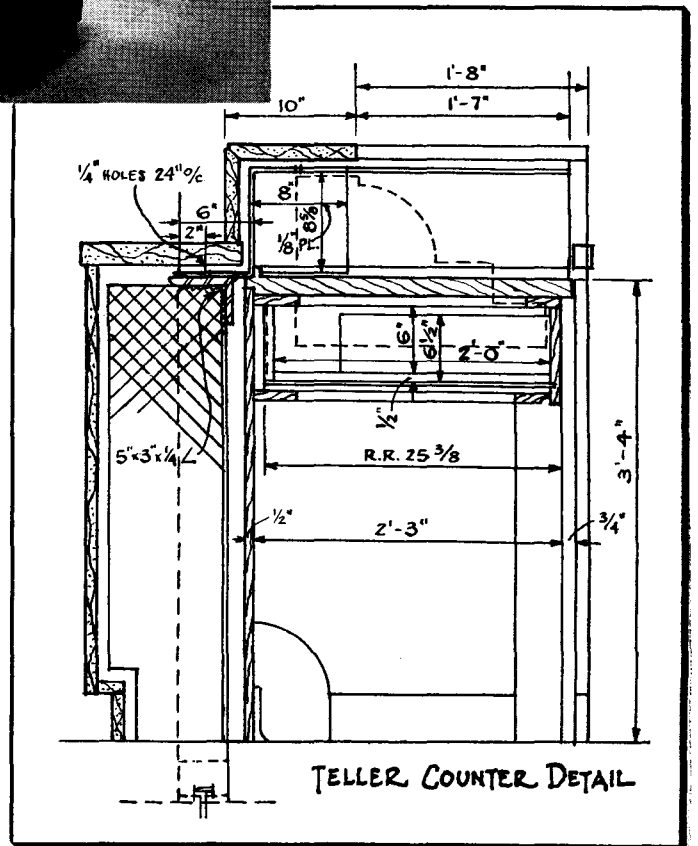
First Federal Savings and Loan Association  
Chicago, Illinois  
Ralph Milman, Architect

**Marble is doubly important today for Bank construction and renovation.**

Marble is important, first, because it is an intrinsically beautiful material which is also most economical. It is easy to maintain and clean, affording positive savings year after year. It enhances the dignity and feeling of security which every bank must impart to its clients.

Second, Marble is important today because the present Emergency Defense Program requires curtailment in the use of critical metals and woods. Marble, the one non-critical superior material is available for dozens of uses requiring a surface which is beautiful, permanent, economical and easy to maintain.

New Brochure "Marble For the Modern Bank" available now. Write for a FREE copy to:



MARBLE  NSTITUTE OF AMERICA, INC.  
108 FORSTER AVENUE, MOUNT VERNON, NEW YORK

**PRODUCTS**

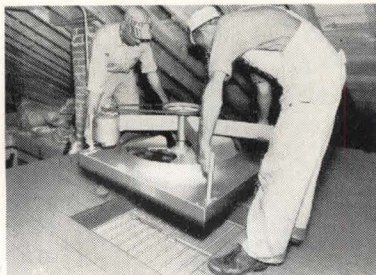
(Continued from page 188)



**New Hunter Package Fan  
is easily installed in any attic, any home**

■ Thousands of owners call the Hunter Attic Fan a feature of their home that they "couldn't do without." Low in initial cost, and with no upkeep expense, it provides an efficient cooling system for homes in all price ranges.

Installation of Hunter's new, compact Package Attic Fan is so simple and inexpensive. Fan, motor, suction box and shutter are all in one unit that requires only a ceiling opening in hallway and 18" clearance in attic. Four models, ranging from 4750 CFM to 9500 CFM (ratings certified) fit any home size and climate. Quiet, powerful, dependable—guaranteed by Hunter, exclusive fan makers since 1886. Mail the coupon below for new booklet on home ventilation.



**Low-Cost Installation**—This photo shows how easy it is to install the automatic shutter models. Fan unit is simply placed over the ceiling opening . . . no fastenings needed. Shutter unit fastens to frame around ceiling opening.

**Hunter PACKAGE Attic Fans**

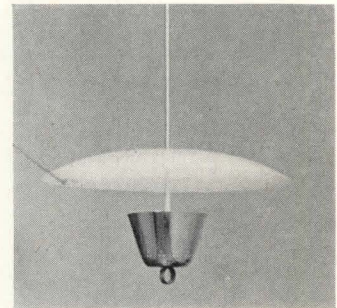
Hunter Fan and Ventilating Company  
396 South Front St., Memphis, Tenn.

Send copy of "How to Cool for Comfort" to:

Name.....

Address.....

City & State.....



Edward Wormley fixture (above) has polished brass bucket and enamelled dome. Italian designed lamp (below) has marble base, adjusts to height of 10 ft

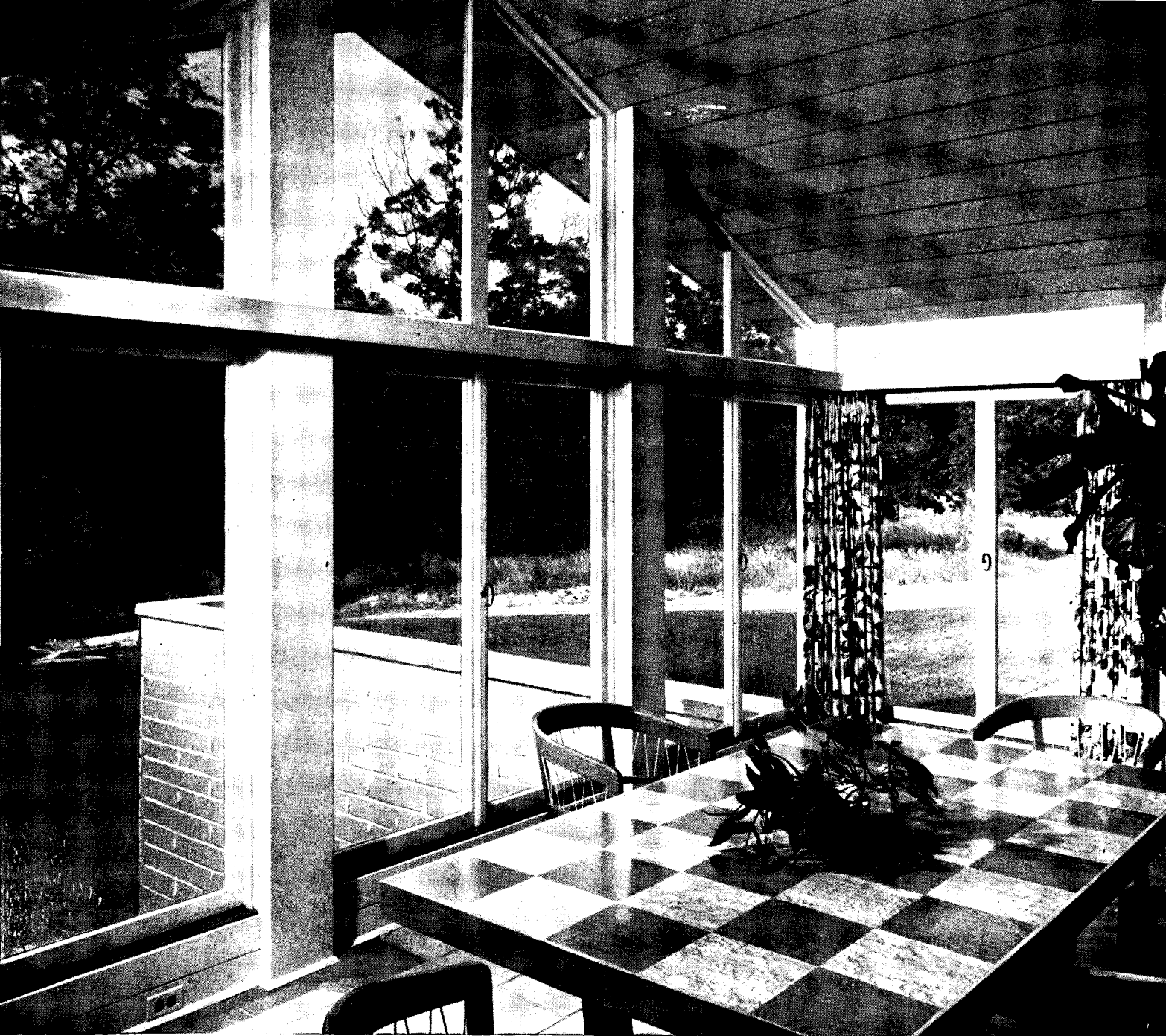


bility were the keynotes of these lighting fixtures, wall brackets, table and floor lamps. The lamps come in a range of five colors, as well as in polished brass or aluminum. Lightolier, Inc., 11 East 36th St., New York, N. Y.

**Plastic Seam Sealer**

*Lifewall Seam Sealer* is a new colorless liquid plastic which "permanently seals and waterproofs" seams in "Lifewall" vinyl wall covering. The sealer is applied with a fine camel's hair brush, and is said to minimize seams, make them waterproof and be as strong as the top coat itself. It is further claimed that as a result, the wall covering cannot buckle, bend or bulge because of moisture under the seams. It is packaged four liquid ounces to the jar. Pantasote Co., 444 Madison Ave., New York 22, N. Y.

(Continued on page 192)



WINDOWALL specified by Humphrey & Hardenbergh, Inc., Architects

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*Windowalls*\*  
COMPLETE WOOD WINDOW UNITS

**OPERATING WALLS** of Andersen Gliding Window Units give extra meaning to the architect's open planning of this dining area. For each window opens.

These are WINDOWALLS... windows that admit pleasant breezes in addition to a view and a flood of light... walls that keep unpleasant weather from disturbing the owner's comfort. Hundreds of combinations are possible with these beautiful wood window

units—combinations which give lasting satisfaction to both architect and client.

See Detail Catalog in Sweet's Architectural and Builders' Files, or write us for further information. The complete WINDOWALLS Tracing Detail File will be sent on request to architects and designers at no charge. Andersen WINDOWALLS are sold by lumber and mill-work dealers.

\*TRADEMARK OF ANDERSEN CORPORATION

*Andersen Corporation*  
BAYPORT • MINNESOTA

**PRODUCTS**

(Continued from page 190)

**Carpeting**

A new product of the floor covering industry is *Seamloc*, featuring locked, almost invisible seams, and said to be suitable for many types of installations. It can be installed in small or large areas of irregular as well as regular shapes, and it is easily readapted to a new installation. Sewing is said to be eliminated, repairs being accomplished by patching.

*Seamloc* is made with a water-tight cement backing which, claim the manufacturers, holds the pile both in and up, and also permits washing directly on the floor. Standardized at a 4-6 width, *Seamloc* is available in loop and texture weaves, plain velvets and twists. Gotham Carpet Co., Inc., 515 Madison Ave., New York 22, N. Y.

**Floor Maintenance Liquids**

The *Multi-Clean* liquid floor chemicals and finishes form an extensive line of products developed to ease floor maintenance problems. Treatments are pro-

duced for most types of flooring commonly used, such as wood, concrete, terrazzo, linoleum, rubber and asphalt tile, etc.

The liquids are said to substantially reduce floor maintenance costs, and to be thoroughly tested and proved. The products include: sub-surface treatments such as a penetrating sealer and a floor preserver; a gym floor finish; bakery and textile mill floor preservers and cleaners; anti-slip waterproof floor wax; a rubber base concrete sealer; and a bakelite base concrete preserver. Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul 1, Minn.

**Ceilings Serve as Lighting Fixtures**

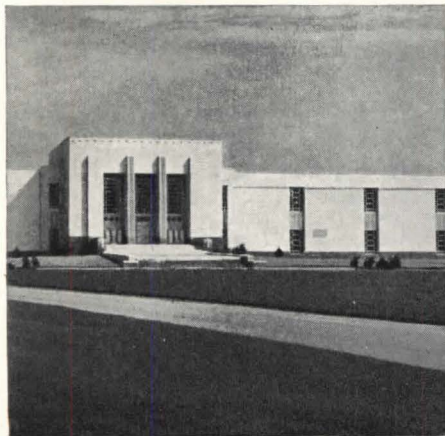
- A showroom with a luminous ceiling which is, in effect, one large cold cathode lighting fixture, is a feature of the sales headquarters of the Meadox Sales Co., Inc., 23 East 51st St., New York City.

One of the first entirely glass ceilings on the east coast, the construction is very simple. Panels of Corning Albalite glass 24 in. square, rest on parallel aluminum ribs above which are installed 450 ft. of Colonial cold cathode fluorescent lamps. The lamps are of the 25 BB, warm white type with a sustained value of 45 foot-candles.

# Keep Water Out

Cabot's Waterproofings prevent the damaging effects of water seepage to masonry both above and below grade.

Architect: G. Edwin Brumbaugh, Philadelphia, Penn.



Architect: D. A. Bohlen, Indianapolis, Ind.



*Specify*

**ABOVE GRADE**

**Cabot's Clear Brick Waterproofing** for red brick and dark colored masonry. Protects against efflorescence. Keeps surface clean. Provides a long-lasting, moisture-resistant seal. Prevents water damage to mortar.

Specify Cabot's Clear Cement Waterproofing for cement, stucco, cast stone and all light colored masonry. Protects against water damage — freezing and thawing.

*Specify* **BELOW GRADE** Cabot's Foundation Coating — a black, bituminous coating that means dry cellars. Keeps water out.

● **FREE SAMPLE!** Write today for information about Cabot's Waterproofings — deep-penetrating, easy to apply.

**Samuel Cabot, Inc.** 329 OLIVER BLDG. BOSTON 9, MASS.



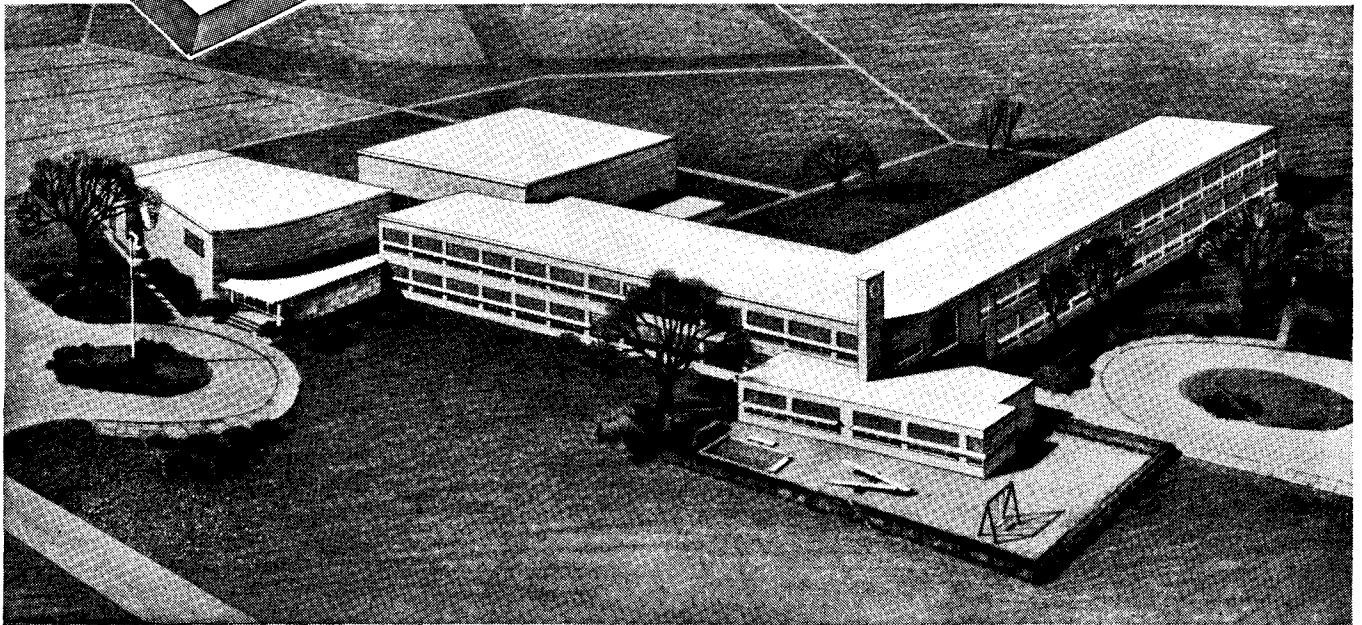
Ceiling is also lighting fixture for this fabrics showroom

Cold cathode fluorescent lamps were used for several reasons, according to the lighting engineers: more even distribution of light, proper quality of light and the aspect of maintenance or long lamp life. This latter was especially important because of the height of the

(Continued on page 194)



# A Better Roof Deck for Today's Better Schools



Clifton Fine Central School, Star Lake, New York—Architect: Reisner & Urbahn.  
Associate Architect: Benedict, Ryan & Sayer—General Contractor: Rouse-Putnam Company.

Kaylo Roof Tile is chosen for more and more schools because of its remarkable combination of advantages:

### FIRE PROTECTION

Kaylo Insulating Roof Tile is non-combustible. The tile themselves will withstand building fire temperatures for more than one hour without failing in load-carrying capacity.

### INSULATING VALUE

Since Kaylo Insulating Roof Tile provides insulating value equal to that of an inch and one-half of standard insulating board, no additional insulation is needed for usual installations.

### STRUCTURAL STRENGTH

The structural strength of this steel mesh reinforced Kaylo Roof Tile is more than adequate for typical roof loads—for example, a design load of 50 pounds per square foot plus the normal safety factor of 5.

### INORGANIC COMPOSITION

Kaylo Insulating Roof Tile is calcium silicate, a *nonglass*, inorganic material resistant against rot, moisture or water damage.

### LIGHT WEIGHT

Substantial savings are effected because the lightweight tile (only 5 lbs per sq. ft.) permits the use of lighter and more economical supporting structural members.

### EASY APPLICATION

The light weight and convenient size of Kaylo Roof Tile makes them easy to carry and place—expedites the completion of flat or pitched roofs. Standard roofing materials such as built-up roofing, asphalt, asbestos slate or terra cotta tile shingles may be used over a Kaylo roof deck.

Whether you plan new schools or modernization of existing buildings, it will pay you to investigate the many advantages offered by Kaylo Insulating Roof Tile.

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**PRODUCTS**  
(Continued from page 192)

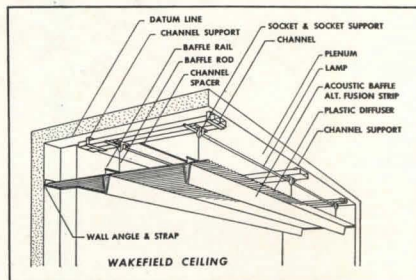
ceiling and the character of its construction. Cold cathode lamps, it was estimated, would not require replacement more often, on the average, than every five years. Colonial Electric, East Paterson, N. J.

• The *Wakefield Luminous-Acoustical Ceiling* is the result of research in lighting that began at MIT, in which a ceiling was developed composed of light-

diffusing plastic combined with means for control of acoustics. This luminous, acoustical ceiling is the end result. Fluorescent lamps are suspended from the structural members of the ceiling. Below the lamps are translucent corrugated plastic sheets, and suspended below these sheets at 36 in. intervals are perforated metal acoustical baffles, wedge-shaped in cross section, and filled with sound absorbing material.

The manufacturer says that this ceiling offers lighting intensities ranging from 50 foot-candles upwards, that the

plastic furnishes completely diffused light quality and uniformity of brightness, and that the lamps are easily ac-



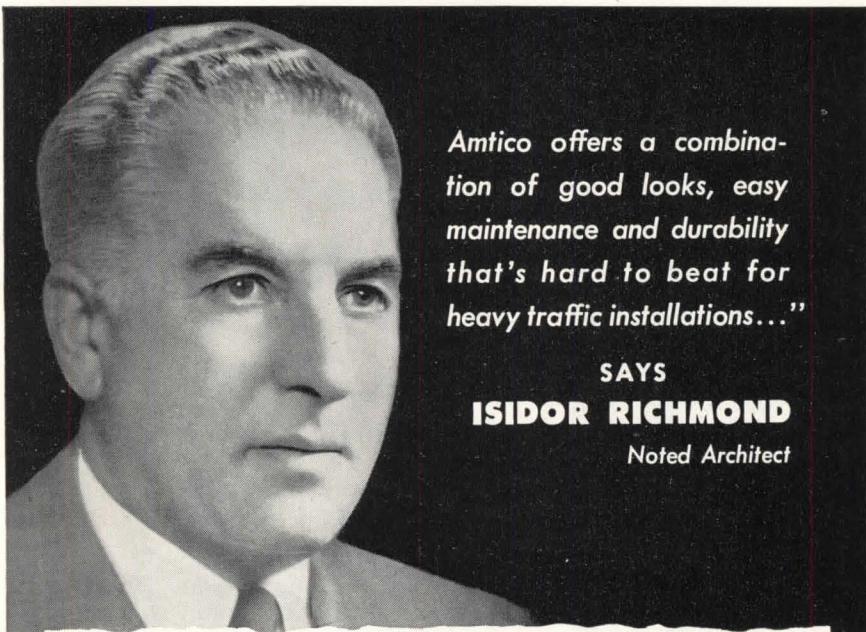
Cutaway drawing shows construction of luminous, acoustical ceiling

cessible from below, since the plastic sheets slide over each other. The ceiling may be installed with or without the acoustical baffles. The F. W. Wakefield Brass Co., Vermilion, Ohio.

**Pneumatic Tube System**

The *M&G Pneumatic Tube System* employs the selective, automatic principles of the dial telephone to permit a sender to forward his message or article to any other of a number of stations without the intervention of a central dispatcher. The system was developed, and is partly manufactured by Mix and Genest, a German subsidiary of the International Telephone and Telegraph Corp. Though new to this country, it has been in use in Europe for many years. It is expected to be of great use in department stores, industrial plants, hospitals, hotels, and other business and public enterprises.

The system utilizes automatically controlled loop lines, each of which begins at a central point and is connected to a number of stations. All carriers flow through their sending loops to this central control point, where they are directed to their destinations by a relay panel. Each carrier is fitted with a series of rings marked with digits. These are adjusted to the number of the receiving station, and activate the automatic mechanisms. If errors occur, the carrier is dispatched to any desired supervisory position. The number of stations may vary from a few with push buttons instead of a central, to a system of several centrals with inter-connecting facilities for hundreds of stations. Various sizes of carriers are available. Air-matic Systems, Inc., 139 Charles St., New York, N. Y.



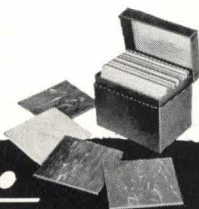
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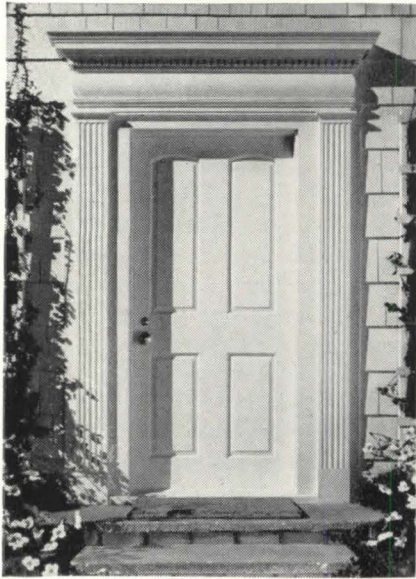
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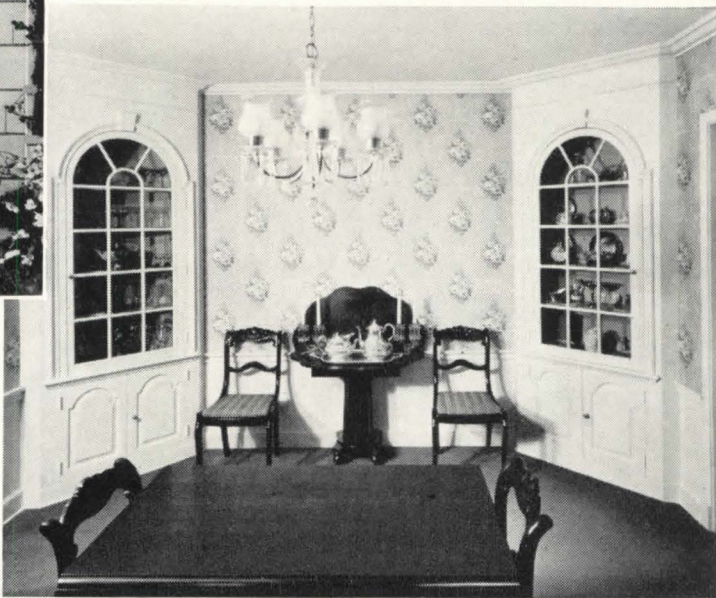
**AMERICAN TILE & RUBBER COMPANY, TRENTON 2, N. J.**  
In Canada—American Tile & Rubber Co., Ltd., Sherbrooke, Quebec

# How to Catch an Eye (and/or) a Sale



A Curtis entrance design which recalls many doorways to be found in the New England area. The entablature with its bowed face, dentil course, and pilaster beading, all contribute to the beauty of an entrance that is suitable for most any type home. Curtis Entrance C-1730—Door C-1040.

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This Curtis mantel fits gracefully into a traditional or modern interior. It is pictured here in a beautiful Ranch Style home. Curtis mantels, like all Curtis Woodwork, are made with the skilled craftsmanship used for fine furniture. This is Curtis Design C-6055—one of several styles.

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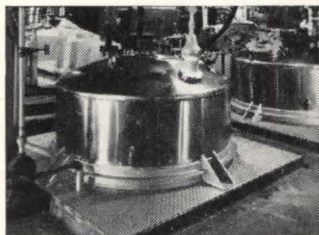
LITERATURE

(Continued from page 152)

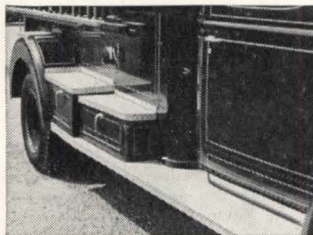


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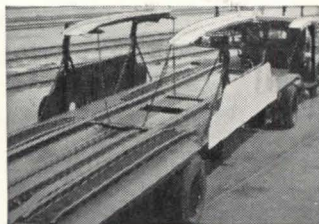
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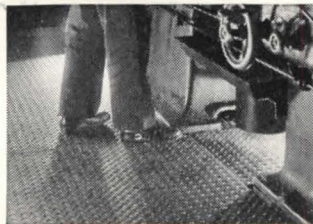
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### Interior and Exterior Facing

*Mirawal.* A porcelain on steel facing for interior and exterior applications (Form 450). Booklet shows diversified uses of a material having a vitreous porcelain surface, backed by steel and masonite respectively. The exterior type is listed for use in markets, many kinds of stores, filling stations, theaters, restaurants, lunch stands. For interiors it may be employed in stores, homes, dairies, toilet rooms, soda fountains, etc. Specification and installation data and details are given. 4 pp., illus. Baltimore Porcelain Steel Corp., P.O. Box 928, Baltimore 3, Md.

### Fibre Board Insulation

*Specifications For Celotex Roof Insulation (Nos. 20, 21 and 22).* Folders give specifications for four types of cane fibre board roof insulation, each of which is designed for special job conditions. No. 20 takes up regular roof insulation; No. 21 discusses Celotex "Preseal" and "Preseal-30" insulations; and No. 22 presents "Vapor-seal" roof insulation. Each contains several details, descriptions, recommended uses, properties, sizes and design information, as well as specifications for the product. 4 pp. each, illus. The Celotex Corp., 120 S. La Salle St., Chicago 3, Ill.\*

### Home Wiring

*Westinghouse Home Wiring Handbook Third ed. (B-3510-B).* A guide for planned wiring of homes, this book exceeds minimum "code" standards, emphasizes safety and function. Chapters discuss electrical equipment for the home; electrical outlets, circuits, control centers, feeders, etc.; conductors, voltage drop, circuit protection; communication systems; suggested specifications for single-family dwellings; estimated electrical costs; building design and construction terms; miscellaneous charts and tables; dimensional and other data. Charts and tables are included. 135 pp., illus. Price, \$1. Westinghouse Electric Corp., P.O. Box 2099, Pittsburgh 30, Pa.\*

(Continued on page 198)



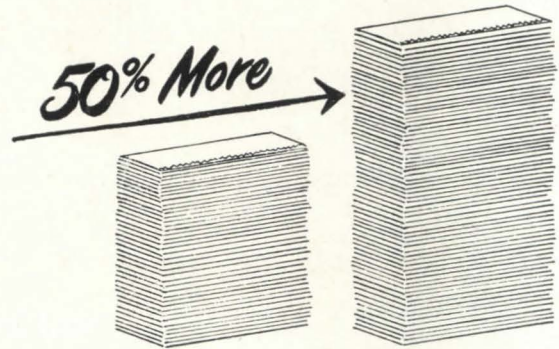
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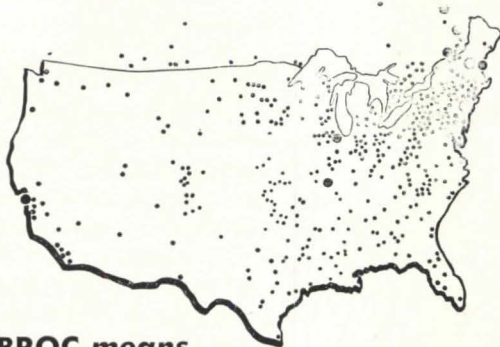
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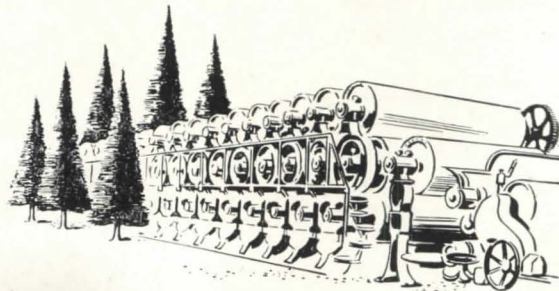
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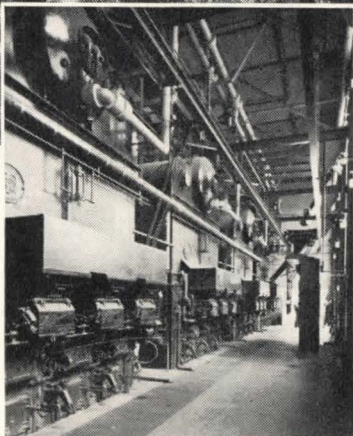
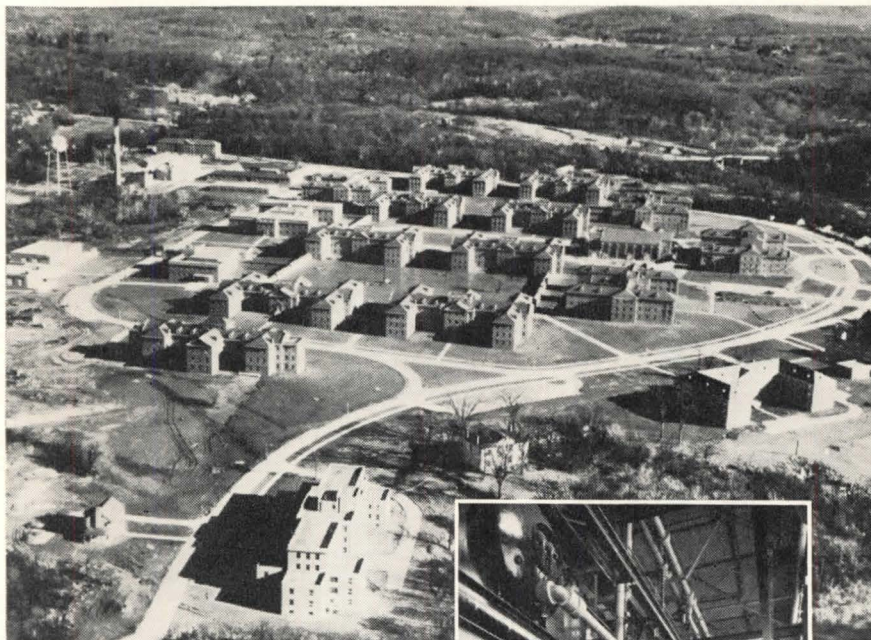
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## LITERATURE

(Continued from page 196)



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### Office Furniture

*The Herman Miller Executive Office Group.* Catalog lists and describes component parts of office furniture of modern design. Desks, chairs, lamps and storage units are included. Tables give dimensions. 10 pp., illus. The Herman Miller Furniture Co., Zeeland, Michigan.

### Wooden Windows

*Andersen Windowalls (Catalog No. 511).* Catalog gives data on casement window unit, pressure seal double hung window unit, and basement-utility window unit. Installation details, stock sizes and layouts are included, as well as installation specifications, general and special recommendations. 15 pp., illus. Andersen Corp., Bayport, Minn.\*

### Welding Standards

*American Welding Safety in Electric and Gas Welding and Cutting Operations (Z49.1-1950. U.D.C.261.791:614.8).* Prepared by a committee sponsored by the American Welding Society, the booklet gives recommendations for welding made by welding and safety engineers, equipment manufacturers, insurance and labor organizations and government labor agencies. Covered are regulations for the safe installation and operation of welding equipment for all arc, gas and resistance processes. Fire prevention and protection in welding areas are discussed. Personnel protection, ventilation and health protection measures are included. In addition, there is a bibliography. 42 pp. Price, 50 cents. American Welding Society, 33 West 39th St., New York 18, N. Y.

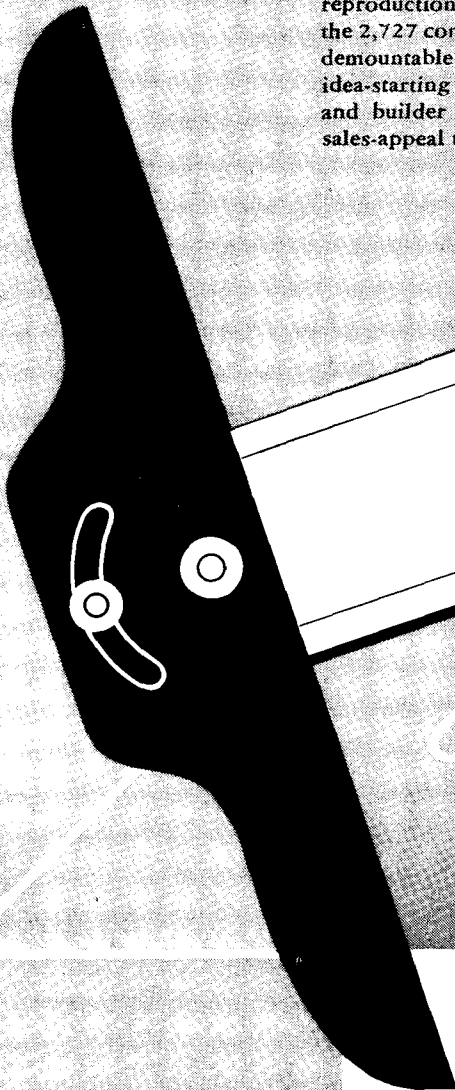
### Roof Drainage

*Roof Drainage Equipment.* Brochure gives description of a line of equipment for roof drainage, as well as full details of flashing procedure and roof drain construction for all types of roof decks. Included is rainfall map of the United States, and typical architectural specifications covering various types of drains. 6 pp., illus. Wade Manufacturing Co., Elgin, Ill.

(Continued on page 200)

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LITERATURE

(Continued from page 198)

**Night-Work Lighting Systems**

*First Interim Report — Night-Work Lighting Systems for Construction Equipment (PB 99480).* Report, prepared by Army Corps of Engineers, deals with experimental work which is said to have made possible construction operations at 85% of normal daytime rate. Discusses advantages of placing lighting equipment directly on construction units. 142 pp., illus. Price, \$3.75. Orders should be accompanied by check or money order payable to the Treasurer of the United States. Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

**Dust Control**

*Industrial Dust Control Through Exhaust Systems.* Book gives selection, operation and maintenance data for use by plant engineers responsible for dust control. Three major sections treat: Exhaust Hoods and Piping Systems, Dust Collecting Equipment, and Exhausters and Drives. 50 pp., illus. Pangborn Corp., Hagerstown, Maryland.

**New Catalog Services**

*Specialized Catalog Services for the Industrial and Construction Fields.* Booklet describes new plan of design, production and distribution services and facilities which are available to those in industrial and construction fields. These services may be obtained separately or in any combination desired. Sweet's Catalog Service, 119 West 40th St., New York 18, N. Y.

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

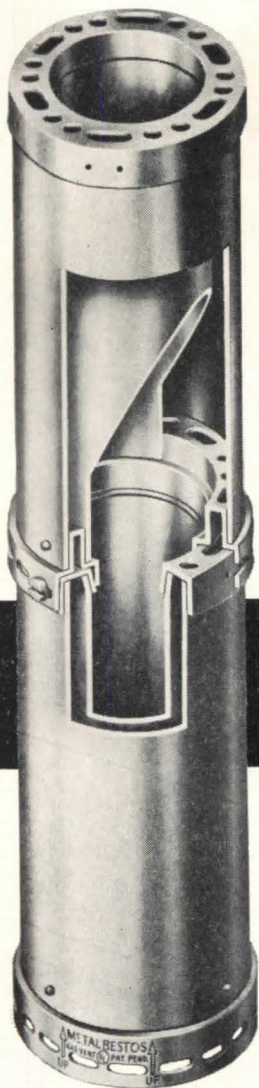
Edwin B. Crittenden, Architect, P.O. Box 95, Anchorage, Alaska

Richard P. Dober, 629 Cary Ave., Staten Island 10, N. Y.

J. M. Huddleston, Architect, 1550 Elizabeth St., Shreveport, La.

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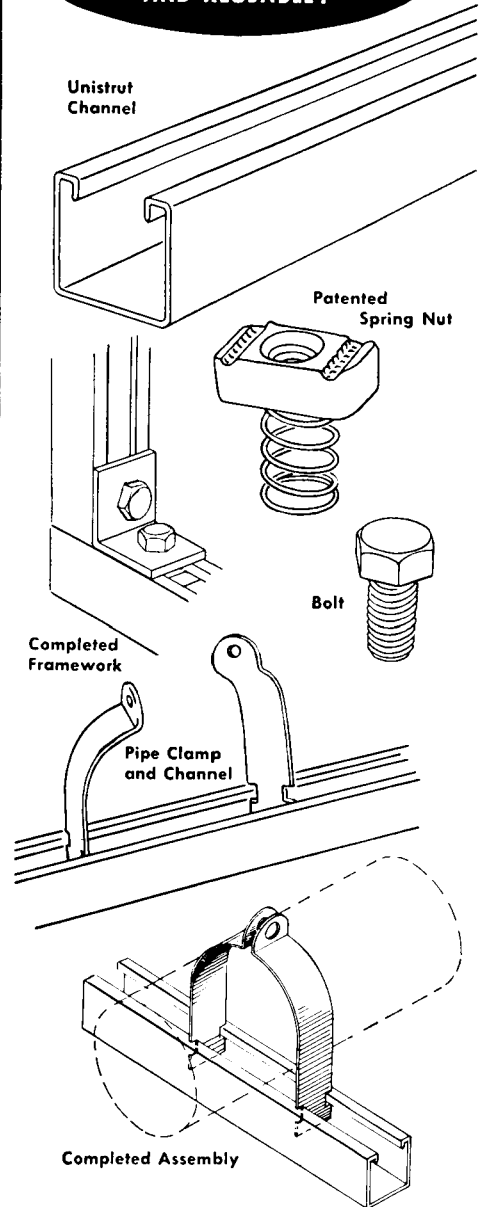


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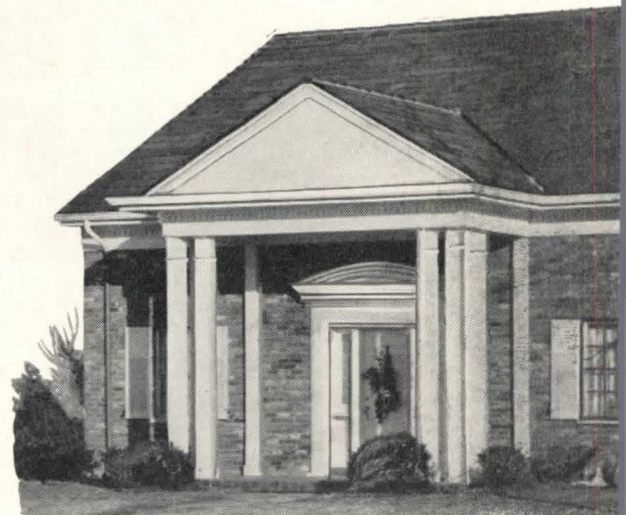
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**ROBERT H. WACHENDORF** is builder of the distinctive Meadow Ridge Year-Around Homes in Amberly Village, Cincinnati. Designed to provide the utmost in luxurious suburban living, each attractive home planned by Mr. Wachendorf features a Servel *All-Year* Air Conditioner, for year-round comfort.



Public response to *All-Year* Air Conditioning in his exhibit home was so enthusiastic that this Cincinnati builder went on to plan the entire development around Servel units. As a result, he can assure his clients of homes that will always be completely comfortable, no matter how hot or cold, wet or dry the weather may be.

A mere flick of the finger sets the Servel *All-Year* Air Conditioner. From then on, operation is entirely automatic. The Servel switches from cooling to heating and back again as needed to maintain the desired temperature. Year round, humidity is carefully controlled to eliminate stickiness in summertime, add enough moisture for comfort in winter. And the Servel filters out dust and irritating pollen,

circulates air evenly throughout the house.

By planning homes around Servel *All-Year* Air Conditioning, it's possible to effect economies which offset the unit's price. For example, Servel air conditioned homes need no screen porch, no fireplace, no attic fan. Outside doors and windows may be kept closed. Glass can be fixed, permitting use of simple window frame. No screens are necessary. The total of these savings may more than pay for the air conditioner.

Servel units can be used in any size, style or shape of home your client wants. They're not confined to any one type of architecture. Ask your local General Company for full particulars, or write to Servel Inc., 8103 Morton Avenue, Evansville, Indiana.

# AIR CONDITIONER

## in model home

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Architect: Luigi Marioni,  
1518 Beacon Street, Cincinnati



**NOW YOU CAN INSTALL  
SERVEL ALL-YEAR AIR CONDITIONING  
AT LITTLE OR NO EXTRA COST!**

Many of the customary features in a home no longer have functional value when *All-Year* Air Conditioning is included . . . such things as porches, fireplaces, screens, etc. So in preliminary planning you can leave them out. This way you'll generally save enough to make up the cost of the Servel system. And clients feel they're making a marvelous exchange. For the things omitted provide pleasure only part of the time. Servel brings them comfort 365 days a year!



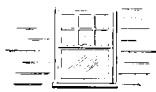
NO FIREPLACE



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LOWER-COST  
WINDOW CONSTRUCTION



NO SCREENS

programs should be used for better planning of housing.

**Hospital Section Criticized**

This emphasis on the need for better planning, and the need for it to be spelled out in the legislation, was also present in the testimony of Albert V. Whitehall, director of the Washington Service Bu-

reau of the American Hospital Association. He outlined the great strides made during the past few years in hospital and health center construction under the Hill-Burton Act. This, he told the Congressional committees, should not be destroyed by haphazard planning of other hospital construction under terms of the proposed law.

His chief complaint concerning the

defense housing bill was that its Sec. 204 paralleled too closely the Lanham Act of World War II, an emergency measure which ended with the war. The Lanham law did not recognize long-range community planning for the health of every citizen, according to Mr. Whitehall. It was geared to the needs of the moment.

He praised, rather, the Hill-Burton Act, which he said is viewed as the most worthwhile program of the federal government in recent years. This law is unique among social programs and grants-in-aid programs of the federal government, he said, because:

1. It requires the states to make surveys of existing facilities and the overall needs of the state for more hospitals.
2. It is required that the states make overall state plans for sensible distribution of hospital facilities to serve the people best.
3. It gives state agencies primary responsibility for surveys and planning.
4. It requires community participation.
5. The federal government has not dictated or determined anything more than the broadest general standards. Within these broad regulations the states have developed their own Hill-Burton programs on an impartial basis of objective need.

He made the point that these state agencies in five years of operation have built capable and efficient staffs and have gained valuable experience in planning, design and construction. The Hospital Facilities Division of the U. S. Public Health Service was praised for developing specific experience in dealing with the state Hill-Burton agencies and in developing a strong network of hospital services throughout the nation.

The Whitehall statement to Congress stressed that the need for additional hospital facilities has not been met. It said in part:

"Dozens of communities countrywide have developed plans for additional facilities with Hill-Burton aid. These plans were disrupted when Congress reduced its annual contract authorization from \$150 million to \$85 million at the last session. Four hundred fifty-three communities developed plans for additional hospital construction on faith that the federal government would make supplemental funds available. Eighty-eight of these communities had made

(Continued on page 206)



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**ROLSCREENS**

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For Commercial and Home installations, Pella RolSCREENS are the practical, low maintenance screen to use. Pella RolSCREENS provide freedom from screen troubles because they're installed on the inside of the window. They roll up and down like window shades. Once in place, always in place. No putting up—no taking down! Painting and ordinary seasonal repairs are eliminated because RolSCREENS are protected from the weather. No storage problems. Pella RolSCREENS are ideal for all institutional installations.

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In their beautiful simplicity of line, Kno-Draft Adjustable Air Diffusers are grace notes for any decorative theme. But unless you just happened to look ceilingward, you might not ever notice them in the modern lounge above. Nor would they be more obtrusive in period surroundings.

Certainly, Kno-Draft Adjustable Air Diffusers will never call attention to themselves by discomforting the occupants of any room. All that their name implies, Kno-Draft Adjustable Air Diffusers circulate air gently and *without draft* . . . keep temperature uniform throughout the conditioned area. Air volume and flow pattern are adjustable *after* installation

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Lounge and exterior, Veterans Memorial Building, Detroit, Mich.  
Architects and Engineers: Harley, Ellington & Day, Inc., Detroit, Mich.  
General Contractors: Kuhne-Simmons Co., Inc., Detroit  
Air Conditioning Contractors: American Refrigerating Co., Detroit

. . . thus simplifying the engineering of the job as well as providing flexible control to meet both present and future conditions.

You'll find Kno-Draft Adjustable Air Diffusers in many of America's notable and architecturally significant buildings. Whatever the air conditioning requirements, there are types and sizes to meet them. Write us for detailed information.

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Company .....

Street .....

City..... Zone..... State.....

WASHINGTON

(Continued from page 204)

extensive financial commitments through bond issues, community fund raising campaigns, acquisition of real estate and architectural planning, all of which are required to be performed by the community before the federal government legally commits federal funds.

"There will be considerable pressure for federal funds from these and many other communities for construction of badly needed hospital facilities. How shall federal aid be provided for construction of additional hospitals?"

In summary, the hospital association spokesman said his group was deeply disturbed that the machinery which has been established over the last five years in every state to develop a network of hospital facilities may be upset or thrust aside by an emergency program which would not necessarily be developed along the lines of the Hill-Burton program.

There was much discussion during the committee hearings, on the part of witnesses and committee members alike, over the wording of the bill in regard to delegation of powers for conducting the community facilities and service programs. As written, the legislation left this pretty much up to the President, though it was implied clearly that direction for the great share of all activities authorized by the measure would wind up in the hands of the Housing and Home Finance Agency. This fact spurred the Federal Security Agency, with its U. S. Public Health Service and U. S. Office of Education, to plead its case vigorously before the Banking committees and even to carry over to the House Labor and Education committee its request that authorities be more clearly outlined.

Of course, FSA felt that its constituent agencies should handle those parts of the defense housing program which called for community planning and development. This involved the construction of hospitals, schools, day care centers, recreational facilities, etc. The matter of new libraries was discussed in detail with a recommendation from FSA Administrator Oscar Ewing that they be included specifically as a type of construction empowered by the Act in defense communities.

(Continued on page 208)

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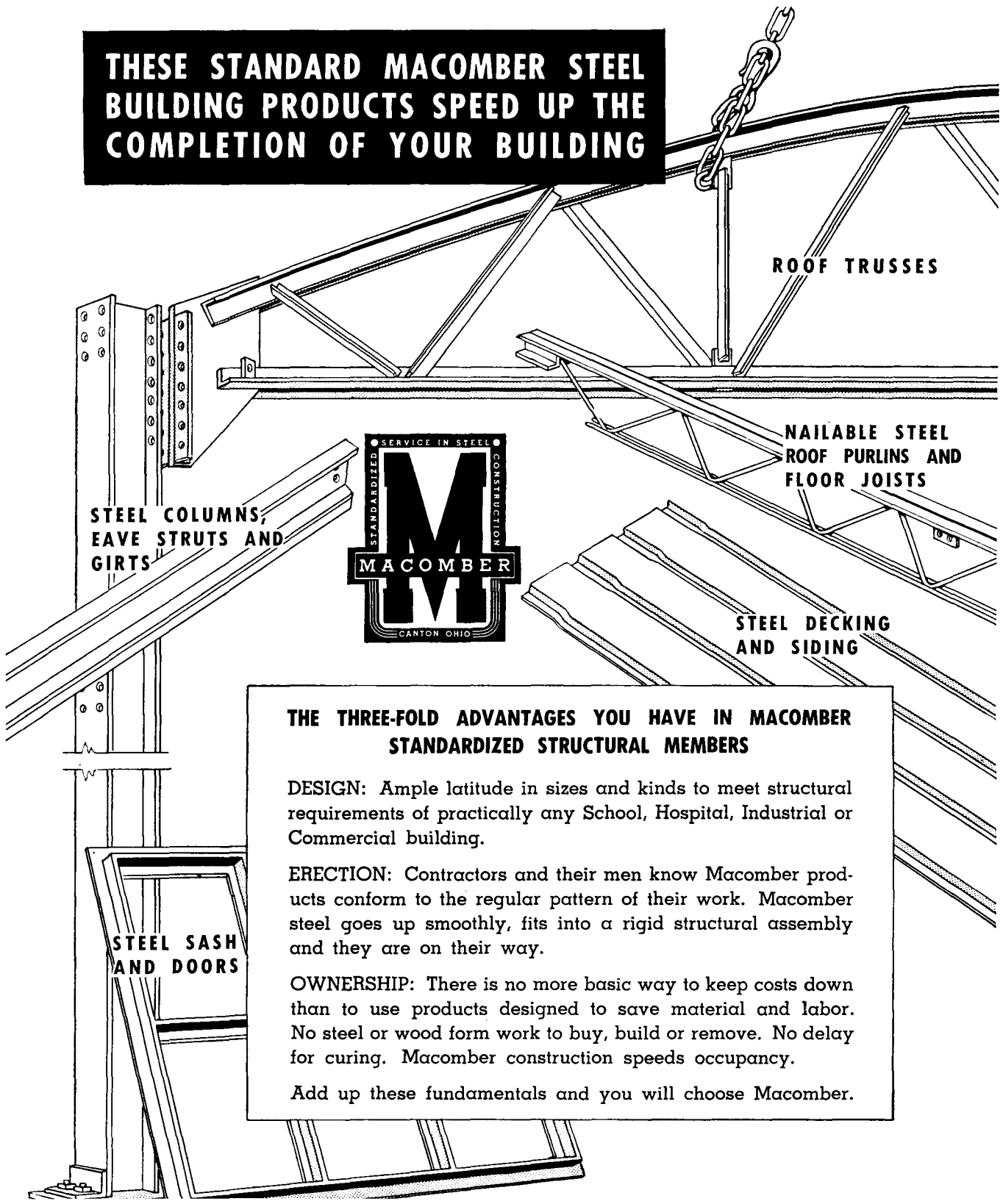
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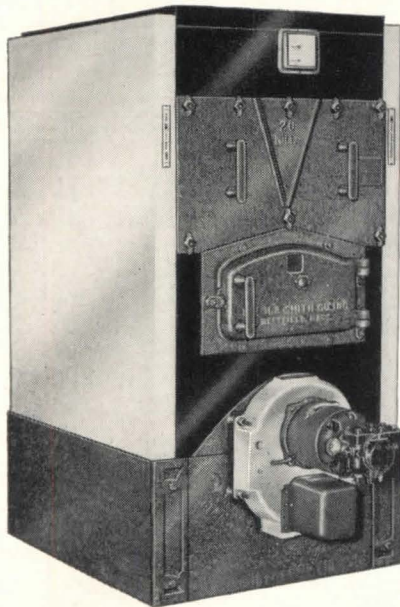
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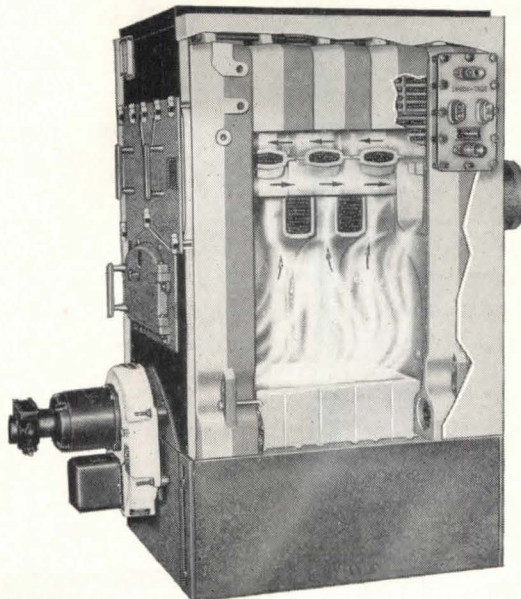


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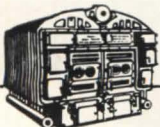
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Cut-away view shows the sturdy cast iron construction and engineered Mills flue travel which provides fast heat and economical operation. Available with flush jacket or with jacket extended to conceal the oil burner. Supplied with large-capacity tankless water heater or built-in storage tank heater. Black and cream enamel finish.



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**The H. B. Smith Co., Inc., Westfield, Mass.**

OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES

## THE RECORD REPORTS

WASHINGTON  
(Continued from page 206)

### AEC Seeks Private Housing

The Atomic Energy Commission now is looking to the private construction industry to furnish living accommodations for workers at its new plants. It is through with constructing federal towns and operating them for its employees unless forced to do so by Congress. This means that as the AEC programs increase, there are ever-widening opportunities for architects, engineers and contractors.

Walter J. Williams, director of production for the AEC, said that diversion of effort by the Commission from pursuing its primary program to coping with housing and related problems would be avoided to the extent that requirements are met through other mediums.

Three new AEC projects are claiming the attention of the building industry this spring. The largest is that being undertaken at a 200,000-acre site in South Carolina near the town of Aiken. There plants to produce materials to be used in the attempt to construct an H-bomb will be manufactured. Another plant is being started near Paducah, Ky. This will be a gaseous diffusion plant to operate in conjunction with the Oak Ridge, Tenn., installation. The third, a smaller operation, will be near Amarillo, Tex., where the AEC has acquired land. Some construction will go forward there, but a small amount compared with the Aiken and Paducah projects.

The South Carolina job, known as the Savannah River project, calls for the construction of extensive housing facilities and community facilities and services. (William J. Levitt, New York, has been in contact with the Commission concerning construction of city facilities for the H-bomb materials plants.)

A Commission spokesman indicated that construction employment at Savannah River site will reach approximately 8000 by July. This is expected to gain by leaps and bounds until 35,000 are employed in constructing the establishment by July of 1952. Thereafter it will drop off to a negligible amount by July 1954. Operational personnel will reach a peak of approximately 6000 by January 1954.

(Continued on page 210)

# FILTERED DAYLIGHT

## FROSTED AKLO GLASS

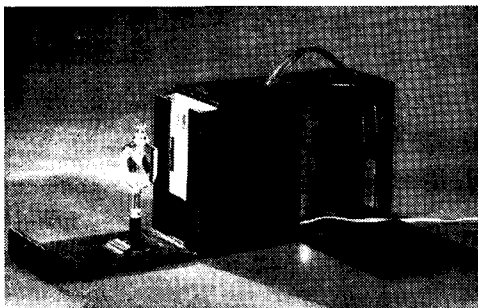
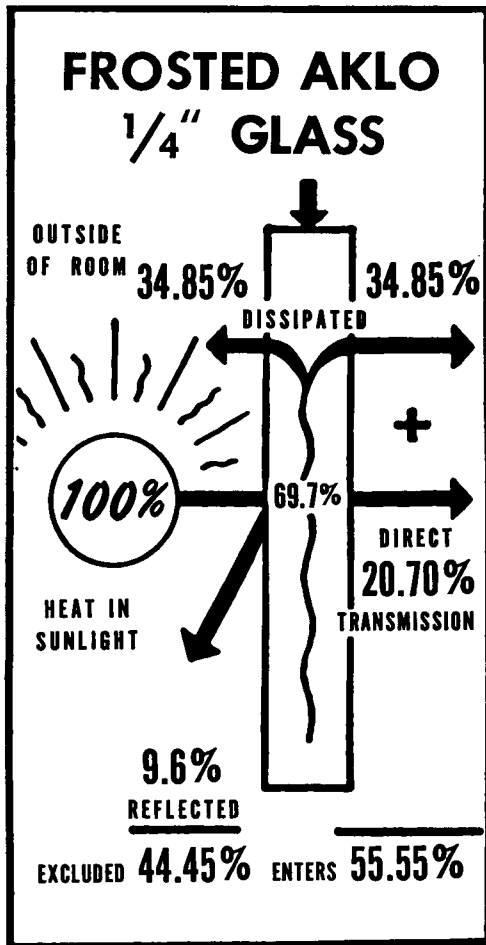
- brings in sunLIGHT
- shuts out sunHEAT
- reduces GLARE

This blue-green glass helps you provide the better working conditions that plant management wants for increased production, reduction of errors and decreased accidents.

**REDUCES SUN HEAT.** The diagram at the left shows why. *Aklo*\* is heat-absorbing glass. Instead of letting almost all the sun heat pour through, as does regular glass, *Aklo* absorbs a large percentage and reradiates half of that back outdoors. It excludes more than 3 times as much sun heat as ordinary glass. Interiors stay cooler. Air conditioning costs are lowered.

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For sparkling beauty and lasting utility, specify factory-prepared portland cement paint made with Atlas White Cement. In bright, refreshing white, or color, it makes a handsome finish for concrete, concrete masonry, stone, brick or hollow tile. It endures because it penetrates the pores, forms a tough protective coating that resists moisture, dirt and dust.

And the same qualities that make Atlas White Cement the choice of cement paint manufacturers make it ideal as a matrix for Terrazzo, Stucco, and Architectural Concrete Slabs. It brings out clearly the rich values of color pigments and aggregates. Because of its pure white color, Atlas White Cement enhances delicate shadings and tones.

Atlas White Cement complies with ASTM and Federal Specifications for portland cement. It has the same advantages when used for concrete. Concrete made with Atlas White Cement cleans easily. Maintenance costs are low.

For further information on the uses of Atlas White Cement, see SWEET'S Catalog, Section 4gUni and 13fUn, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

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FOR TERRAZZO, PAINT, SLABS, STUCCO



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## THE RECORD REPORTS

### WASHINGTON

(Continued from page 208)

indicating the magnitude of new facilities that will have to be installed.

At the Paducah site, construction employment volume should reach 8300 by July 1951; a possible peak of 11,000 by January 1952, and drop down to a negligible number by July 1953. Operating personnel may reach a peak of 1600 in June 1953. However, if possible contingent developments occur, this operating total may go as high as 4000, the Commission stated.

Said Mr. Williams: "It is our sincere hope that the communities in the vicinity of our projects will not be burdened with a supply of unneeded and unwanted housing after our construction programs have been completed, and if direct federal construction of housing proves to be necessary, that due regard will be given in advance to provision of such housing in ways which will facilitate their removal when surplus. This matter concerns the AEC because its operating programs will become a permanent part of the local economy, and it is concerned that no avoidable burdens be placed on neighboring communities because of the temporary impact of its construction programs."

### Dispersal and Decentralization

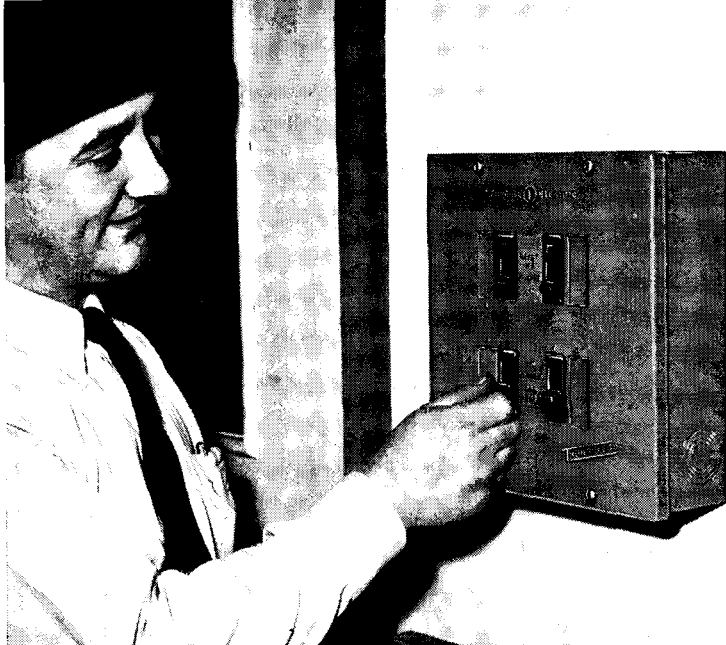
Congress continued to struggle with the plan for moving some 40,000 key government workers in the most vital agencies out of the immediate Washington, D. C., area. Bills calling for construction of new office buildings on a 20-mile radius from the center of the District of Columbia were reintroduced and heard in both Senate and House Public Works committees.

The building program as first proposed had been modified somewhat by the Public Buildings Service, a constituent agency of the General Services Administration. Where the program as presented to Congress last fall would require an expenditure of approximately \$190 million for construction of eight expansive office structures at as many sites, the 1951 plan was trimmed to construction of six permanent buildings on six sites plus two more semifinished

(Continued on page 214)

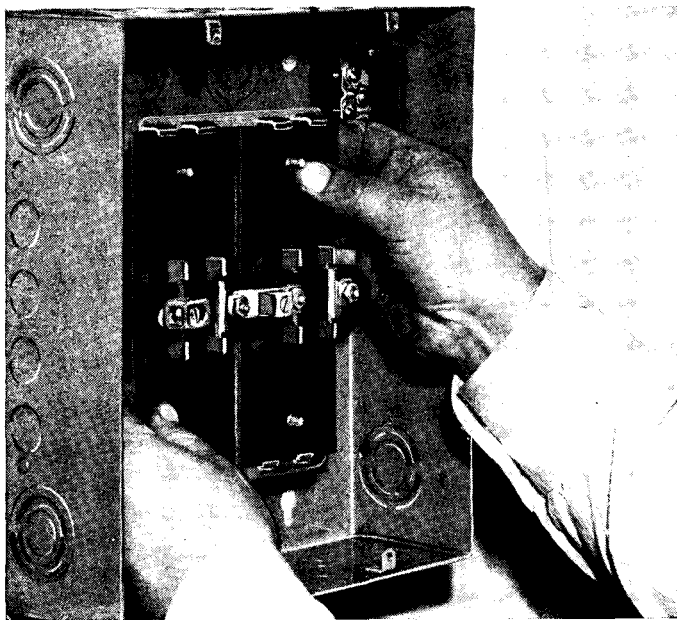


**EASY MOUNTING** With box mounted on wall, the four captive springs permit the interior to be mounted without the nuisance of screws (as shown below) and removed for ease in wiring. They also allow "lining up" of fronts regardless of uneven box installation. Note plenty of knock-outs, solid groundable neutral.

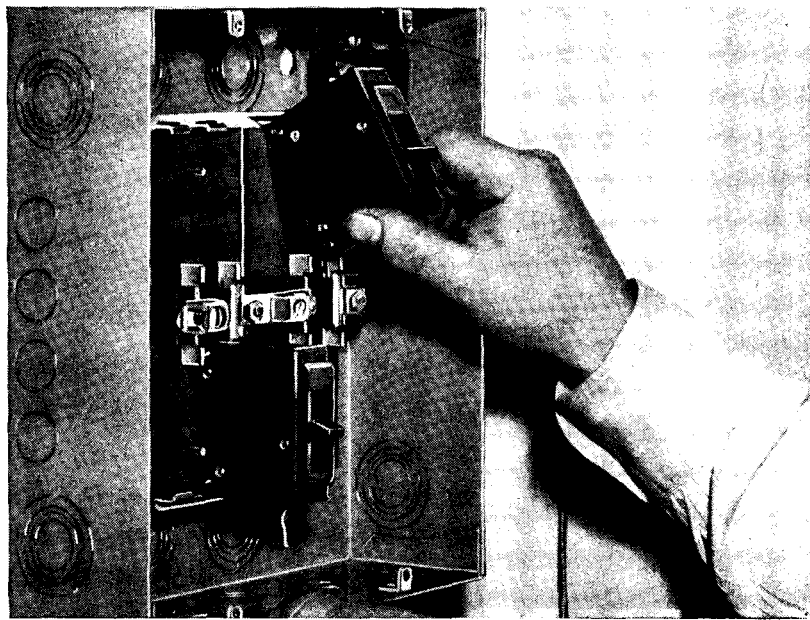


**ATTRACTIVE APPEARANCE** The front is fastened to box and interior by means of four screws. 12- through 20-circuit Load Centers are designed for sequence phasing—adjacent Breakers are on alternate phases. This unique design assures balanced loads. Breaker positioners and circuit numbers embossed on fronts. Note twist-outs.

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**RUGGED BUSBARS AND STABS** No porcelain insulators to break. Busbars and stabs are silver-plated copper for positive conductivity. Terminals are heavy-duty, silver-plated, solderless.



**QUICK-IN, SURE-IN BREAKERS** Pressure contacts engage stab assembly firmly. Anchor on back plate grasps recess on breaker. Inserting a breaker is as easy as plugging a lamp cord into a wall receptacle.

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buildings which would be completed only if mobilization warranted. The PBS office estimated this modification would reduce the total cost, including highways and other communication, to around \$145 million.

As proposed now by PBS, the semi-finished structures would have concrete frames and walls similar to the finished units, and could be completed in the

same architectural style at a later date if necessary. Should the need not arise, these shells could be used readily for the storage of records and files.

W. E. Reynolds, Public Buildings Commissioner, said the PBS plans called for leaving the two semi-finished structures with little exterior finish and none whatsoever on the inside. Pipes would be exposed, but concrete walls would be

painted. Contractors, he added, have estimated they could have such uncompleted buildings erected and ready for occupancy in five months.

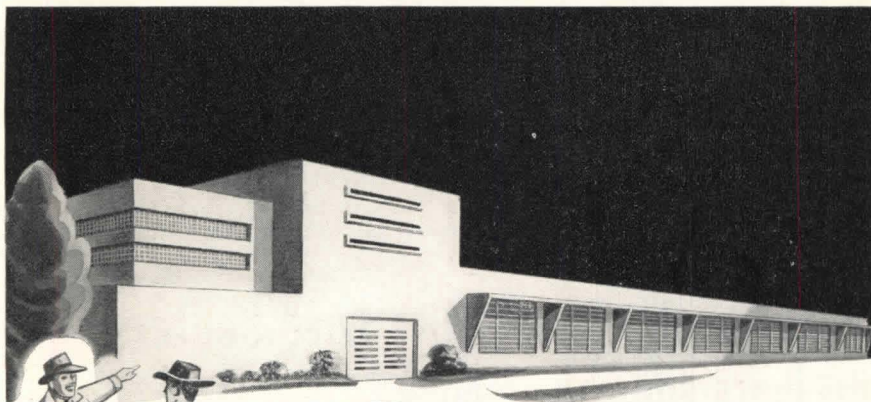
Whereas \$41 million of the original cost estimate was put down for highways, the revised program would reduce this figure to \$32.5 million, it was said by federal government officials.

Shorts

• As the Atomic Energy Construction programs accelerate, there is no tendency for the Commission to depart from its announced policy of contracting practices. This is set out in a booklet issued in November 1949 — "A Guide For Contracting of Construction and Related Engineering Services." This states that contracts for engineering services are negotiated on a lump-sum basis or, if that is not feasible because work cannot be clearly defined, on a cost-plus-a-fixed-fee basis. Normally, where specifications are complete and defined, construction contracts are let by formal advertising, or if circumstances do not permit this, by invited or negotiated bids. Those let by formal advertising or by invited bids are let only on a lump sum or unit price basis. Construction contracts let on a negotiated basis may be lump sum, unit price or cost-plus-a-fixed-fee type of contract.

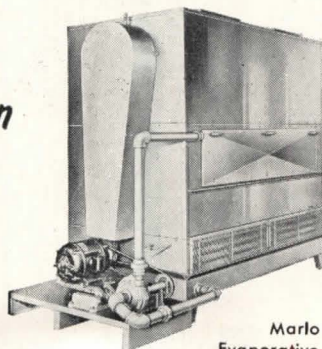
• Defense Mobilization Director Charles E. Wilson painted a bleak picture for building materials, steel in particular, in writing to Gov. Thomas E. Dewey of New York State. Governor Dewey had inquired concerning the influence of the federal controls program on public works construction; he had municipal building projects in mind specifically. In reply, Wilson told Governor Dewey there would be virtually no steel available for public or private construction until 1953. Most of the country's steel output, he said, must be directed toward defense during the rest of 1951 and in 1952. New building construction "will find it difficult to obtain steel," according to the Wilson letter. While every effort will be made to permit construction of schools and hospitals, schools were "on the border line" in these considerations. In the field of public housing, priority must be given defense housing projects and little, if any, steel will be available for other projects, the letter stated.

(Continued on page 216)



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it's a modern  
compact  
MARLO unit



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Architects find they can protect their original building design by specifying Marlo Cooling Towers and Evaporative Condensers—*space-tailored* for easy installation indoors or on the roof below the skyline.

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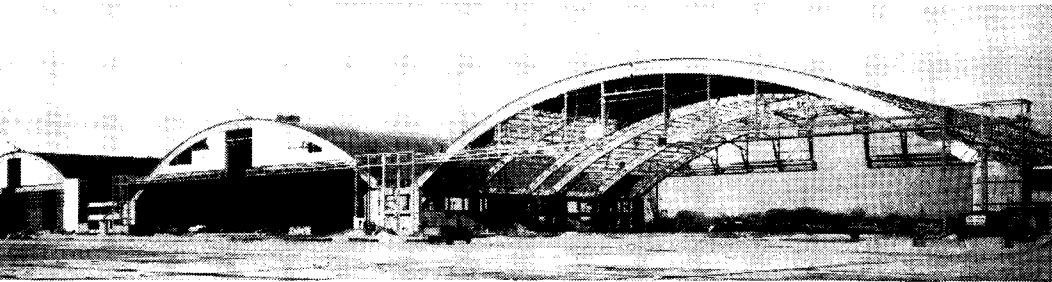
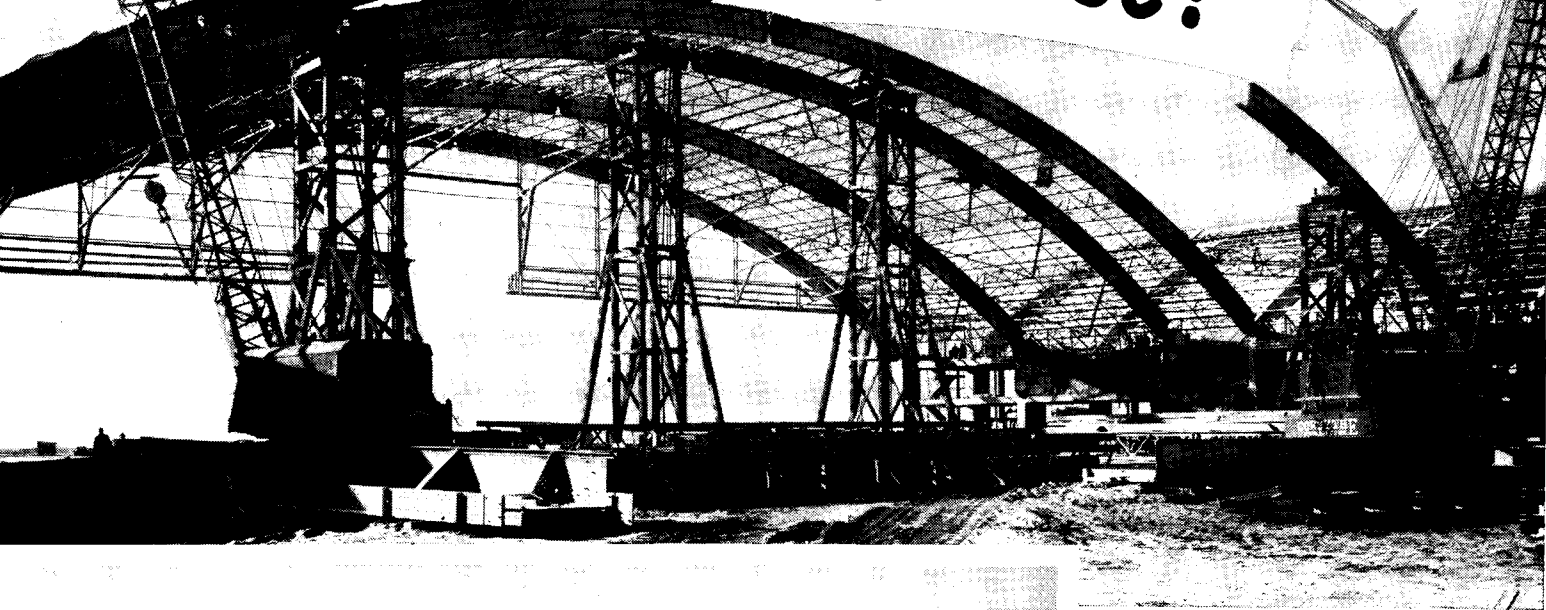


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# HUGE STEEL-ARCH HANGARS go up fast!



▲ Principal roof members are curved, riveted plate girders. Pinned at supports and crown, they have a constant depth, back to back of flange angles of 5 ft. 7 in. and rise 49 ft. 11 in. to provide a clear height at center of 75 ft.

◀ Interconnected by 2-story steel frame lean-tos ranging in width from 39 to 103 ft., the hangars form a building 1,148 ft. long and 219 ft. wide. Each hangar provides a 300 ft. clear floor space.

## 302' Steel-Arch Spans SIMPLIFY ERECTION . . .

### PROVE MOST ECONOMICAL TYPE OF CONSTRUCTION

**PROJECT:** Three hangars and interconnecting lean-tos at New York International Airport, Queens, New York City.

**DESIGNED BY:** Port of New York Authority, Roberts and Schaefer Company, Consulting Engineers. Lorimer and Rose, Associate Architects.

**GENERAL CONTRACTOR:** Stock Construction Corporation.

**STRUCTURAL STEEL:** 3,600 Tons. Fabricated and erected by American Bridge Company.

Erected in 13 months (complete with heating, fire-alarm and lighting systems) the three giant, 300'-wide, 219'-long hangars with interconnecting 2-story lean-tos have set a record for this type of construction—both as to length of spans and speed of construction.

Erected in four sections, the 302'-steel arches are pinned at the supports and crown to provide a clear height at the center of 75 ft. Each hangar is large enough to accommodate 6 Douglas DC-6 transports or four double-deck Boeing Stratocruisers. In addition, parking aprons on both sides of

the building can take 15 aircraft of the type having a turning circle of 175 ft., or 19 of the smaller type having a turning circle of 150 ft.

The decision to use long panels between solid web steel arches for this important project was made after studied consideration of other types of construction materials. And again steel proved most economical by meeting all corners in competitive bids.

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK



# AMERICAN BRIDGE

UNITED STATES STEEL

• Three architect-engineering firms were selected by Atomic Energy Commission for work on the new installation near Paducah, Kentucky — Giffels and Vallet, Inc., Detroit, for preliminary engineering and design of the plant and inspection of construction; Sargent and Lundy, Chicago, for design and inspection of construction of power facilities; and Smith, Hinchman and Grylls, Inc.,

Detroit, for design and engineering for sanitary and fire water systems, sewer system, steam plant, and miscellaneous structures. F. H. McGraw and Co., Hartford, Connecticut, is the principal construction contractor for the plant and associated services and administrative facilities, and will install production equipment. Union Carbide and Carbon Corp., contractor for the pro-

duction and research facilities at Oak Ridge, Tenn., will operate the Kentucky plant, and is responsible for process design and procurement of special and critical equipment and materials. The du Pont firm at Wilmington, Delaware, is handling most details of the Savannah River project in South Carolina, and will operate the new H-bomb materials plants there for the Commission when they are completed.

• One of the early bills in the eighty-second Congress was introduced by Rep. John E. Rankin (D-Miss.) calling for assessment of treble damages against any interests selling a home to a veteran using a VA-guaranteed loan if the price is in excess of the reasonable value as determined by appraisal. The seller violating the proposed law could be sued by the veteran or, in case the buyer failed to start action in 30 days or failed to prosecute an action started, by the Justice Department upon request of the veteran. A similar measure was passed by the House last year, but got no farther in the Senate than a committee table. No hearings had been held in the eighty-second Congress.

• The V-loan program, designed to aid in financing defense orders with general and subcontractors, is being used widely to hasten deliveries. Authorized under Regulation V of the Federal Reserve System, the program enables use of private lending funds within larger limits than otherwise would be possible. Methods of financing defense contracts, in order of preference as announced by the Department of Defense, are: (1) private lending; (2) partial and progress payments; (3) the guaranteed loan, or V-loan, program; and (4) advance payments by the Air Force, or Army, or Navy as the case may be.

• The unprecedented home building rate in 1950 — about 1.4 million units — was shared by both urban and outlying areas. The new starts in urban locations numbered approximately 827,000 units, a gain of 40 percent over 1949 volume. The new rural nonfarm units put under construction last year, 569,000 of them, represented a 30 percent gain from 1949. Urban housing accounted for 59 percent of all new home construction in 1950 compared with 57 percent in 1949. These are Bureau of Labor Statistics estimates.

(Continued on page 218)

**... about to recommend a  
Hospital Signal System?**



**ELIMINATE CONFUSION  
AND TIME LOSS BY  
*specifying Standard***

The hospital whose architect specifies STANDARD systems will be able to step up efficiency, save nurses' time and steps, and provide better care for patients. You can depend on STANDARD systems to improve service in every department . . . write today for descriptive bulletins.

**STANDARD NURSE CALL SYSTEMS** are a constant source of help and reassurance to patients.

**STANDARD PATIENTS' PHONES** save nurses' time and steps.

**STANDARD DOCTORS' PAGING SYSTEMS** never fail to locate doctors promptly.

**STANDARD IN AND OUT STAFF REGISTERS** tell at a glance when doctors and staff members are in the building.

*write today for descriptive Bulletins*

**THE Standard Electric Time Co.**

81 Logan Street



Springfield, Mass.

# Why should *You* concern yourself with school doors?

Stop to think about the matter and you'll agree—the doors in a school building have a heavy responsibility

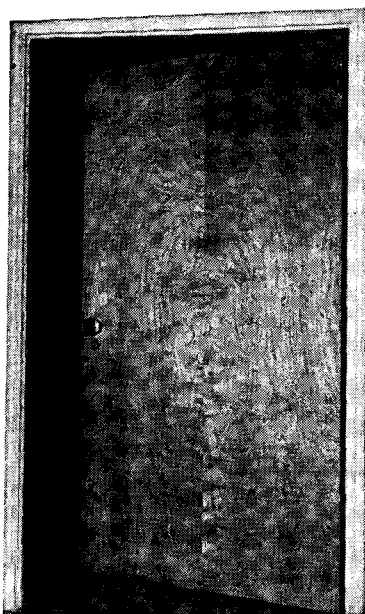
They must be fire resistant because today school officials and their architects recognize the need of providing substantially greater fire protection than is offered by the conventional lumber-core door.

They must be beautiful because the utmost in decorative qualities is now practicable without sacrifice of the safety factor.

They must be durable because — as you know so well — almost everything about a school building must be built to withstand abuse.

They must be light weight, easy to open and close because small children may be using them. School doors are in motion much of the time and, therefore, must be perfectly balanced and free from warpage.

You get all these desired qualities *and more* in the two Weldwood® doors described here. No other school doors on the market offer such a combination of features important to you.



No school can afford to be without the protection offered by this beautiful, inexpensive wood-faced fire door.

**THE WELDWOOD FIRE DOOR** carries the Underwriters' Label for all Class B openings. It has the incombustible Kaylo\* core with special construction and fireproofed edge banding. Standard flush faces are handsome birch veneers. A wide variety of other fine hardwood faces is available on special order. Combined with safety and beauty, Weldwood Fire Doors give you the maximum in durability, dimensional stability and resistance to vermin and decay. And you get all this in a light, easily-manageable door. For example, the 3' x 7' size weighs only 84 lbs.

**THE WELDWOOD STAY-STRATE DOOR** is similar to the Weldwood Fire Door but is without the fireproofed edge banding. This door does not have the Underwriters' Label, but the incombustible Kaylo core gives it a high degree of fire protection. It is recommended for use where a labeled door is not specified, but where fire resistance is a desirable extra advantage. It is offered in the same wide variety of beautiful hardwood facings.

\*Reg. Trademark, Owens-Illinois Glass Co.

Write for interesting, informative literature

United States Plywood Corporation carries the most complete line of flush doors on the market including the famous Weldwood Fire Doors, Weldwood Stay-Strate Doors, Weldwood Honeycomb Doors, Mengel Hollow-core Doors, Mengel and Algoma Lumber Core Doors, 1 3/8" and 1 3/4" with a variety of both foreign and domestic face veneers.



## WELDWOOD FLUSH DOORS

Manufactured and distributed by

**UNITED STATES PLYWOOD CORPORATION**

55 West 44th Street, New York 18, N. Y.

Branches in Principal Cities • Distributing Units in Chief Trading Areas

Dealers Everywhere

# Plan for Satisfaction!

## Specify the dependable new G-E Water Cooler, it's

### SATISFYING

Water stream is solid and properly angled to provide a full, satisfying drink. No squirt, no splash.

### HANDSOME

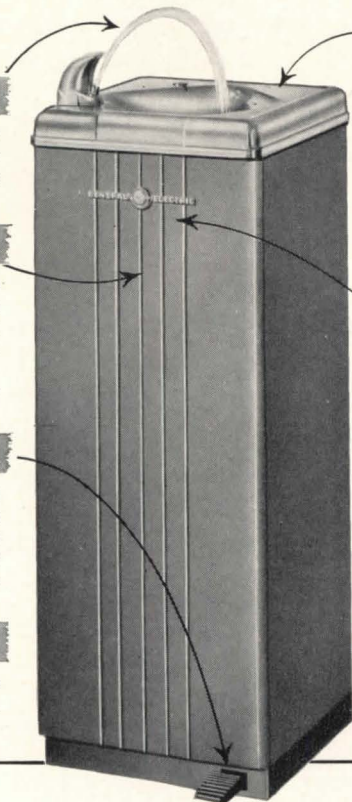
The all-new styling with its sleek lines, the cool-green wrinkle finish, the soft lustre of a stainless-steel or the gleaming white of a porcelain top—blend ideally with modern surroundings.

### CONVENIENT

The sure-tread foot pedal control permits drinking when hands are full. Easily operated by the daintiest foot, yet sturdy enough to withstand abuse.

### ECONOMICAL

Average cost of operating is less than three cents a day.



### SANITARY

Top is scientifically designed to avoid splash—no corners or crevices to catch dirt. Sturdy, streamlined bubbler guard prevents lips from touching nozzle.

### DEPENDABLE

The hermetically sealed refrigerant system is produced with the engineering skill and design experience that come from more than 25 years in refrigeration research and manufacture.

### COMPACT—EASILY INSTALLED

A G-E Water Cooler takes less floor space than an ordinary office chair. May be readily located at spots most convenient for use.



# Water Coolers

### WATER AT WORK...CAN SAVE YOU MONEY!

Cool, convenient, sanitary drinking water makes your payroll dollar worth more by improving employee efficiency and morale... increases sales by building customer goodwill.



**ASK** your local G-E dealer for advice on your water cooler requirements. Look for his name in the classified pages of your telephone book.

General Electric Company, Section AR-5  
Air Conditioning Department, Bloomfield, New Jersey

Please send without obligation to me the fully illustrated book, "Water at Work."

NAME.....  
COMPANY.....  
ADDRESS.....  
CITY..... ZONE..... STATE.....

**FREE!**  
24-PAGE BOOK!

You can put your confidence in—

**GENERAL ELECTRIC**

## THE RECORD REPORTS

### WASHINGTON

(Continued from page 216)

• Federal Civil Defense Administration has received the recommendations it requested from the Associated General Contractors of America, Inc. These deal with the contribution that contractors can make to the defense effort in clearing shattered areas and restoring essential facilities after an enemy attack. A.G.C. spent more than a year studying these problems in cooperation with civil defense authorities. The recommendations will be incorporated in manuals being prepared by the FCDA. These manuals will guide state and local officials in planning for use of construction industry facilities in their civil defense programs.

• The Lustron Corp. loan by the Reconstruction Finance Corp. figured prominently in the interim report issued by the Senate Banking committee. This report climaxed more than a year's study of RFC operations by the Fulbright subcommittee and was given the rather fiery title, "Favoritism and Influence." While charging no violations of law, the subcommittee report named names and held that RFC officials had been unduly influenced in making the \$37.5 million loans to Lustron, manufacturer of prefabricated steel housing at Columbus, Ohio. A separate controversy raged over whether the idle facilities, in foreclosure by the government, would be used to produce airplanes or housing for defense.

### ON THE CALENDAR

*Current through Mar. 25:* Abstract Painting and Art in America, a retrospective exhibition — Museum of Modern Art, 11 W. 53rd St., New York City.

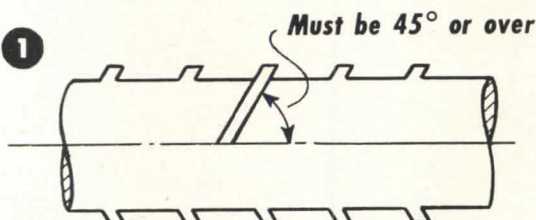
*Current throughout 1951:* 1951 Good Design, second in the series of well-designed home furnishings exhibitions, sponsored by the Museum of Modern Art and the Merchandise Mart — The Merchandise Mart, Chicago.

(Continued on page 220)

# Reinforcing Bars HAVE TO BE GOOD... to meet ASTM A305

## ASTM SPECIFICATION A305-50T REQUIRES

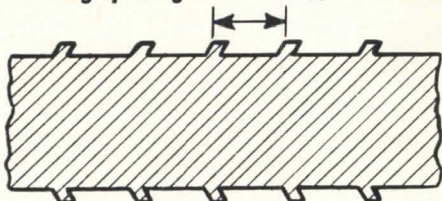
1



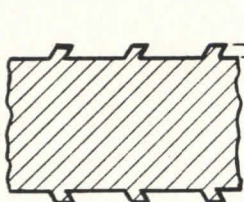
From 45° to 70°, the lugs must reverse in direction on each side or on opposite sides

2

Lug spacing not over  $\frac{1}{10}$  bar diameter



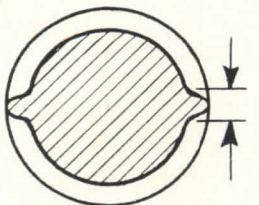
3



Lug height must be at least 4 to 5% of nominal bar diameter

4

Gap or longitudinal rib width must not exceed  $12\frac{1}{2}\%$  of nominal perimeter of bar



When you specify reinforcing bars that meet ASTM A305-50T, you *know* these bars will have high bonding strength. For Specification A305 sets up rigid standards as to the direction, height, and spacing of lugs on the bar. Improved bars that can meet these specifications provide high bonding strength that reduces the size of tension cracks and often eliminates the need for hook anchorage.

Some codes already permit greater bonding stresses and elimination of hook anchorage when ASTM A305 bars are used. Similar changes in the ACI Building Code are awaiting final approval.

You can be assured that any bar that meets ASTM Specification A305 will make possible new economies in design, and sounder, more permanent structures. Your reinforcing bar fabricator is now offering bars that meet these standards. When indicating the size, use the new number designation. A new bar chart, covering these designations, will be sent upon request.

Write for  
**FREE NEW  
BAR CARD**

CONCRETE REINFORCING STEEL INSTITUTE 38 SOUTH DEARBORN STREET, CHICAGO 3, ILLINOIS					
STANDARD A305 REINFORCING BARS					
BAR SIZES OLD DESIGNATION	NEW DESIGNATION	WEIGHT PER FOOT	NOMINAL DIMENSIONS - ROUND SECTIONS		
			DIAMETER INCHES	CROSS-SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
2	2	.167	.250	.05	.786
3	3	.376	.375	.11	1.178
4	4	.668	.500	.20	1.571
5	5	1.043	.625	.31	1.963
6	6	1.502	.750	.44	2.356
7	7	2.044	.875	.60	2.749
8	8	2.670	1.000	.79	3.142
9	9	3.400	1.128	1.00	3.544
10	10	4.303	1.270	1.27	3.990
11	11	5.313	1.410	1.56	4.430

CONCRETE REINFORCING STEEL INSTITUTE • 38 S. Dearborn St., Chicago 3

# No wonder the big trend's to AMPLEX SWIVELITES



Swivelite Hood units in Mace Jones Furniture Store, Kansas City, Kansas, supplied by W. T. Foley Electrical Supply Co., Inc.; lighting layout by John Maultsby, Architect.



THE PLAIN FACT is that Amplex Swivelites give the most for your money. They're smartest-designed... and made of aluminum with a permanent satin finish.

Special air-flow ventilation reduces burn-outs. Their exclusive double-ball swivel gives instant, positive, fingertip control. And each basic unit of Amplex Swivelites is interchangeable with every other. Arranging new lighting effects is faster, easier, more economical.

For today's outstanding buy, send for the complete Amplex Swivelite story!

Simply write Amplex Corporation, Dept. D-3,  
111 Water Street, Brooklyn 1, New York.

# AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlights and Floodlights, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

## THE RECORD REPORTS

(Continued from page 218)

Mar. 5-9: Spring Meeting and Committee Week, American Society for Testing Materials — Cincinnati.

Mar. 7-10: Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit.

Mar. 16-May 13: Art Students League Diamond Jubilee Exhibition of Painting and Sculpture — The Metropolitan Museum of Art, Fifth Ave. at 82nd St., New York City.

Mar. 19-23: Seventh Western Metal Congress and Exposition — Civic Auditorium, Oakland, Calif.

Mar. 25-Apr. 8: Tucson Festival of Arts — Tucson, Ariz.

Mar. 28-May 7: Exhibition of prize-winning designs from Lamp Competition — Museum of Modern Art, 11 W. 53rd St., New York City.

Apr. 2-Apr. 30: Architectural Exhibition — The Art Alliance, 251 S. 18th St., Philadelphia.

Apr. 24-26: Annual Meeting, American Wood Preservers' Association — Stevens Hotel, Chicago.

May 7-11: 1951 Annual Meeting and International Industry Show, Forest Products Research Society — Convention Hall, Philadelphia.

May 8-11: 83rd Annual Convention, American Institute of Architects — Edgewater Beach Hotel, Chicago.

May 11: Symposium on architectural acoustics at meeting of Acoustical Society of America — Washington, D. C.

May 20-24: Annual Convention, National Association of Building Owners and Managers — Rice Hotel, Houston, Tex.

May 30-June 2: British Architects Conference — Belfast, Ireland.

May 30-Sept. 9: World Transportation Fair — Santa Anita Park, Calif.

### OFFICE NOTES

#### Offices opened

- Edwin B. Crittenden, Architect, has opened an office in Anchorage, Alaska (P. O. Box 95) for the practice of architecture and the related fields of housing and planning.

- J. Frederick Larson, Architect, has opened an office in Reynolda, N. C. His

(Continued on page 222)

# Health authorities warn against danger of "up-and-down" heat!

**Anthracite heat is economical,  
healthier, safer, more comfortable  
—and automatic anthracite  
heat pays for itself  
in a few years.**



Every winter many families suffer discomfort, colds and other winter illnesses as a result of "up-and-down" heat from non-solid, so-called "modern" fuels. Here's what happens. The thermostat shuts off the flow of heat completely. The warm air rises to the ceiling. Cold areas and drafts are created in the lower part of the rooms!

Your clients don't get "up-and-down" heat with hard coal. Heat with modern fully automatic hard coal equipment is thermostatically controlled—but the fire is never completely "off."

Big savings! With modern automatic hard-coal equipment your clients get the convenience of automatic heating and, because they burn the cheaper sizes of hard coal, they save as much as \$50 to \$125 on their yearly fuel bills.

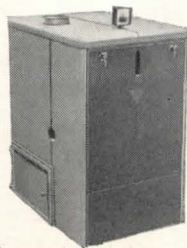
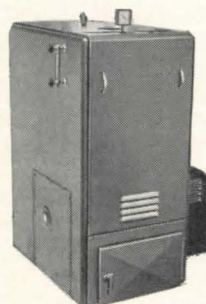
For full information on modern automatic hard-coal heating write Anthracite Institute, 101 Park Avenue, New York 17, N. Y.

**Your clients can save up to \$50 to \$125 a year on fuel  
with this automatic anthracite heating equipment.**



◀ **ANTHRAFLO** . . . A low-priced, efficient boiler-burner unit. Compact. Feeds self from fuel bin. Rugged, simple construction. Completely automatic, silent, clean. Provides year-round hot water. (Furnace-burner units for warm air systems also available.)

**MODERN HARD-COAL STOKERS** . . . specially designed complete boiler-burner units (such as Motor Stoker, Electric Furnaceman and others), offer high efficiency, are smaller in size and greater in economy of operation. Completely automatic from bin feed to ash removal. Stoker automatically feeds the coal and removes the ashes. Provides year-round hot water. (Furnace burner units for warm air systems also available)



◀ **ANTHRATUBE** . . . A complete boiler-burner unit with induced draft. Delivers maximum heat with hard coal. Compact. Completely automatic from coal bin to ash removal. Highly efficient combustion. Provides year-round hot water.



## ANTHRACITE INSTITUTE

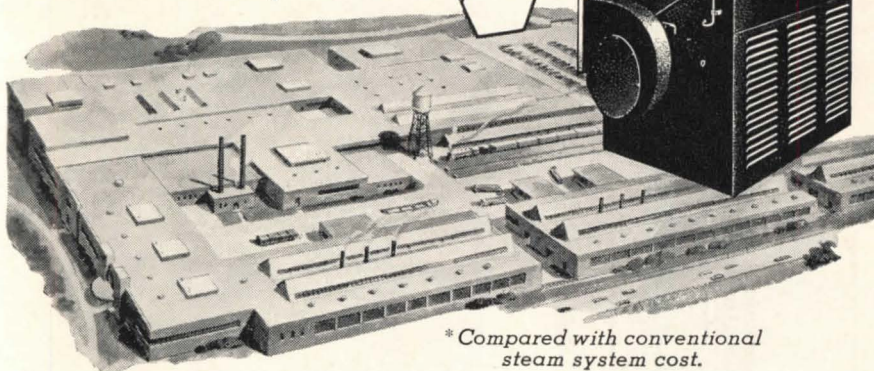
101 Park Avenue

New York 17, N. Y.

# DRAVO HEATERS

*Saved \$530,000\**

*in mammoth  
new auto plant*



\* Compared with conventional steam system cost.

Half a million is important money in anybody's language—and it gets more important when it's **SAVED** instead of spent.

That's just what happened when a leading automobile manufacturer recently built a mammoth new body plant, with over 600,000 sq. ft. of floor space, and with ceiling heights ranging up to 52-feet. Heat requirements, including fresh air tempering provisions, totalled 54,250,000 Btu. Lowest quoted price for a conventional steam boiler plant was \$860,000. **ACTUAL** cost of a complete Dravo *Counterflo* Heater installation of 53 units was \$330,000. These direct-fired warm-air heaters take care of all open-space heating requirements of the manufacturing area of the plant.

Bear in mind that these savings involved no compromise with heating effectiveness. The top-flight engineers responsible for selection knew how vital *comfort* is in keeping employes contented and promoting top output. They looked *first* for the finest in heating results . . . and *second* for economies. They found both profitably combined in Dravo Heaters.

Neither did this saving come from "cutting corners" in building the heater, but rather through the basic simplicity of method and equipment. Each of the oil-fired space heaters manufactures heat "on demand" to blanket its own assigned area with warmth. It also introduces fresh, tempered air into the building as needed. Modulating burner controls permit continuous operation and continuous air circulation. This minimizes temperature fluctuation, assures maximum comfort in all weathers, and conserves fuel—for when any section needs **LESS** heat, its unit burns **LESS** fuel. Units all have the Underwriters' Laboratories label. They can be converted from oil to gas, should the fuel situation make this desirable.

This spectacular saving has been duplicated on a lesser scale in thousands of smaller plants. If you are concerned with heating any new or old building, you owe it to yourself to find out how Dravo *Counterflo* Heaters are serving and saving for others . . . and how they can save both system costs and operating costs for **YOU**. Look in the yellow section of your phone book—or write us direct at Dravo Building, Pittsburgh 22, Pa., for Bulletin FH-523-68

# DRAVO

CORPORATION

Sales Representatives in Principal Cities

Mfd. and sold in Canada by Marine Industries, Ltd. Sorel, Quebec

Export Associates: Lynch, Wilde & Co., Washington 9, D. C.



## THE RECORD REPORTS

(Continued from page 220)

former address was 654 Madison Ave., New York 21, N. Y.

- Smith & Hegner, Architects, announce the opening of new offices at 1659 Grant St., Denver 5, Colo.

### New Firms, Firm Changes

- The firm of Gilroy and Eaton, Architects, 64 Wall St., Norwalk, Conn., has become Gilroy and Gaydosh, Architects. John H. Gaydosh, who practiced architecture in New York City for many years, is now a full partner. He has been with the firm since shortly after the death of Raymond Eaton more than a year ago.

- David E. Connor, Architect, and William H. Gravell, Consulting Engineer, have announced the formation of the new firm of Connor & Gravell, Architects & Engineers, with temporary offices at 262 S. 17th St., Philadelphia, Pa.

- Holabird & Root & Burgee, Architects & Engineers, of Chicago, have appointed Harold C. Wyatt as chief engineer. The appointment was said to mark the opening of a vastly broadened construction-engineering service by the firm. Specialized facilities for the design of process piping needed in the construction of manufacturing plants manufacturing chemicals, petroleum products, and other heavy industry products essential to the war effort have now been added to the firm's Mechanical Engineering Department. Mr. Wyatt formerly was assistant chief engineer for seven years in the early '20s with Holabird & Roche, the original office of the present firm, which was founded in 1882.

- George Fred Pelham II has joined the firm of Kelly & Gruzen, Architects and Engineers, of New York City.

- The partnership of Rinaudot & Mead, Architects, has been dissolved. Alfred M. Rinaudot, Architect, is continuing his practice at 7240 Wisconsin Ave., Bethesda 14, Md.

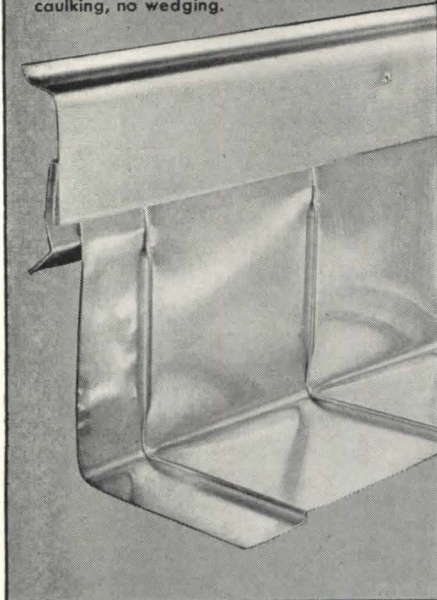
- Leonard A. Waasdorp announces that he has formed a partnership with Charles

(Continued on page 226)

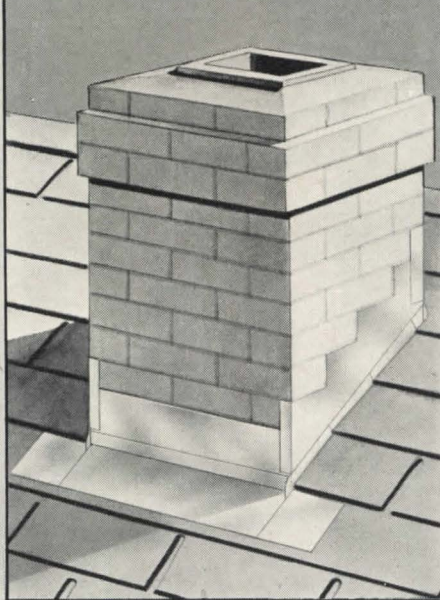


**Now, it makes more sense than ever to use...**

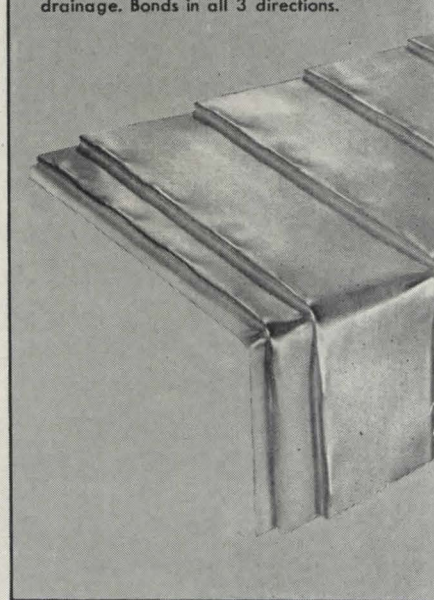
**FOR FLASHING SPANDREL BEAMS**—This new, tested technique, the Revere-Simplex Reglet System\*, offers substantial savings in cost on many jobs. Of the closed slot type, it needs no soldering, no fillers, no caulking, no wedging.



**FOR HOME FLASHING**—Around chimneys, in roof valleys, over windows and doors and for adjacent walls, there's nothing more lasting or more satisfactory to use than Revere Copper.



**FOR THRU-WALL FLASHING**—A new method of installation, the Revere-Keystone Interlocking Thru-Wall Flashing\*, provides lasting protection against seepage and leaks. Easily installed it insures positive drainage. Bonds in all 3 directions.



# COPPER

**WHERE IT COUNTS!**

● The use of Revere Copper in the vital spots in the construction of homes and commercial buildings has always made common sense. Now, with copper restricted for some uses and limited for others, it becomes even more important to use "Copper Where It Counts!"

One place where it counts most is in flashing. Revere Roll and Strip Copper for flashing is still available. Quantities, of course, must of necessity be limited. But, whether you are architect, builder, engineer or contractor, it will pay you to specify and use what copper you *can* get where it will do you and your clients the most good. That means in the vital spots where other materials can't stand the gaff.

Revere Copper is non-rusting, easy to work, endures for years and years and in most cases costs no more to install, than other short-lived materials. Also, the use of copper in the vital spots protects your reputation, results in a quality, trouble-free job.

So, to maintain your high standards, while metals remain short, use Revere Copper wherever you can. The Revere Technical Advisory Service will be glad to help in every way possible. You can avail yourself of this service through your Revere Distributor. Better get in touch with him right away.

\*Patented

**REVERE** 150<sup>th</sup> YEAR OF SERVICE TO AMERICA

**COPPER AND BRASS INCORPORATED**

Founded by Paul Revere in 1801  
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y. — Sales Offices in Principal Cities, Distributors Everywhere

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

# put 'em on the



1. This beautiful floor installation in the Colonial Ho  
Candy Shop, East Orange, New Jersey, sh

## ...with the 4-square features o

No other floor covering gives you such limitless creative opportunities. No wonder leading architects and designers everywhere are again turning to the proved advantages of Nairn Linoleum. Its wide range of colors and patterns harmonizes with any decorative scheme . . . offers complete flexibility for your designs and your clients' requirements.

From a practical standpoint, Nairn's service record speaks for itself! Specified again and again by the same customers, Nairn installations have given over 30 years of economic service. Sanitary, easy to clean, crevice-free Nairn Linoleum is foot-easy and quietizing. No other material gives you and your clients *more* value for your flooring dollars.

*For your specifications: Nairn Linoleum -  
Nairn Wall Linoleum - Nairn Asphalt Tile.  
Congoleum-Nairn Inc., Kearny, New Jersey*



# NAIRN LINOLEUM

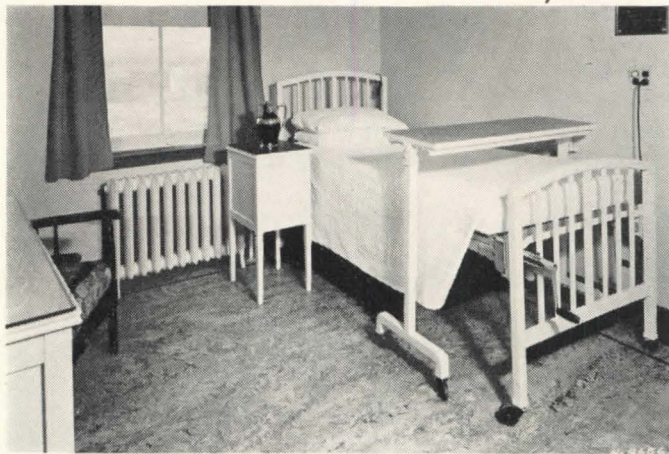
Trademark ©

©1950, Congoleum-Nairn

# right footing



... easily Nairn Linoleum follows the architect's design . . . creates a distinctively beautiful effect.



**2.** Nairn Linoleum makes this floor in the Hackensack General Hospital, Hackensack, New Jersey, quiet and foot-easy . . . satin-smooth surface eliminates dirt- and germ-catching crevices.



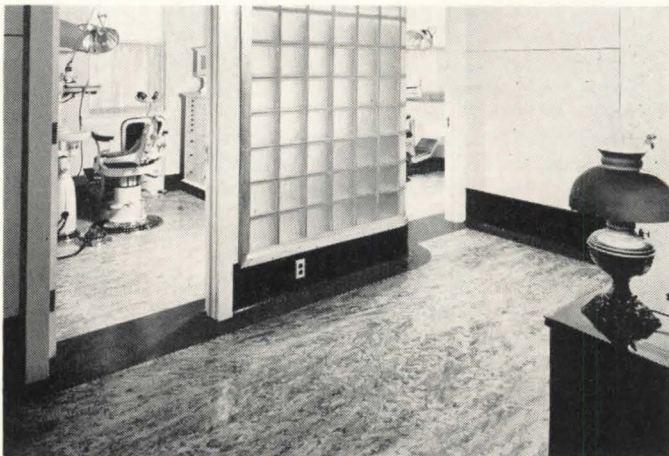
**3.** A corridor in the same hospital showing an installation of battleship linoleum now in use over thirty years! Proved long life where traffic is heavy . . . always clean and sanitary.

## Nairn Linoleum!



For FLOORS and WALLS

- 1. Long Life**
- 2. Enduring Beauty**
- 3. Easy Maintenance**
- 4. True Resilience**



**4.** An interior of the suite of Dr. J. D. Ross, Arlington, New Jersey, shows how Nairn Linoleum with one-piece cove base and border insures cleanliness, easy maintenance, enduring beauty.

## THE RECORD REPORTS

(Continued from page 222)

V. Northrup for the practice of general architecture. The firm will be known as Waasdorp and Northrup, successors to Kaelber and Waasdorp. Offices are at 311 Alexander St., Rochester 4, N. Y.

• Walter H. Wyeth announces that Harry J. Harman of Chicago has become associated with him for the practice of architecture, under the firm name

of Wyeth and Harman, Inc., Architects, 1602 Military St., Port Huron, Mich.

### New Addresses

The following new addresses have been announced:

Roy R. Burnham & Son, Consulting Engineers, 38 Chauncy St., Rm. 1413, Boston, Mass.

Benjamin F. Cook, Consulting Engineer, Land Bank Bldg., 15 W. Tenth St., Kansas City 6, Mo.

Culver Heaton, A.I.A., 259 S. Los Robles Ave., Pasadena 5, Calif.

Anton Johnson, Architect, 1154 N. Dearborn St., Chicago, Ill.

Paul Hayden Kirk, A.I.A., 615 Lakeview Blvd., Seattle 2, Wash.

Knoll Associates, 601 Madison Ave., New York 22, N. Y.

Skidmore, Owings & Merrill, Architects and Engineers, 575 Madison Ave., New York 22, N. Y.

Frank E. Wehrle, Architect, 821 Brighton Road N. S., Pittsburgh, Pa.



## NEW SAFETY-DESIGN FUME HOOD for handling Radioactive Isotopes

*Design approved for use by Oak Ridge Institute of Nuclear Studies*

- Air foils at hood face allow air to enter without turbulences.
- Low Velocity . . . operates with less than half the CFM of air needed on a conventional type hood.
- Air current directed across working surfaces removes heavy gases.
- Entire interior of hood is stainless steel for easy decontamination.
- Steel grating supports working surface, giving load carrying capacity up to 400 lbs. per sq. ft.
- Equipped with blower switch, warning light, and "over load" warning bell.
- All service controls outside—no reaching in.
- Outside measurements: Height 9 ft.; width 6 ft.; depth 3 ft. 6 in. Five inch Stainless Steel Sink welded into top.

*Precision built by Kewaunee Mfg. Co., one of America's oldest and largest makers of fine Laboratory Equipment, including all types of Stainless Steel Equipment for Radioactive Laboratories.*

We also manufacture Laboratory Tables,  
Sinks, etc., for all types of Laboratories  
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## ELECTIONS APPOINTMENTS

• Joseph D. Murphy, dean of the School of Architecture at Washington University, has been elected president of the St. Louis Chapter of the American Institute of Architects. Other new officers are: Hari Von Hoefen, vice president; Fred Sternberg, secretary; and Frederick Dunn, treasurer.

• Jack R. Lewis has been named president of the San Diego Chapter of the American Institute of Architects for 1951. Other officers are: Louis A. Dean, vice president; Donald Campbell, secretary; Victor L. Wulff, treasurer; and George C. Hatch, director. Directors continuing in office are C. J. Paderewski and Walter C. See.

• President Ralph T. Walker of the American Institute of Architects is one of the new vice presidents of the National Institute of Arts and Letters. Franklin C. Watkins, painter, has also been named a vice president, and Marc Connelly, playwright, is the new secretary. Douglas Moore continues as president; John Taylor Arms, Katherine Ann Porter, Virgil Thomson and Glenway Wescott as vice presidents; and Philip James as treasurer.

• William Gillett, vice president of the Detroit Steel Products Company, Detroit, has been appointed co-chairman of a newly-formed joint committee of the Producers' Council and the National Association of Home Builders. The new committee will analyze problems, arising

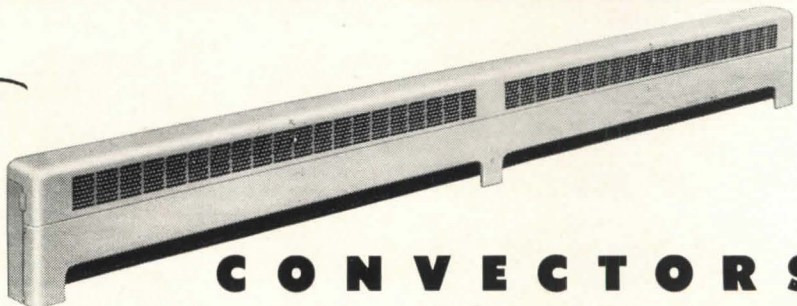
(Continued on page 228)

**HOW TO ELIMINATE  
PICTURE WINDOW DRAFTS!**



*Specify*  
**YOUNG**

**LOW-LEVEL**



**CONVECTORS**

Architects and heating contractors find the Young low-level convector-radiator line ideal for picture window installations. The streamlined, compact cabinets are just 12" high—stand inconspicuously beneath the sill, or hide away in wall recesses. The generous selection of sizes range from 20" to 112" in length, and 4", 6", and 8" in depth—meet any hot water or two-pipe steam system requirement.

What's more, you can rely upon Young ratings. These "FL" models, like the standard line, have

been tested and rated in accordance with Commercial Standard CS 140-47, as developed cooperatively by the trade and national Bureau of Standards, U. S. Department of Commerce.

Young low-level models offer many distinctive design features to make specification and installation most satisfactory. The coupon, below, will rush you a copy of our new Catalog No. 4150 just off the press. You'll find it filled with helpful information.

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Heating, Cooling, Air  
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RACINE, WISCONSIN

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ing from the defense emergency, of mutual interest to building products manufacturers and home builders. The group is expected to study future availability of critical and non-critical materials and develop recommendations designed to permit the maximum amount of residential building with the available supply of materials and equipment.

The Council has appointed the fol-

lowing manufacturers to the committee: A. C. Bredahl, Better Homes Dept., Westinghouse Electric Corp.; J. W. Brown, National Gypsum Co.; D. D. Couch, American Radiator & Standard Sanitary Corp.; George M. Curtis, Curtis Companies Inc.; John H. McCray, The Cambridge Tile Manufacturing Co.; and George Schuchman, Libbey-Owens-Ford Glass Co.

• Officers for 1951-52 of the American Society of Landscape Architects were elected at that organization's annual meeting January 28-30 in St. Louis. They are: Lawrence G. Linnard, Maumee, Ohio, and Detroit, Mich. — president; Fred Barlow Jr., Los Angeles, Calif. — vice president; William G. Carnes, Washington, D. C. — secretary; and Norman T. Newton, Cambridge, Mass. — treasurer.

• Lauren E. Seeley, dean of the College of Technology and director of the Engineering Experiment Station, University of New Hampshire, Durham, N. H., has been elected 1951 president of the American Society of Heating and Ventilating Engineers. Dean Seeley succeeds Lester T. Avery of Cleveland.

Other officers elected are: Ernest Szekely, president of the Bayley Blower Co., Milwaukee, Wis. — first vice president; Reg F. Taylor, consulting engineer, Houston, Tex. — second vice president; Howard E. Sproull, division sales manager, American Blower Corp., Cincinnati — treasurer.

• Philip W. Kniskern, president of the First Mortgage Corp. of Philadelphia and chairman of the board of the First Federal Savings and Loan Association of New York, has been named as the 1951 head of the Urban Land Institute. Warren L. Morris, Cleveland, and F. Poche Waguespack, New Orleans, were named by the trustees as vice presidents. Seward H. Mott, Washington, D. C., is the new secretary, and L. D. McKendry, Chicago, has been reappointed treasurer.

• The entire 1950 panel of officers of the American Designers' Institute has been reelected by the national board to serve for 1951. Officers are: Paul McAllister, Chicago — president; Frank Giannoto, New York — first vice president; Robert C. Williams, Chicago — secretary; and Dan Jensen, Philadelphia — treasurer. To fill the newly-created office of assistant secretary, Bruce Kamp of Philadelphia has been elected.

The Institute has also announced that it has voted to change its name from the American Designers' Institute to Industrial Designers' Institute, "in order to better indicate the scope of its members' activities."

• Alfred T. Glassett has been elected president of the W. J. Barney Corp.,

*(Continued on page 232)*

**Follansbee Seamless Terne Metal Roofing**

for long-lasting  
trouble-free  
roofs



HISTORIC VIRGINIA MANSION  
Roofed with Terne Metal  
over 25 years



REPLICA OF MEDIEVAL ENGLISH HOUSE  
Design of Terne Metal Roof  
conforms to architectural  
treatment



OLD NEW ENGLAND HOUSE  
Terne Metal Roof installed  
almost 100 years ago

You can be sure your client will have maximum roofing protection and economical metal roof construction when you specify Follansbee Terne Metal Roofing.

Follansbee Terne Metal Roofing is really lifetime roofing—many installations made over a half century ago are still in service. This is just one of the advantages of terne metal roofing; others you will want to consider are

- design possibilities
- fire-resistant construction
- roof and trim color combinations

Here's a flexible metal roofing which you can specify with confidence because its record of permanence is well-known. Detailed information on design and construction methods will be sent you promptly—just address Terne Metal Department, Follansbee Steel Corporation.

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COLD ROLLED STRIP • ELECTRICAL SHEETS • POLISHED BLUE SHEETS • SEAMLESS TERNE ROLL ROOFING

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Pittsburgh, Pa. • Rochester, N. Y. • Fairfield, Conn.

**How long would it take  
your draftsmen to letter  
these notes by hand?**

GENERAL NOTES

**REMOVAL OF EXISTING BRIDGE:**- EXISTING SUPERSTRUCTURES SHALL BE REMOVED AND PILED AT THE SITE FOR DISPOSAL BY THE STATE.  
EXISTING STONE ABUTMENTS SHALL BE REMOVED TO THE ELEVATIONS SHOWN ON THE PLANS. EXISTING STONE PIERS AND TIMBER PILE BENT SHALL BE REMOVED TO STREAM BED. THE MATERIAL REMOVED SHALL BE PILED AT THE SITE FOR DISPOSAL BY THE STATE.

**WELDING:**- ALL WELDING SHALL BE CLASS "A".

**PILING:**- PILING SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 20 TONS. ALL PILES SHALL HAVE STEEL POINTS. MINIMUM PILE PENETRATION SHALL BE 20'0" BELOW BOTTOM OF FOOTING.

**VIBRATION:**- ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.

**EXPOSED EDGES:**- CHAMFER ALL EXPOSED EDGES OF CONCRETE  $\frac{3}{4}$ " UNLESS OTHERWISE DETAILED.

**RE-USED STEEL** FOR TRUSS SHALL BE HAULED BY THE CONTRACTOR FROM MCKINLEY AVE. GARAGE OF DEPT. OF HIGHWAYS AT COLUMBUS (WHERE IT WILL BE STORED AFTER COMPLETION OF ITS USE AT BR.NO,MA-40-161 OVER BIG DARBY CREEK, S.H.1, SEC. A.J, MADISON COUNTY) AND SHALL BE ERRECTED AT THIS COSHOCTON COUNTY SITE, OR THE CONTRACTOR MAY BE REQUIRED TO HAUL THIS STEEL FROM THE BIG DARBY SITE TO THE COSHOCTON CO. SITE. THE BID PRICE FOR "HAULING RE-USED STRUCTURAL STEEL" SHALL BE CONSIDERED AS APPLYING TO HAULING FROM EITHER OF THESE SITES AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL CONSIST OF HAULING AND UNLOADING IN CASE OF EITHER SITE AND ALSO LOADING IN CASE OF THE MCKINLEY AVE. SITE: IN CASE OF HAULING FROM THE BIG DARBY SITE THE LOADING SHALL BE DONE BY THE BIG DARBY CONTRACTOR UNDER HIS PRESENT CONTRACT AND THE CONTRACTOR FOR THE COSHOCTON CO. PROJECT SHALL HAVE ADEQUATE VEHICLES READY AT THE BIG DARBY SITE WHEN THE STEEL IS READY FOR LOADING.

**PAINTING:**- PAINT FOR SHOP COAT ON NEW STEEL AND PAINT REQUIRED FOR SPOT PAINTING ON RE-USED STRUCTURAL STEEL SHALL MEET THE PROVISIONS OF SEC. M-9.20 OR SEC. M-9.21. FIELD PAINT FOR BOTH THE NEW AND REERECTED STRUCTURAL STEEL SHALL BE TWO COATS OF EITHER ALUMINUM PAINT, SEC.M-9.12 OR WHITE PAINT, SEC.M-9.6, TINTED TO MATCH THE COLOR OF THE CONCRETE.

**It took less than 5 minutes with  
the UNDERWOOD ELLIOTT FISHER  
ELECTRIC LETTERING MACHINE.**

*and Economy...*

# ELECTRIC LETTERING MACHINE

**Check These Outstanding Advantages:**

**Electric Keyboard** . . . a standard electric keyboard . . . fast, simple and easy to operate . . . many times faster than hand methods.

**Sharp and Clear Impressions** . . . a Special Blue Print Ribbon plus Dual Stroke Control of the electrically operated type bars assure proper density of every type impression to provide sharp and clear reproductions.

**Flat Writing Platen** . . . flat as a drawing board . . . accommodates small or large drawings with equal facility . . . provides unlimited

flexibility for making corrections or revisions without removing the drawing from the machine.

**Complete Visibility** . . . approximately 396 square inches of any large drawing or tracing may be clamped in lettering position on the platen quickly and easily. This extra area is completely visible to the operator for lettering at will.

**Pin-Point Accuracy**...lettering can be positioned with pin-point accuracy anywhere on a drawing quickly and easily . . . a notched rifle-sight line-indicator tells the operator exactly where a type will print.

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City..... Zone..... State .....

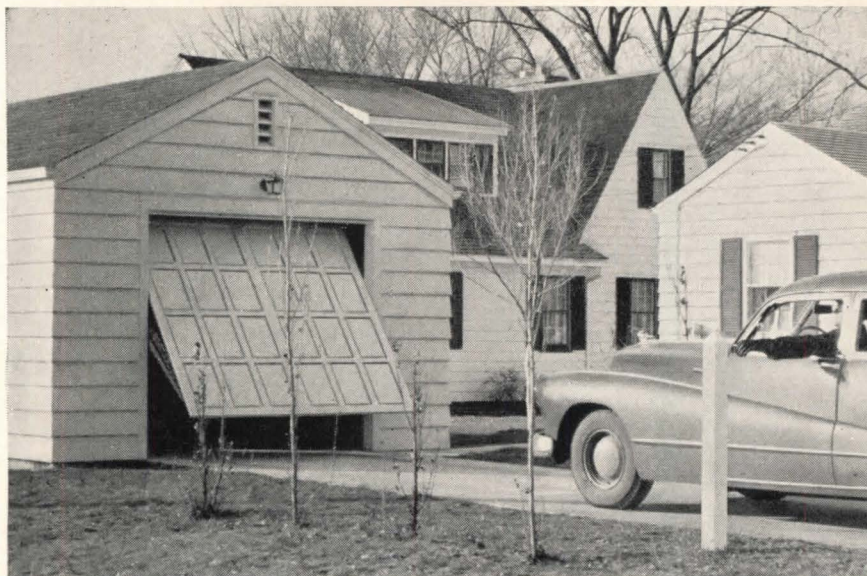


AR-3-51

# "Best operators in the business!"

## THE RECORD REPORTS

(Continued from page 228)



## RICHARDS-WILCOX AuT-o-DoR®

Electric Operators

open and close garage doors automatically

Here you see the perfect answer for every home-owner who wants garage doors that open and close automatically—the R-W No. 1251 AuT-o-DoR Electric Operator, especially designed for opening and closing sectional or one-piece type residential overhead garage doors.

**Easy to Install**—R-W No. 1251 Operators come completely assembled in a single carton, ready to install and hook to AC current. Especially recommended for R-W 999 Garage Doors.

**Easy to Service**—Long life self-lubricating oilite bearings are used throughout. Roller chain is completely enclosed. Tension of chain is easily adjusted. V-belt drive has automatic adjustment. No special tools required to service any parts in this operator.

**Choice of Three Controls**—Three different types of controls are available, as shown above. Each type functions smoothly and efficiently. Send for catalog A-87 with detailed information about R-W No. 1251 AuT-o-DoR Electric Operators—write our nearest office today.

1880-1951



OVER  
71 YEARS

Industrial Construction, New York City. Mr. Glassett, who has been the company's executive vice president, succeeds William Joshua Barney. Mr. Barney has been president of the company since its founding in 1917 and now becomes chairman of the board of the company.

Other promotions announced were those of William Joshua Barney Jr. to be executive vice president and Frederick L. Conway to be a vice president. Re-elected to their positions as vice presidents were James J. Lindon and Andrew V. Bekay.

• J. F. Pritchard, president of J. F. Pritchard & Co. of Kansas City, Mo., has been elected president of the National Constructors Association, an organization composed of engineers and builders of chemical plants, steel mills and petroleum refineries.

J. J. O'Donnell, manager of personnel and labor relations of the Lummus Co., New York, was chosen vice president of the Association. C. B. Bronson was re-elected full-time secretary-treasurer.

New members of the Executive Committee include E. D. Hoekstra, labor relations manager, The H. K. Ferguson Co., Cleveland; W. Earl Dunn, executive vice president, Fluor Co., Los Angeles; and J. M. Kelley, vice president of the Rust Engineering Co., Pittsburgh.

• E. P. Mellon II, chairman of the board of the Mellon-Stuart Co., a Pennsylvania corporation of general contractors, recently announced the election of Donald C. Peters as president of the company. Mr. Peters is a civil engineering graduate of Marquette University.

### AT THE COLLEGES

*Prof. William McLeish Dunbar,  
Architecture Head at Miami U.*

Prof. William McLeish Dunbar, head of the Department of Architecture at Miami University, Oxford, Ohio, died February 3 after a long illness, at the home of his brother, Frank Dunbar, at Coconut Grove, Fla. His age was 55.

(Continued on page 234)

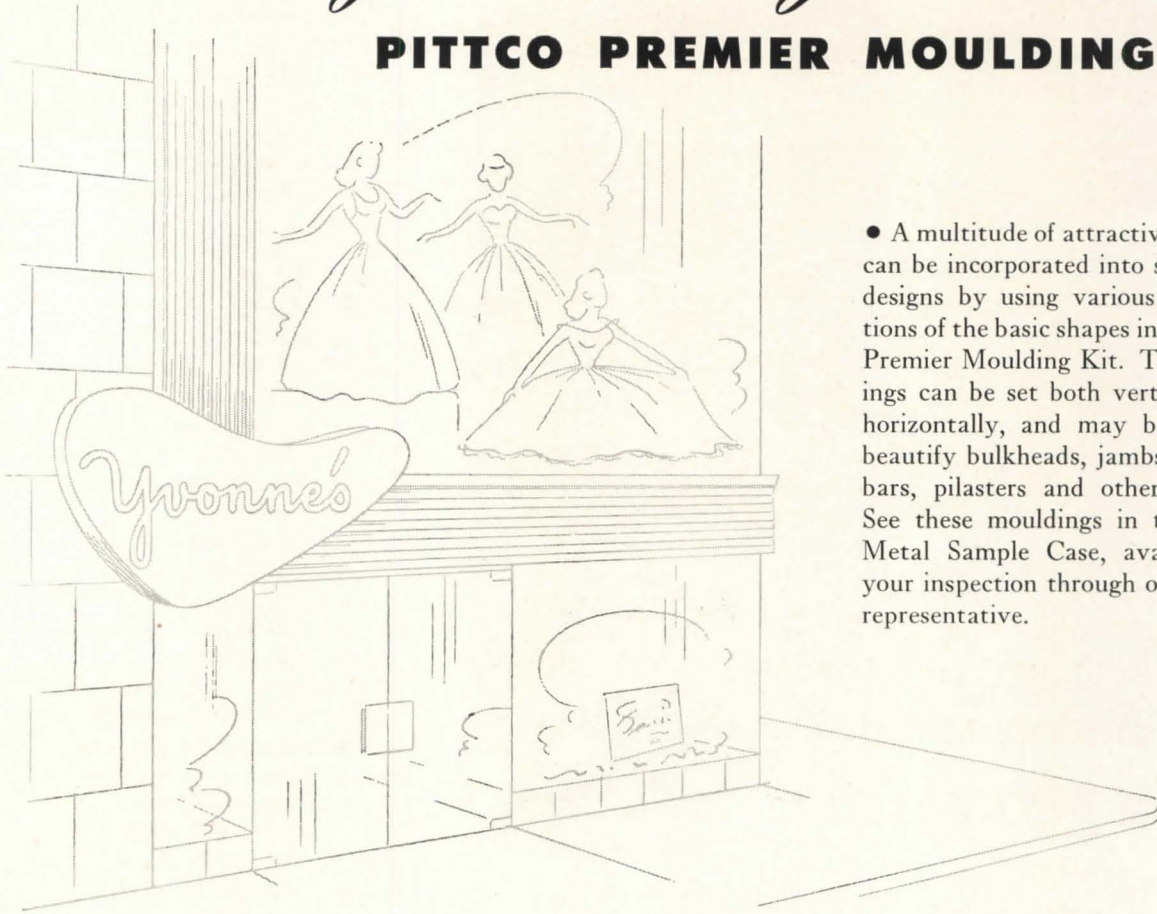
## Richards-Wilcox Mfg. Co.

"A HANGER FOR ANY DOOR THAT SLIDES"  
AURORA, ILLINOIS, U.S.A. Branches in all principal cities

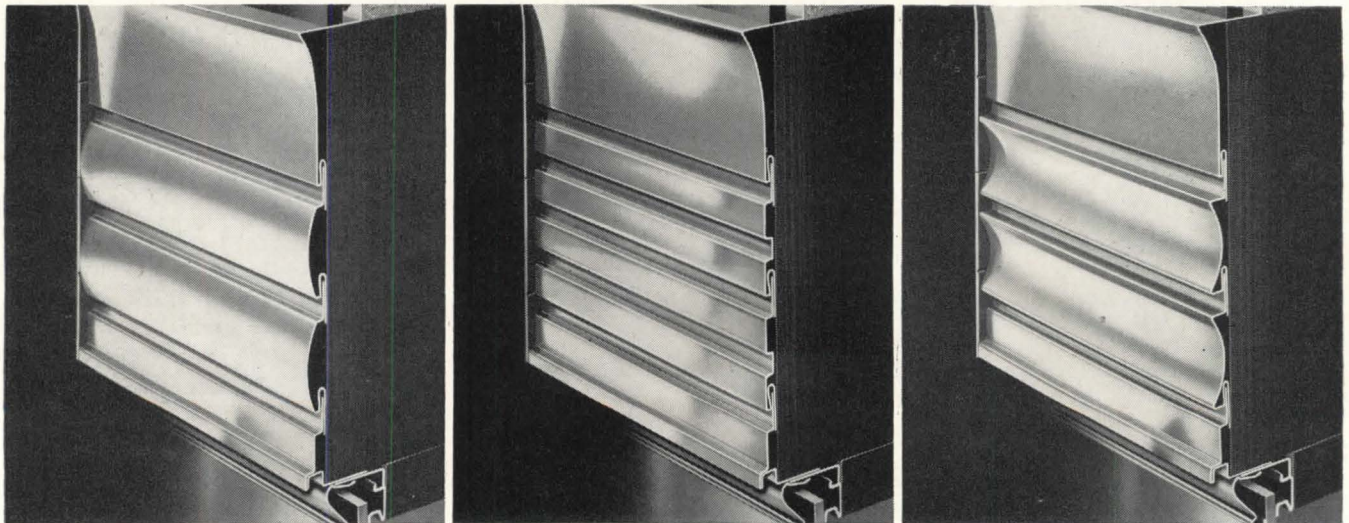
SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT  
INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS  
ELEVATOR DOOR OPERATING EQUIPMENT



# Variety in Design WITH THE **PITTCO PREMIER MOULDING KIT**



• A multitude of attractive patterns can be incorporated into store front designs by using various combinations of the basic shapes in the Pittco Premier Moulding Kit. The mouldings can be set both vertically and horizontally, and may be used to beautify bulkheads, jambs, transom bars, pilasters and other surfaces. See these mouldings in the Pittco Metal Sample Case, available for your inspection through our nearest representative.



## PITTCO STORE FRONT METAL

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

**PITTSBURGH PLATE GLASS COMPANY**

(Continued from page 232)



HIGH BAY



DOME



GLASS ALZAK

**FOR FACTORY USE and ABUSE**

**GUTH AAA INDUSTRIAL REFLECTORS**

made of **ALZAK** Aluminum, the permanent surface that, properly cleaned, maintains initial high efficiency.

**RESISTS** ▶ heat and abrasion, acid fumes, salt spray, smoke and soot  
**WILL NOT** ▶ chip, break, peel, rust, corrode, tarnish, check

Even dropping the reflector will not damage ALZAK finish; small dents can easily be straightened out.

As the first step toward better light that stays bright, learn the complete details from our Catalog 890-J. It's yours for the asking.



**LIGHTING**

THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

*Leaders in Lighting since 1902*

Professor Dunbar was born in Cleveland, Ohio, and was a graduate of Cornell University. He served as an ensign in the Navy in the first World War, and after his discharge practiced architecture in Cleveland for several years before returning to Cornell as a professor in the College of Architecture. He was later chosen by Scripps College, Pomona, Calif., to establish its new Department of Architecture.

Professor Dunbar left Scripps to become dean of the Department of Fine Arts at the University of New Mexico, a position he held until World War II, when he returned to the Navy to become hospital architect in the Bureau of Yards and Docks.

At the end of the war he became head of the Department of Architecture at Miami University at Oxford, a post he held until his death.

Professor Dunbar, whose articles had been published in *The American Architect*, *ARCHITECTURAL RECORD*, *Modern Hospital*, *House Beautiful* and *House and Garden*, among others, was a member of the American Institute of Architects, the Archaeological Society of America, the Society of Architectural Historians and many other organizations.

**Regional Research Institute Is Established at Michigan**

As part of the Phoenix Project for research in peacetime use of atomic energy, the University of Michigan is establishing an Institute for Regional Research.

The Institute will be a focal point for all of the University of Michigan's research and educational resources that can be brought to bear on its purposes. The School of Natural Resources, the College of Architecture and Design and the School of Business Administration will be especially involved, but the Institute will also have collaboration from the College of Engineering, the Law School, the School of Public Health and such departments as Economics, Geography, Geology, Political Science and Sociology.

A closely coordinated center for all phases of atomic-age research, the project enlists the talents and efforts of

(Continued on page 238)

# Recommended and Not Recommended uses

RESIDENTIAL USES							
KITCHENS	BATHROOMS	BEDROOMS	NURSERIES	LIVING ROOMS	FOYERS	BASEMENT ROOMS	
R	R	R	R	R	R	R	R can be installed below grade over concrete in direct contact with the earth (see diagram)
COMMERCIAL USES							
OFFICE WORKING AREAS	PRIVATE OFFICES	HOSPITAL CORRIDORS	SCHOOLS & PUBLIC BUILDINGS	LIBRARIES	STORES	RESTAURANTS	FACTORIES
R	R	R	R	R	R	R <small>*See Footnote on use of SPECIAL KENTILE in certain areas</small>	R <small>*See footnote on use of SPECIAL KENTILE in certain areas</small>
RESIDENTIAL USES							
KITCHENS	BATHROOMS	BEDROOMS	NURSERIES	LIVING ROOMS	FOYERS	BASEMENT ROOMS	
NR	R	R	R	R	NR	NR	
COMMERCIAL USES							
OFFICE WORKING AREAS	PRIVATE OFFICES	HOSP. WARDS & CORRIDORS	INNER ROOMS OF PUB. BLDGS.	LIBRARIES	STORES	RESTAURANTS	FACTORIES
R	R	R	R	R	NR	NR	NR
RESIDENTIAL USES							
KITCHENS	BATHROOMS	BEDROOMS	NURSERIES	LIVING ROOMS	FOYERS	BASEMENT ROOMS	
R	R	R	R	R	R	R	R can be installed below grade over concrete in direct contact with the earth if waterproofing membrane is used (see diagram)
COMMERCIAL USES							
OFFICE WORKING AREAS	PRIVATE OFFICES	HOSP. WARDS & CORRIDORS	SCHOOLS & PUB. BLDGS.	LIBRARIES	STORES	RESTAURANTS	FACTORIES
R	R	R	R	R	R	R <small>not in or near kitchen areas</small>	NR

\*Standard Kentile is not recommended where floors are constantly exposed to the deteriorating effects of industrial or cooking greases and oils. SPECIAL KENTILE resists oils, greases, alcohols, alkalis and most acid solutions and is recommended for areas such as:

- industrial plants • laboratories • machine shops • food preparation areas • cafeterias and restaurants

## SPECIAL GREASE-PROOF KENTILE

SPECIAL KENTILE can be installed over any smooth floor surface just like standard KENTILE...even over concrete in direct contact with the earth...use it in basement locker rooms, rest rooms and all rooms where greases and oils are tracked-in underfoot or on work clothing.

more than 400 outstanding physical, medical and social scientists, who, working separately but pooling their findings, "will make a united attack on the problem of how to live with the atom."

There will be four main lines of attack, which are summarized as follows: 1. Man and His Surroundings; 2. Man as an Individual; 3. Man and His Products; 4. Man in Society.

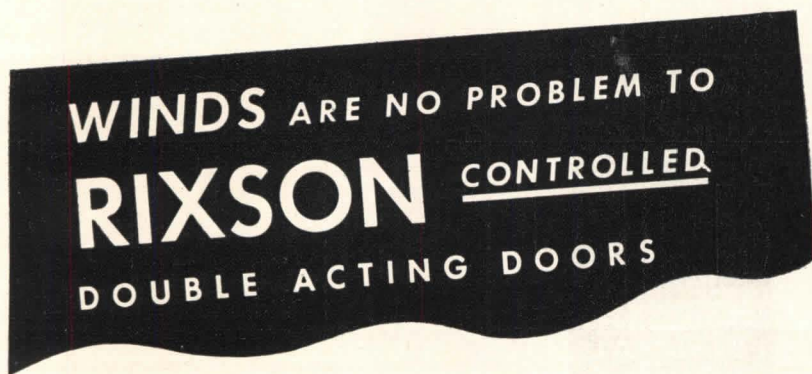
Architects will be mainly concerned with the third of these approaches. Their part will be to join with engineers, biologists, bacteriologists, biochemists and bio-physicists to "apply the 'raw material' of scientific knowledge to the task of developing new industrial techniques and products. Results of their labors will be translated into higher living standards here and abroad."

First major undertaking of the Institute will be an analytical study of the objectives and techniques of regional planning for the effective use of natural resources and the wise development of communities.

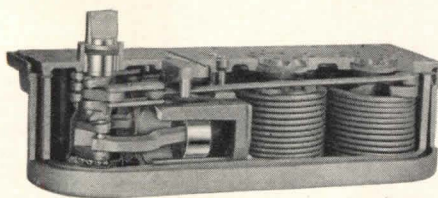
Financing for the project is being sought from outside the university's usual sources, and it is hoped there will be continuing support from corporations, labor organizations, trade associations and foundations.

The project has the endorsement of the U. S. Atomic Energy Commission in these words of Chairman Gordon Dean: "The Atomic Energy Commission salutes the Phoenix Project of the University of Michigan and wishes that it may flourish. This is particularly true because the spirit in which it was conceived and is being worked out is the spirit of free, independent inquiry."

Further details are available from: Michigan Memorial — Phoenix Project, 4545 Admin. Bldg., University of Michigan, Ann Arbor, Mich.



Separate IN and OUT Adjustments  
TWO CONTROLS IN ONE



One spring and one hydraulic check controls in-swing

Another spring and hydraulic check controls outswing



Double acting entrance doors, particularly, need RIXSON . . . especially where strong wind conditions prevail. When the door swings out, it opens against the wind and closes with the wind . . . thus a light spring power is needed and a strong checking resistance. When the door swings in, it opens with the wind and closes against it . . . thus a strong spring power is needed and a light checking resistance.

RIXSON Double Acting Checking Floor Hinges are really two complete door controls within one case . . . making possible a *balanced adjustment* under varying wind conditions . . . so that the door always comes to a quiet stop at closed position, without flapping.

*Our engineers will gladly help you on special problems*

THE OSCAR C. RIXSON COMPANY

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*Illinois Opens Rolls for Architects and Engineers*

Open-Competitive examinations for architectural aide, architectural draftsman I through IV, and Civil Engineer I through V, for employment with the state of Illinois, have been announced by the Illinois State Civil Service Commission. Final date to apply is March 23.

State residence is not necessary for architectural aide and architectural draftsman I or Civil Engineer I and II.

Desirable qualifications for architectural aide include college graduation with a major in architecture or structural engineering. Experience in drafting may be substituted year for year for four years of college.

Architectural Draftsmen I through IV should be college graduates with progressive amounts of responsible experience.

Civil engineers should be college graduates with major courses in civil engineering, plus progressive amounts of responsible experience. Experience may be substituted for the college training.

Further information and application forms may be obtained from the Illinois Civil Service Commission, Armory Bldg., Springfield, Ill.

(Continued on page 240)

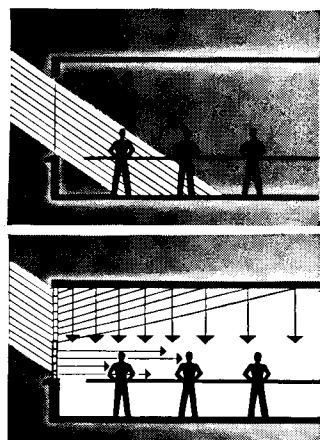


Exclusive new face finish on light-directing Insulux Glass Block cuts cleaning costs!

## NEW ECONOMIES FOR Daylight Engineering



Installation speed goes up! The new goldstripe makes it easier and faster to identify inside top of block.

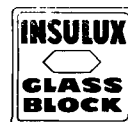


Direct sun causes uncomfortable brightness near windows, extreme contrast in other parts of room. Insulux Fenestration directs and spreads daylight to ceiling, keeps brightness at comfortable levels.

Now, a brand-new finish on Insulux Light Directing Glass Blocks virtually eliminates post-construction cleaning expense! Even the hardest, dried-on mortar rubs off quickly and easily. No longer is it necessary for costly, time-consuming cleaning to take such a large part of your installation dollar.

Important as this plus feature is, it's only incidental when compared to the *lifelong advantages* an Insulux Fenestration System installed on Daylight Engineering principles gives to any building. Insulux Glass Block No. 363 controls light so efficiently that the building virtually turns with the sun. Employees have the pleasant, stimulating lift of natural daylight at its best—with no objectionable glare and harsh contrast. Supplies of the new block and all of the materials needed for fast installation are non-critical and immediately available.

The knowledge and experience of a Daylight Engineer is at your service to help you plan an Insulux Fenestration System that exactly fits the requirements of your buildings and manufacturing processes. Just call or write: Daylight Engineering Laboratory, Dept. A.R.-3, Box 1035, Toledo 1, Ohio. Insulux Division, American Structural Products Company, subsidiary of Owens-Illinois Glass Company.



# INSULUX FENESTRATION SYSTEMS

— by the pioneers of Daylight Engineering

**Engineering Enrolment Drop  
Decried by AIEE President**

Another voice was added to a swelling chorus of warnings about the serious drop in engineering enrolments when President Titus G. LeClair made his opening address at the winter general meeting of the American Institute of Electrical Engineers.

The serious decrease in the number of students taking up the profession occurs in the face of "steadily increasing need for well-trained men in engineering," Mr. LeClair asserted.

War-stimulated enrolments during the past decade have dropped off because of "rumors" that there would be a surplus of engineers, he said, with the result that while it is expected there will

be 31,000 engineers graduated in 1951, the number of graduates will decrease to 15,000 by 1954. "High school enrolments indicate further reductions beyond 1954 unless more high school graduates go to college, or a higher percentage than formerly choose the engineering course."

Mr. LeClair called upon the profession to promote engineering as a "remarkable opportunity."

**Scholarships, Fellowships**

• Applications will be accepted until May 15 for the 20th annual consideration of candidates for the Kate Neal Kinley Memorial Fellowship at the University of Illinois.

The fellowship offers \$1000 to be used for advanced study of the fine arts in this country or abroad, upon a program approved by the Fellowship Committee, for one academic year.

Applicants should not exceed 24 years of age on June 1, 1951; but veterans may deduct amount of time spent in service, and the committee reserves the right in the case of very promising candidates to deviate slightly from the age provision.

The fellowship is open to graduates of the College of Fine and Applied Arts of the University of Illinois and to graduates of similar institutions of equal standing whose principal or major studies have been in music, art or architecture (design or history).

The Fellowship will be awarded upon the basis of unusual promise in the fine arts as attested by: high attainment in the applicant's major field of study as witnessed by academic marks; high attainment in related cultural fields as witnessed by academic marks; excellence of personality, seriousness of purpose and good moral character.

Requests for application blanks and instructions should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Room 110, Architecture Bldg., University of Illinois, Urbana, Ill.

• The Cranbrook Academy of Art has announced the establishment of three memorial scholarships of \$1500 each: the Eliel Saarinen Scholarship, the Ellen S. Booth Scholarship and the George G. Booth Scholarship.

(Continued on page 242)



Convert AC to DC

RICHARDSON-ALLEN  
SELENIUM RECTIFIERS

**Attention:  
Consulting Engineers!**

D.C. voltage is required for running passenger and freight elevators, printing presses, dumb-waiters, controls, solenoids, stand-by power sources, etc., in industrial plants, stores, offices, schools and most all public buildings.

Richardson-Allen Selenium Rectifiers offer the most efficient, economical method of converting standard A.C. input circuits to D.C. output.

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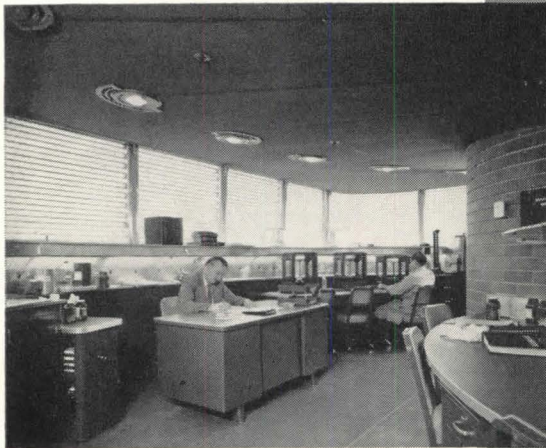


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**FRANK  
LLOYD WRIGHT**

# SPECIFIES HOOD RUBBER TILE

for unique new research and development tower at  
S. C. Johnson & Son, Inc.



*Interior view of tower showing use of  
Hood Rubber Tile in the laboratories*



With the dedication on November 17 of the new addition to the S. C. Johnson & Son, Inc. administration building at Racine, Wisconsin, another chapter was written in the long list of architectural masterpieces designed by the noted architect, Frank Lloyd Wright.

To accomplish this work, many unique construction principles were incorporated . . . 20 miles of glass-tubing walls . . . 15 floors cantilevered from the central core . . . and the 40 square foot tower is supported at ground level by a base only 13 feet across at the narrowest point!

To blend with the interior decor of this

modern-as-tomorrow tower, Mr. Wright needed flooring of a special color. To do this job, he specified Hood Rubber Tile, and today, and for years to come, personnel working in the fifteen floors of this historic tower will enjoy the comfort, quiet and blending beauty of this longer-lasting tile. Mr. Wright's choice of Hood Rubber Tile for this outstanding job is typical of specifications written every day by leading architects. Follow this lead by recommending this better flooring to your customers. It means better business for you.

*A letter today will bring full information by return mail. See our Catalog in Sweet's.*

**YEARS OF BETTER FLOORING FROM YEARS OF BETTER RESEARCH**



These scholarships will be open to "unusually talented" students and will cover fees for tuition, board and room at Cranbrook, with an allotment for materials and supplies. They are offered for advanced study in any of the following arts: architecture, ceramics, design, metalsmithing, painting, sculpture, weaving and textile design. They will be awarded for the period Sept. 10, 1951 through May 24, 1952.

Applications will be received until April 1, 1951. Detailed information and application forms are available from the Secretary, Cranbrook Academy of Art, Bloomfield Hills, Mich.

- The University of North Carolina has announced the availability of research assistantships in city and regional planning, with stipends covering tuition plus \$75 per month.

To qualify, applicants should have a bachelor's degree in one of the design science or social science fields, an interest in undertaking a program toward the master's degree in city and regional planning, and a demonstrated ability in study and research. Inquiries should be addressed to the Department of City and Regional Planning, University of North Carolina, Chapel Hill, N. C.

- Massachusetts Institute of Technology this year institutes a Bemis Foundation Fellowship of up to \$2500 to a student engaging in a program of graduate research in housing. Applications for the 1951 Fellowship were due March 1.

The research program may be concerned with any significant aspect of housing, from broad studies of needs and requirements to specific problems in management, design, procurement, production and marketing.

The work undertaken may lead to a master's or a doctor's degree in such fields as architecture, business administration, city and regional planning, economics, engineering and sociology.

The fellowships have been established by the Albert Farwell Bemis Foundation, set up at M.I.T. to engage in the "search for, and dissemination of, knowledge pertaining to more adequate, economical and abundant shelter for mankind." The extensive information collected by the Foundation, particularly in the field of prefabrication, will be available to students.

Candidates are selected on the basis of their qualifications and of the contribution which they may be expected to make in the field. Applicants must have the bachelor's degree, or expect to have it by July 1.

Further details are available from Burnham Kelly, Director, Albert Farwell Bemis Foundation, M.I.T., Cambridge 39, Mass.

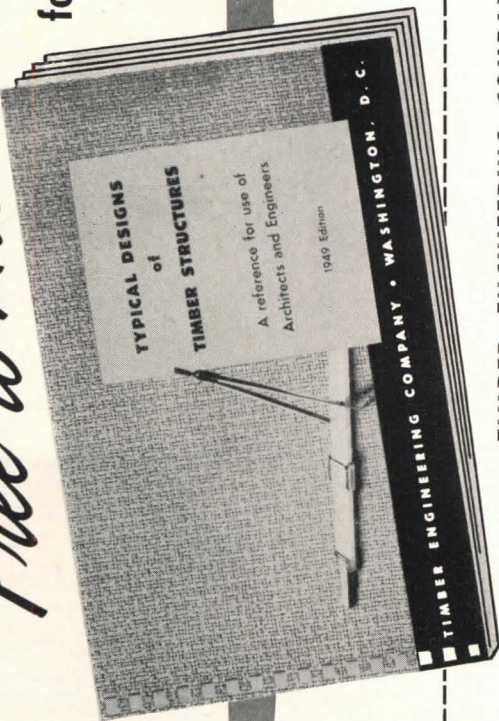
- The annual competition for the Traveling Fellowship in Architecture will be held in the Department of Architecture of Rice Institute from April 16 to May 18.

The fellowship provides \$1500 to be used for foreign travel and study, with a minimum of six months' residence in the foreign country chosen. To be eligible, the candidate must have graduated

(Continued on page 244)

# Free to Architects and Engineers

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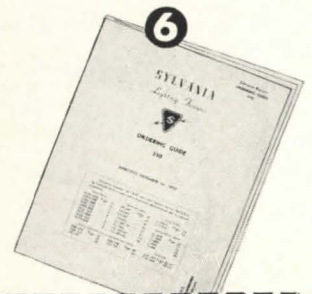
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- 5 **Sylvania Fixture Catalog** . . . includes photos and gives detailed lighting data about each fixture. Also includes handy estimator for on-the-spot figuring.
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from the Department of Architecture of the Rice Institute with a degree of Bachelor of Science in Architecture, or attain this degree at the Commencement of June 1951. He must be under 30 years of age.

• Three fellowships in architecture leading to the degree of M. in Arch. are being offered to graduates of the Department

of Architecture of Rice Institute, Houston, Tex., or to graduates of similar institutions of equal educational standing. Applications were due March 1.

The fellowships will be awarded for the academic year 1951-1952. Basis of the awards will be high attainment in the applicant's field of study, as witnessed by academic grades, excellence of personality and good moral character.

The fellowships call for not more than eight hours of laboratory teaching and carry a stipend of \$1200 for the academic year, with remission of all fees. Applicants must be not more than 27 years old.

**Awards**

• Two students in the Carnegie Institute of Technology Department of Architecture have received cash prizes from the Rust Engineering Company for exceptional handling of problems involved in designing modern plants for the production of brick.

Francis P. Gassner of New York won first prize of \$100 and William L. Polson of Pittsburgh received the second prize of \$50. It was the fourth annual Rust Architectural Awards project.

• Four University of Illinois architectural students captured all four awards in a national design contest sponsored by the Tile Council of America, in cooperation with the Beaux-Arts Institute of Design.

Jack H. Swing of Harvey, Ill., took first place in the competition, which called for planning a group of garden apartments featuring clay tile for building entrances and for the walls of public halls and of ramps or stair halls. Ezra Gordon of Chicago was winner of the second award; Frederick T. Kubitz, Champaign, Ill., third; and Miroslav Vanek, Chicago, fourth.

The contest drew 142 entries from architectural students throughout the country. Judges were a group of New York architects, all members of the Beaux-Arts Institute of Design.

**Faculty Appointments**

• Prof. A. Henry Detweiler of the College of Architecture at Cornell University has been elected an associate trustee of the American Schools of Oriental Research for a two-year term. The organization, of which Cornell is a contributing member, has also appointed him chairman for 1951 of its Jerusalem school committee. Professor Detweiler spent January abroad as visiting professor of Roman archaeology at the Jerusalem school, organizing an expedition staff and supervising the reopening

(Continued on page 246)

**"A Proved Chimney Construction That Saves Floor Space and Costs in One Story Houses..."**

says  
**DEAN F. HILFINGER**  
A. I. A.

accepted  
proved

**Van-Packer PACKAGED CHIMNEY**  
with zero clearance\* of floor, ceiling and roof

"Van-Packer Chimney helped me utilize the floor space in my own home to better advantage. I found the Van-Packer compact . . . readily adaptable to any location desired . . . and economical, too. The ceiling suspended model in my home came packaged complete . . . Took less than 3 hours to install. There were no additional materials or installation problems. We are specifying the Van-Packer Chimney in many one or two story homes as a practical cost-cutting installation."

**Van-Packer CORPORATION**  
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\* This U. L. Report, plus a test report on operating efficiency, are available upon your request.

Van-Packer cross section is 3/4" fire clay tile liner, with 3" vermiculite wall.

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- NO SANDING OR FINISHING ON THE JOB
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at the factory*

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## THE RECORD REPORTS

(Continued from page 244)

of excavation begun last winter in the Jordan Valley south of Jericho.

• Robert LeRicolais, French structural engineer and developer of the three-dimensional "polyhedral" system of framing for industrial buildings, will be a visiting professor of building structures in the University of Illinois department of architecture for the spring semester.

### Special Courses

• The Planning and Housing Division of the School of Architecture at Columbia University is offering, as part of the summer session program, a special nine-week study program in Europe, of particular interest to professionals and students of urban planning, housing and architecture.

J. Marshall Miller, associate professor of planning at Columbia University, will direct the tour, which is scheduled June 11–August 11. It may be taken for credit toward a degree, offering two to six points.

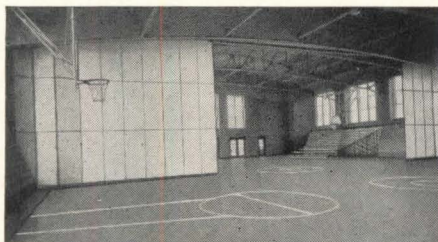
The itinerary includes London, Coventry, Birmingham, Liverpool, Manchester, Edinburgh, Newcastle, Bergen, Oslo, Stockholm, Copenhagen, Hamburg, Amsterdam, Hilversum, Rotterdam, Antwerp, Brussels, Amiens, Reims, Paris and LeHavre.

The tour is planned to provide opportunity for "critical analysis, by personal investigation and research, of the planning, housing and special architectural types in selected urban areas of Europe."

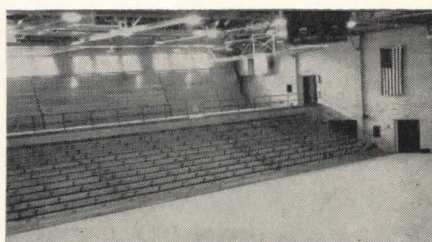
Applications must be approved before April 1 to insure reservations. Costs will include \$935 for travel and living expenses plus tuition at \$20 per point and a University fee of \$7.

For applications and additional information, applicants should address Professor Miller, 504 Avery, Columbia University, New York 27, N. Y.

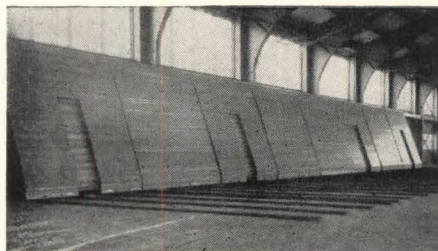
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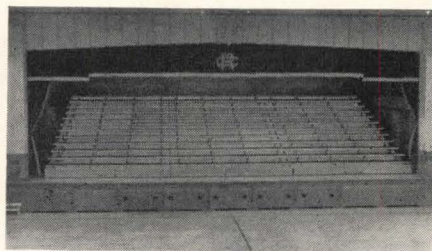
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### COMPETITIONS

#### Entries Are Invited for 1951 A.I.A. Honor Awards

Entries have been invited by the American Institute of Architects for its third annual program of National Honor Awards.

The program, intended to "encourage the appreciation of excellence in architecture and to afford recognition of merit in recently completed buildings," offers awards for three classes of buildings — residential, industrial and hospital buildings — completed since January 1, 1946.

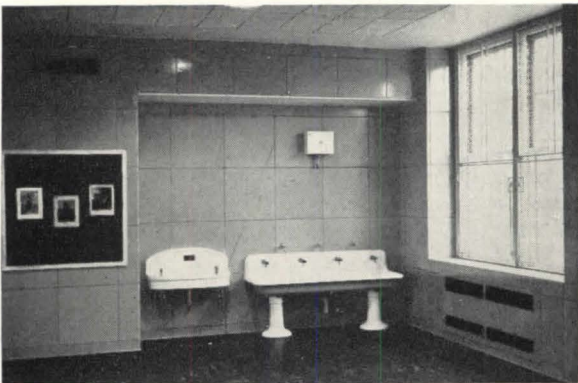
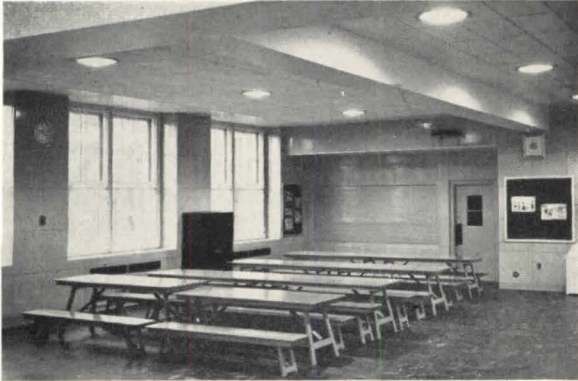
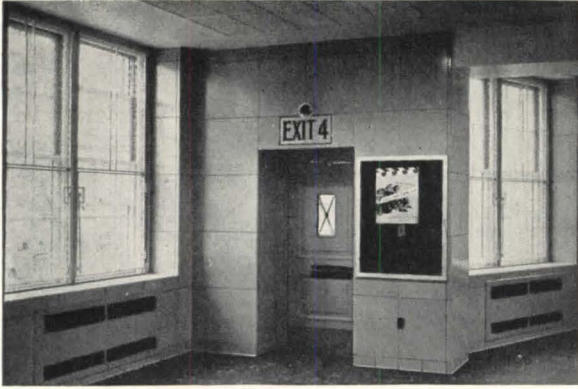
Entries must come from registered architects practicing professionally in the United States. The buildings may have been erected anywhere in the United States or abroad.

All entries to the national exhibition must be submitted directly to the University of Illinois, Navy Pier, Chicago, Ill. Only entries shipped on or before April 21, 1951 will be eligible for the national awards.

Awards will be announced on the first day of the annual national convention of the A.I.A. May 8–11 in Chicago.

Copies of the program are available from: Committee on Honor Awards for Current Work, A.I.A., The Octagon,

(Continued on page 248)



**PUBLIC SCHOOL No. 195**

Shore Blvd., Brooklyn, N. Y.

**Board of Education of The City of New York**

**Eric Kebbon**—Architect  
**Caristo Constr. Corp.**—Builder

*In units of approximately 24" x 24", Enduro-Ashlar Architectural Terra Cotta lines the walls from floor to ceiling in this attractive new school designed by Architect Kebbon. He specified a lustrous medium green that's easy on the eyes. The ceramic glazed finish is equally easy on maintenance costs.*

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**TERRA COTTA**

Here's a versatile building material that meets all your design requirements... time-proved terra cotta possessing remarkable plasticity of form, color and texture. In units large or small, it can be tailor-made in an unlimited range of ceramic colors and supplied in a matter of weeks... for interiors or exteriors, plain surfaces or decorative sculpture. What's more, the original richness and beauty of Enduro-Ashlar Architectural Terra Cotta can be retained indefinitely by simple soap-and-water washings. All these advantages—quality, price, beauty, and ease of maintenance, are reasons why Enduro-Ashlar Architectural Terra Cotta is specified more often today than ever before—for educational, medical or industrial construction, and for modernization.

*Construction detail, data, color samples, advice on preliminary sketches, will be furnished promptly without charge. Send your inquiry today.*

**FEDERAL SEABOARD TERRA COTTA**

**C O R P O R A T I O N**

**10 EAST 40TH STREET, NEW YORK 16, N. Y.**

**Plants at Perth Amboy and South Amboy, N. J.**



## THE RECORD REPORTS

(Continued from page 246)

1741 New York Avenue, N.W., Washington 6, D. C.

### LeBrun Traveling Scholarship Competition for 1951 Opened

Design of a motel is the subject for the 1951 LeBrun Traveling Scholarship Competition sponsored by the New York Chapter of the American Institute of Architects.

The program for the competition requires design of a motel which could be converted to use as a temporary shelter for evacuees from large cities and as a medical first aid station.

The annual nationwide competition offers \$2800 to be used for a minimum of six months' travel in Europe.

The winning entrant must be an architect or draftsman between the ages of 23 and 30 and a United States citizen.

Nomination by a member of the A.I.A. also is mandatory.

Closing date for submission of drawings is April 30, and the winner will be announced about May 15. *Details may be obtained from the LeBrun Scholarship Committee, J. Bruno Basil, Chairman; New York Chapter, A.I.A., 115 E. 40th St., New York City.*

### EXHIBITIONS

#### "New Values" Theme for A.I.A. Product Exhibit

The first product exhibit directly sponsored by the American Institute of Architects will be held in conjunction with the A.I.A. annual convention at the Edgewater Beach Hotel May 8-11.

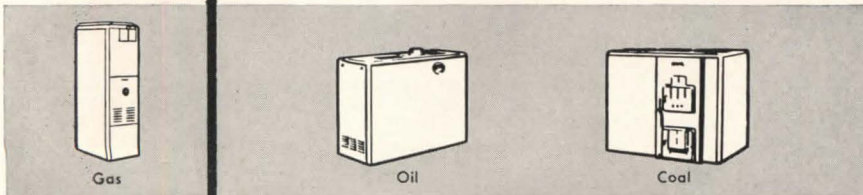
"New Values" is the theme of the exhibit, which will display new building products and methods recently placed in production or shortly to be offered commercially.

Because space will be limited, only 48 displays could be accepted. Therefore the scope of acceptable categories of materials was necessarily limited, and all new developments in the building field could not be included.

Emphasis in selection was placed on product or method rather than on the sponsoring manufacturer. Products accepted within a selected list of categories

(Continued on page 250)

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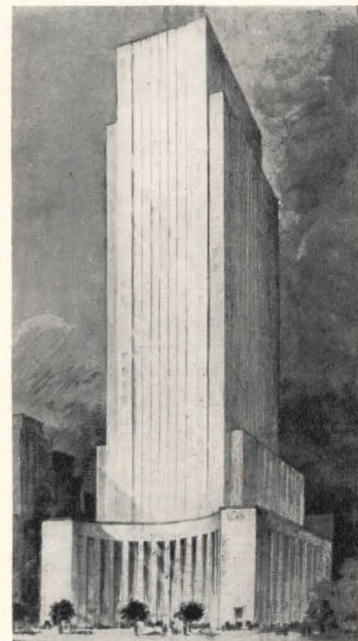
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Proposed office building for Sun Building site, 280 Broadway, New York. Architects are Walker & Poore



Original structure was designed by Walker & Eisen, architects. E. A. Evans was structural engineer. William Simpson Construction Co. was contractor. Addition was designed by Claude Beelman, architect and Herman Spackler, associate architect. Beatty & Clar were the structural engineers on the job and C. L. Peck was the general contractor.



## *Architectural Concrete*

*structures can be attractively enlarged*

**W**HEN the three-story Farmers Insurance Exchange building was erected in Los Angeles in 1937, it was built of architectural concrete and looked as shown above, left. In 1948 it was enlarged to a six-story structure. Again architectural concrete was used.

The remodeled structure shown at the right, above, is an expansion on the same architectural lines of the original building. This job illustrates how attractively buildings designed in architectural concrete can be enlarged or remodeled.

Whether remodeling or building new, architectural concrete is the ideal construction material. It has great strength and durability; yet it can be molded economically into ornamentation of any style or period. It also meets every other essential structural requirement—adaptability to any need or use, firesafety, low maintenance expense, **low-annual-cost** service.

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### **PORTLAND CEMENT ASSOCIATION**

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A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

## THE RECORD REPORTS

(Continued from page 248)

were screened for quality, economy, exhibit value and newness.

### CHARLES CARTER NAMED AS ARKANSAS CHAPTER'S HEAD

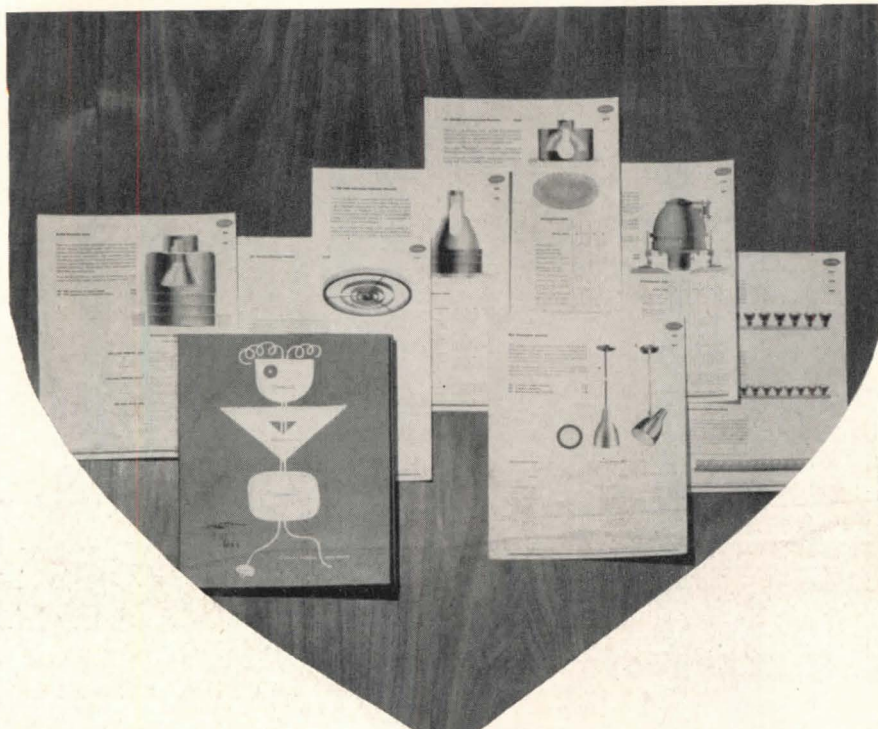
Charles Carter of Little Rock has been installed as the 1951 president of the Arkansas Chapter of the American Institute of Architects.

Gulf States Regional Director Howard Eichenbaum presided at the installation ceremonies at the annual convention of the chapter January 10 in Little Rock.

Other officers, all from Little Rock, are: J. Yandell Johnson, vice president; Sam Clippard, secretary; and John Rauch, treasurer. J. R. Mahnker, E. Chester Nelson and U. S. Branson are the new directors of the chapter.

State and city planning officials took part in a panel discussion of urban planning which was the main program feature of the convention. Participants included L. A. Henry, consulting engineer for the Little Rock City Planning Commission; A. E. Johnson, chief highway engineer for the State of Arkansas; John DuVal, director of the Little Rock City Planning Commission; and Finley Vinson, redevelopment director for the Public Housing Authority.

More than 100 A.I.A. members and their guests attended the convention, at which the first honorary membership in the history of the chapter was presented to N. B. Carver, Little Rock architectural engineer.



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626 NORTH ROBERTSON BOULEVARD, LOS ANGELES 46

### WILLIAM L. BOTTOMLEY, 67; KNOWN FOR HOUSE DESIGNS

William Lawrence Bottomley, F.A.I.A., an architect for more than 40 years, died February 1 at his home at Glen Head, Long Island, N. Y. He would have been 68 years old February 24.

Mr. Bottomley, who was best known for his designs for residences, had an office at 597 Fifth Avenue, New York City. The town house of William Ziegler Jr. in New York and Mr. Ziegler's country house in Middleburg, Va.; the town residences of Myron C. Taylor and James C. Warburg; the high school in Southampton, L. I.; and the city hall and courthouse in Plainfield, N. J., were among Mr. Bottomley's works.

Mr. Bottomley received his B.S. in architecture at Columbia University in 1906. Later he did postgraduate scholarship work at Columbia and studied at the American Academy in Rome and at the Beaux Arts School in Paris. Until 1919 he was a member of the firm of Hewlitt & Bottomley.

His awards included the Medal of Honor of the Architectural League of New York and the medal for apartment houses of the New York Chapter, American Institute of Architects.

Mr. Bottomley wrote *Spanish Details* in 1924 and was the editor of *Great Georgian Houses of America*, in two volumes. He had contributed to many architectural publications.

He was a fellow of the American Institute of Architects and a member of the Alumni Association of the American Academy of Rome and of the Beaux Arts Society.



# Another York-Sized Job

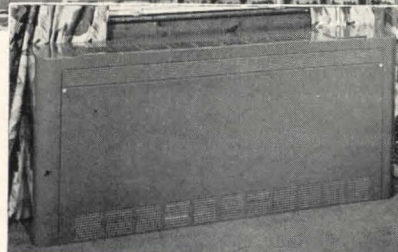
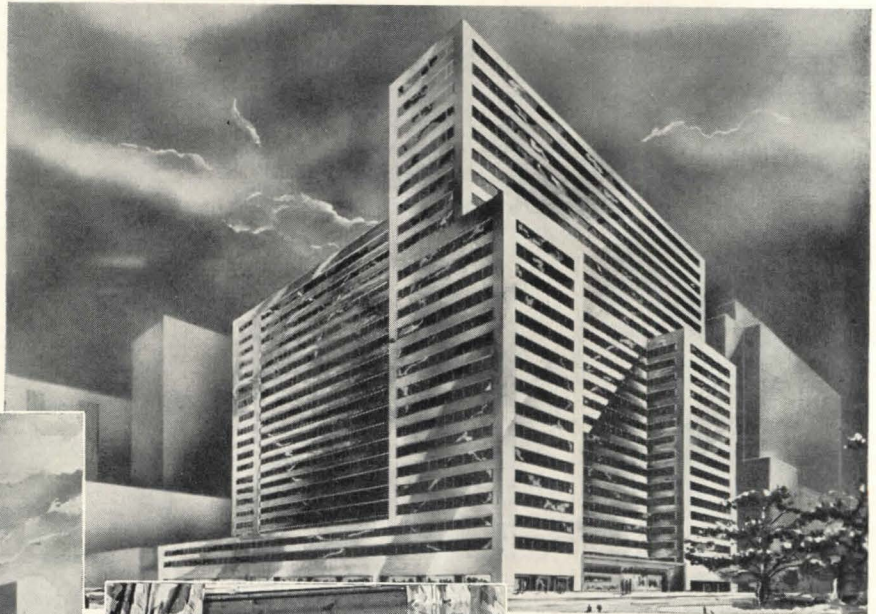
## *World's first fully air conditioned skyscraper apartment houses*

Philadelphia's ultra modern cliff dwellings—the 25-story Rittenhouse Claridge and 20-story Rittenhouse Savoy—reach new highs in 100% air conditioned multiple housing.

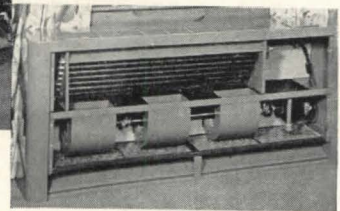
### **As so often happens**

when York helps out on the tall, tough jobs in air conditioning, the architects and engineers are missing many a headache.

RENDERINGS BY SAMUEL I. OSHIVER



*York Fan Window Unit. "Open" view shows Tri-motor Impeller.*



*Sponsor: Matthew H. McCloskey, Jr. and Key K. Kaiserman  
Architect: Oshiver, Knopf and Fieldstein • Consulting Engineer: Leslie S. Tarleton  
Builder: McCloskey & Co. • Mechanical Contractor: Ambrose-Augusterfer Corp.*

### **York's years-ahead techniques**

are effecting installation and operating economies . . . and making each tenant a weather czar in his own domain, not the dependent of a fixed and centralized air supply.

### **York's new Fan Window Unit**

above, gives each room its own on-the-spot weather laboratory. Individually equipped to take in fresh air and circulate it—carried and cleaned to mountaintop freshness—

at any rate of supply the dweller desires. Filters recirculated air . . . another York plus over centralized-air-system units.

### **The only central supply system**

is water, chilled for cooling and dehumidifying in summer and warmed for winter heating, piped to the Fan Window Units.

### **With no bulky air ducts**

to honeycomb the building—with no air handling equipment to eat up

engine room space—the structural, architectural and economic advantages are very obvious.

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two positive approaches for its own membership: more effective use of existing supplies and increased availability through expanded production and imports; and development of a larger labor force.

President Drummond pointed out, in his annual address, that during the

past decade Canadian manufacturers had met the challenge of unprecedented demands for construction materials by investing heavily in new production capacity.

However, he said, the country is still dependent on outside sources for a number of manufactured or processed

items. By way of example, until steel-making capacity is expanded, steel remains one of the greatest supply bottle-necks.

"In addition," said Mr. Drummond, "if we are to progress as a manufacturing nation, further development of our natural resources must take place. This in turn will necessitate a greatly accelerated immigration program. Our relatively sparse population is an expensive feature in our economic development. The costs of supplying roads, schools, hospitals, and related services have to be borne by proportionately fewer people than is the case in more thickly populated countries. Besides, our domestic market does not offer the same sales potential to our manufacturers. A greater population in Canada is essential to the protection and fulfillment of our great heritage."

Large-scale multiplication of labor and material supplies cannot take place overnight. But much can be accomplished toward obtaining greater production with existing facilities. Improved efficiency in the forms of better organization, plant layout, techniques, tools and equipment, reduction of waste and greater individual effort is the answer. Also, there is no reason why less essential projects cannot be curtailed at the present time. The C.C.A. has already appealed to government and private industry to do just that. Much was accomplished in the early postwar years through voluntary deferment of less essential projects and there is reason to believe this could be done again.

Roads, hydro-electric power development, badly needed housing and other developments necessary in conjunction with the defense program must, of course, be provided.

### Earle L. Sheppard Head of Ontario Architects' Group

Earle L. Sheppard was named president of the Ontario Association of Architects at that group's recent annual convention.

Other officers elected were: Gordon S. Adamson, vice president; H. Gordon Hughes, treasurer; John D. Miller, secretary; and R. D. Schoales, F. H. Marani, Charles Lenz and Hugh Sheppard (retiring president), councillors.

Hon. Harold Caldwell Kessinger of Ridgewood, N. J., was the principal speaker at the annual dinner. His topic was "Architects of a Better World."

(Continued on page 254)

## FACTS FOR ARCHITECTS ABOUT "CONSTRUCTION BY ADHESION" \*

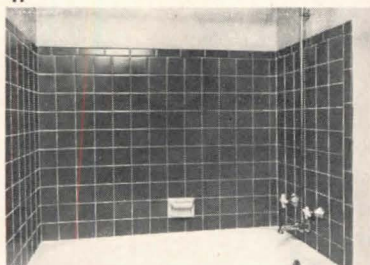
HERE ARE NEW METHODS  
WHICH MEAN SUBSTANTIAL  
SAVINGS IN LABOR AND  
MATERIALS FOR MODERN CONSTRUCTION

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1.



Today it is normal procedure to install clay tile in hotel bathrooms without losing a night's revenue. This illustration shows one of the 144 rooms in the White Plaza Hotel, Dallas, Texas, in which MIRACLE ADHESIVE was used to do the job from the time the guest left his room in the morning until he returned that afternoon.

3.



FIBERGLAS insulation, Type PF-613, 2" thick — bonded to concrete ceiling using MIRACLE PRONGED ANCHORS at Radio City Studio 6B, New York, N. Y. CONTRACTOR, William J. Scully, Inc., New York, N. Y.

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2.



Plaster applied over wire and cork which has been attached to aluminum ducts using MIRACLE ADHESIVE and MIRACLE SPINDLE ANCHORS at John Hancock Mutual Life Insurance Co. Building, Boston, Mass. ARCHITECT, Cram and Ferguson. BUILDER, Turner Construction Co.

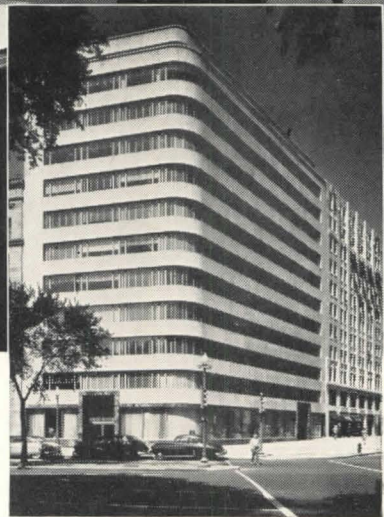
4.



WOOD RUNNERS installed on concrete floors with MIRACLE ADHESIVE and MIRACLE ANCHOR NAILS to support 2" solid partitions. Washington Circle Apartments, Washington, D.C. GENERAL CONTRACTOR, Charles H. Tompkins Company.



Wire Building, Washington, D. C. Architect Alvin L. Aubinoe, specified *Thermopane* from sill to ceiling for general office.



## Here they've built two kinds of space

There is measurable space and the "feeling" of space.

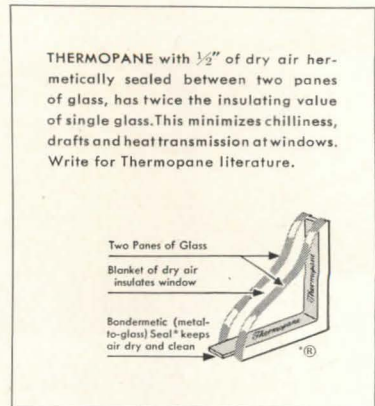
Architect Aubinoe designed a feeling of spaciousness into these offices far in excess of their actual floor space. He did it by introducing maximum light and view with Daylight Walls of clear glass, which admits more light than glass in any other form. And clear glass does not block vision. Running the glass all the way to the ceiling creates a sense of unity between the indoors and the outdoors.

The actual floor space has been given maximum usefulness by the use of *Thermopane*\* insulating glass in the windows. *Thermopane* so greatly reduces cold drafts that employes can be seated near the windows comfortably. This utilizes valuable floor space which is usually wasted when the area near windows is chilly,

as it often is with single glass.

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For additional information and *Thermopane* literature write to Libbey-Owens-Ford Glass Co., 1931 Nicholas Building, Toledo 3, Ohio.



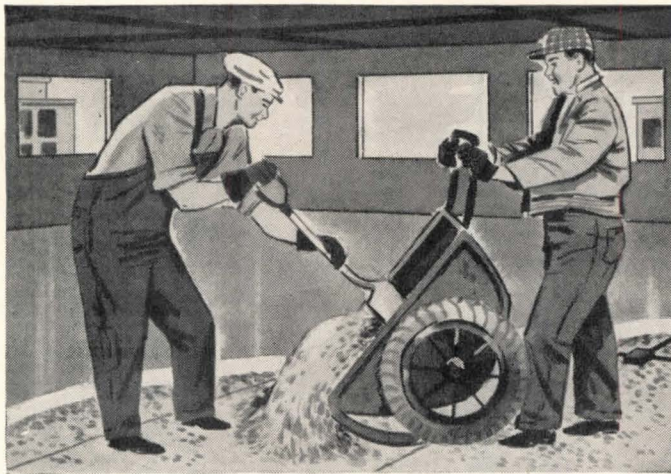
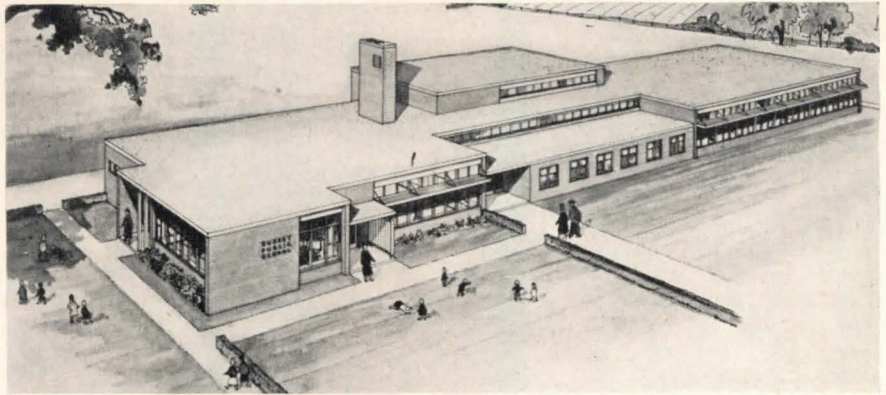
**DAYLIGHT WALLS**  
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**THERMOPANE • PLATE GLASS • WINDOW GLASS**

## THE RECORD REPORTS

### CANADA

(Continued from page 252)

The program for the convention included a discussion of residential design by Architect L. Morgan Yost of Chicago and a talk on architects and industrial design given by Donald Deskey, product designer.



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**WAYLITE  
AGGREGATE**

Craig and Madill of Toronto are architects for this elementary school for Brampton, Ont., to be constructed in two stages

### **Membership of 110 Reached As B.C. Architects Convene**

Members of the Architectural Institute of British Columbia heard a review of the year's activities at their recent annual meeting which included the news that membership had reached a high of 110, with 58 student associates.

A highlight of the meeting was a symposium on architecture under the direction of Prof. Fred Lasserre, director of the School of Architecture at the University of British Columbia. The panel included B. C. Binning, artist; O. Safir, consulting structural engineer; and H. Peter Oberland, assistant professor of architecture at U.B.C. and planning consultant.

Awards of Merit by the School of Architecture were presented to R. L. Toby for fifth year work and to Charles William Wright for fourth year achievements.

Peter M. Thornton was elected president of the Association, succeeding H. H. Simmonds. Other new officers are: S. Patrick Birley, vice president; J. W. Lovatt Davies, honorary treasurer; William F. Gardiner, honorary secretary; Prof. Fred Lasserre, representing the provincial government; R. R. McKee, Kenneth J. Sandbrook, and F. W. Nicolls, executive committee members.

### **Expect 10-15 Percent Drop In 1951 Housing Production**

Home builders entered the new year with more questions than answers on the outlook for home building. Volume of housing depends on what happens on the international stage and the policy

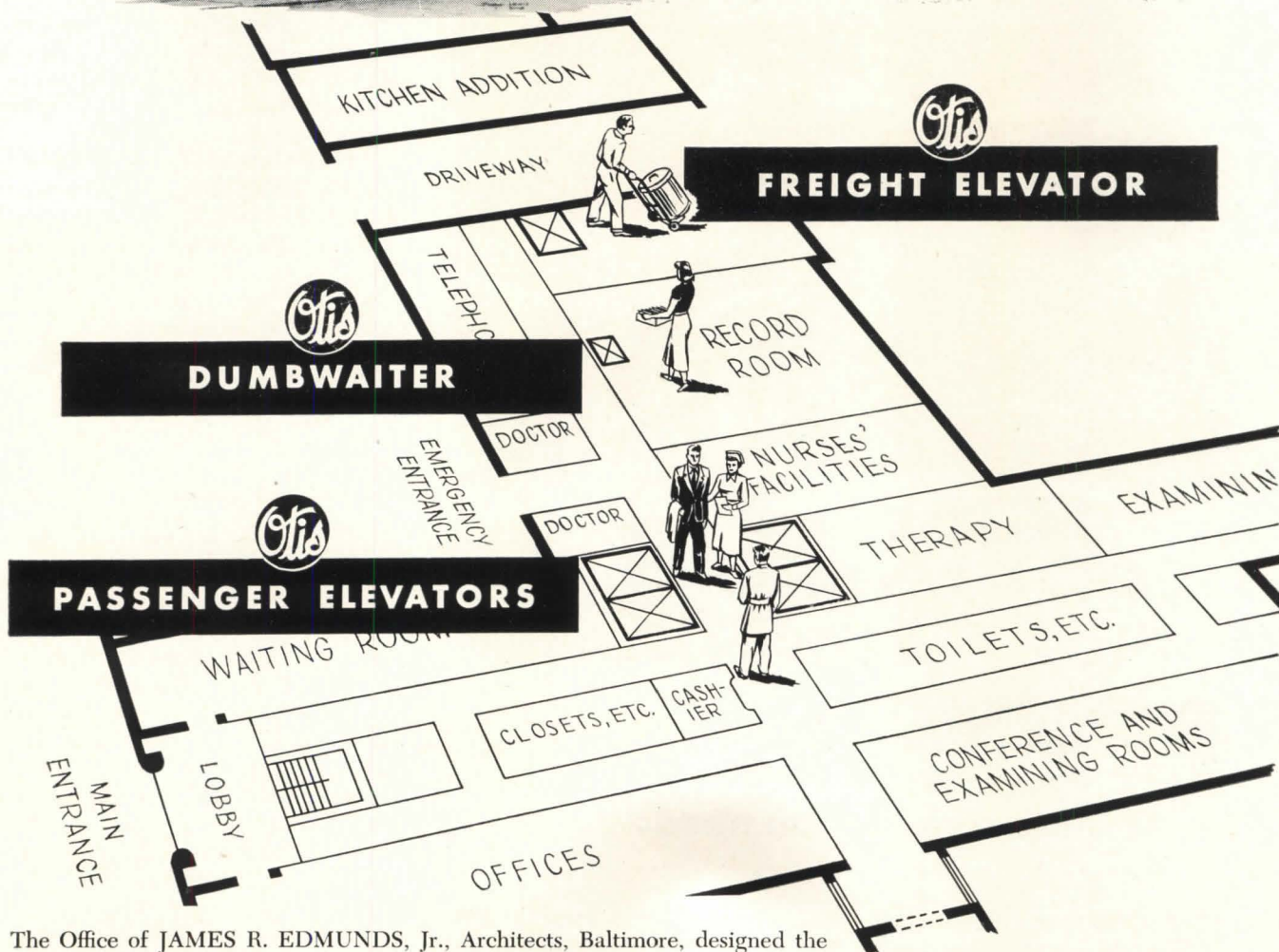
(Continued on page 256)

# "Hospital-Quiet" Elevating



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Egli & Gompf • Mechanical  
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The Office of JAMES R. EDMUNDS, Jr., Architects, Baltimore, designed the new Psychiatric Institute as a mental hospital and teaching unit for the existing University of Maryland Hospital. Initial construction includes Ground and Grade floors, six full floors, a partial seventh—with provisions for eleven floors, when needed. • OTIS "Hospital-Quiet" Elevating includes—3 PASSENGER ELEVATORS: Sound-isolated. Hospital-size cars with automatic doors. Micro "two-way" self-leveling. 500 ft. speed. Gearless machines. Automatic group operation, with or without attendants. This service will be extended from the 6th to 11th floor, and a fourth car added, when the structure is enlarged. DUMBWAITER: Sound-deadened. Automatic "Call and Send" operation directly between Grade and 2nd floor Record Room. FREIGHT ELEVATOR: Electric. Machine located below to save headroom. Push button operation between Grade and Ground floors. Handling refuse, shop equipment. • Elevator maintenance will be simplified by integrating this new elevating with the 4 OTIS Passenger Elevators and 6 Dumbwaiters that have been giving excellent service in the main hospital since 1933. For further details see SWEET'S Architectural File. Or, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

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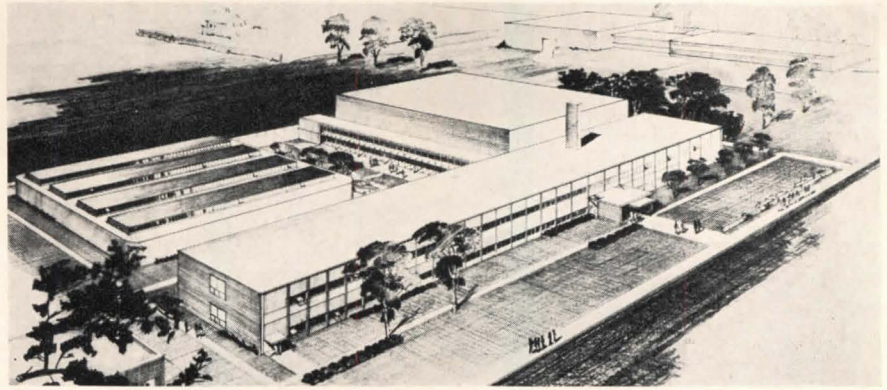


## THE RECORD REPORTS

### CANADA

(Continued from page 254)

Vocational School for York Township, Ont., will have shop wing covering 15,000 sq ft. Two gymnasiums and auditorium seating 550 are included. Cost is estimated at \$1.5 million. John B. Parkin Associates, Architects



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### Housing Production (continued)

adopted by the government shelter agency, Central Mortgage & Housing Corporation.

If the international situation grows no worse, and if C.M.H.C. does not further restrict credit, builders in many centers can look forward to a prosperous year. This appears to be particularly true in Toronto, Sarnia, Edmonton and Ottawa. But on the national level supply difficulties indicate a cut in production from 10 to 15 per cent.

End result is that 85,000 houses are expected to be built in 1951, compared with an estimated 95,000 in 1950. Per capita, the drop is less than estimates for housing production decrease in the U. S.

According to various authorities:

"Come hot war, cold war, or a relaxation of tension, the situation can be met only by complete coordination of effort in the housebuilding industry." — W. E. Maybee, president, Toronto Metropolitan Home Builders' Association.

"In the field of land development and home building there appear to be few signs of slackening." — E. G. Faludi, secretary, Institute of Professional Town Planners.

"Should rent controls be released, the tendency will be to force into the market for new houses many people who, up till now, have been satisfied to rent. This would intensify to some extent the already heavy demand for highly financed housing. During 1950 demands in the larger centers continued strong but there was some evidence in smaller places that construction was catching up on demand. This may make builders and investors more cautious in 1951, particularly in smaller communities." — H. T. Payne, secretary-treasurer, Toronto Chapter, Society of Residential Appraisers.

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on the drawing board, when you're advising your client on what material should be used for the lifeline of his building. Your reputation cannot be harmed when you specify soil and waste disposal lines that time has tested, year in, year out—*decade after decade.*

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## N.A.H.B. CONVENTION

(Continued from page 11)

Features of the designs most stressed in comments of panel members were the flat roof, the butterfly roof, inside baths, exterior appearance, garages projecting to the front, and various plan devices to increase the usefulness of bedroom space. The front garage was cited as an especial problem for architects. And the national prize-winning design was commended for good handling of this part of

the house. It was also commended for its "warmth."

First prize money for this design, also first regional prize for the Northwest, went to Bruce Walker, Spokane, Wash., who received \$8250 in all. Other winners of \$750 regional first prizes were Ralph Rapson, Cambridge, Mass.; Wallace S. Steele, Minneapolis, Minn.; George Matsumoto, Raleigh, N. C.; Ernest

Wright, Cambridge, Mass.; A. William Hajjar and Ronald Whiteley (joint entry), State College, Pa.; Kazumi Adachi, Dike Nagano and Robert W. Balchnik (joint entry), Los Angeles, Calif.

Chairman of the jury which selected the winners was Pietro Belluschi, newly appointed dean of the Massachusetts Institute of Technology's School of Architecture and Planning. Other members were Fritz Burns, California home builder; O'Neil Ford, Texas architect; Charles Goodman, Washington, D. C., architect; Whitney Smith, former professor of architecture at University of Southern California; Philip Will Jr., partner in the Chicago architectural firm of Perkins & Will; Cy Williams, Long Island home builder; and L. Morgan Yost, Chicago architect.

### 1951 Officers Elected

W. P. ("Bill") Atkinson, Oklahoma City home builder and land developer, was elected president of the N.A.H.B. to succeed Thomas P. Coogan of Miami.

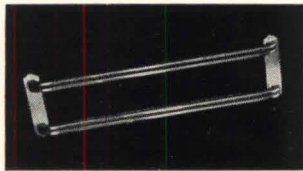
Other officers elected were: Alan E. Brockbank, Salt Lake City — first vice president; Emanuel M. Spiegel, New Brunswick, N. J. — second vice president; R. G. ("Dick") Hughes, Pampa, Tex. — secretary; and Nathan Manilow, Chicago — treasurer.

Regional vice presidents were elected as follows: Clark Sundin, Worcester, Mass.; Charles Buchman, Albany, N. Y.; Frank Collins, Philadelphia; Earl Wicker, Richmond, Va.; George Goodyear, Charlotte, N. C.; Richard Brown, Birmingham, Ala.; Walter Shapter, Columbus, Ohio; A. O. Aldrich, Chicago; Harold R. Rosendahl, Minneapolis; Earl Bumiller, St. Louis; Roger Givens, Oklahoma City; C. Taylor Burton, Salt Lake City; Marcus O. Bogue, Denver; Samuel Anderson, Seattle; Nels Severin, San Diego; Harry Gilbert, Chattanooga, Tenn.; Floyd Kimbrough, Jackson, Miss.; Dale Bellemah, Albuquerque, N. Mex.; Niels Schultz, San Rafael, Calif.; James Graham, Long Island, N. Y.

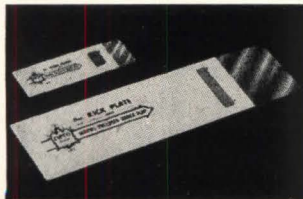
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### CORRECTION

In an advertisement on page 189 of the January 1951 issue of the RECORD, Seelye, Stevenson & Value of New York were incorrectly listed as architects for the International Business Machines Plant No. 2, Poughkeepsie, N. Y. Seelye, Stevenson & Value are consulting engineers.



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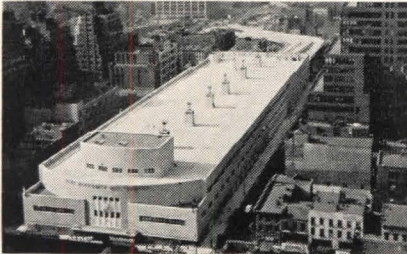
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## REVISED OUTLOOK

(Continued from page 9)

over-all pattern of anticipated construction activity and a somewhat larger total volume than was indicated in our earlier estimates.

### New Construction Demands

Principal factors recognized in the present revisions of the 1951 construction estimates are:

1. The current high rate of new manufacturing plant construction, which is likely to continue through the year with encouragement by government.
2. Anticipated increases in power plant construction.
3. Military construction authorized by recent legislation.
4. Civil defense construction likely to be programmed during 1951.
5. The limitation on commercial building ordered by the National Production Authority on January 13, 1951.

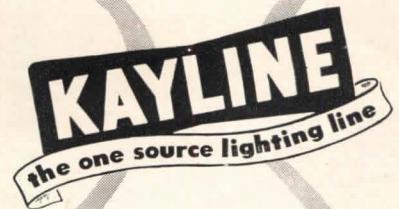
The first four of these factors indicate upward revisions in the previously published estimates for 1951; the fifth item obviously requires downward revision of commercial building volume.

In fact, the stated object of the January 13 limitation order was to conserve critical materials in order that projects in the other four categories listed above could move ahead at a satisfactory rate. The immediate necessity for the order was officially stated to be a market shortage of structural steel; orders for structural shapes were being accepted on nine and ten months' delivery.

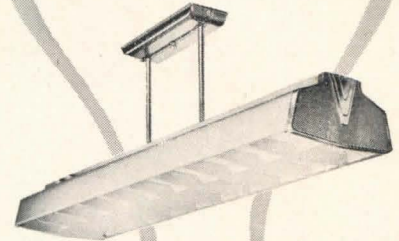
### Steel Supply Problems

While high priority in defense-planning policy is given to increasing productive capacity of all kinds (including electric power) special emphasis is being given currently to increasing steel-making capacity. It has been stated that one ton of structural steel is required currently for construction of each three tons of new annual steel-making capacity. To a certain extent, therefore, the limitation order on commercial buildings may be said to requisition some of this year's steel in order that there may be larger total supplies of steel hereafter.

(Continued on page 262)

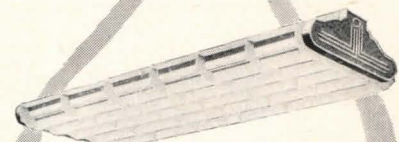


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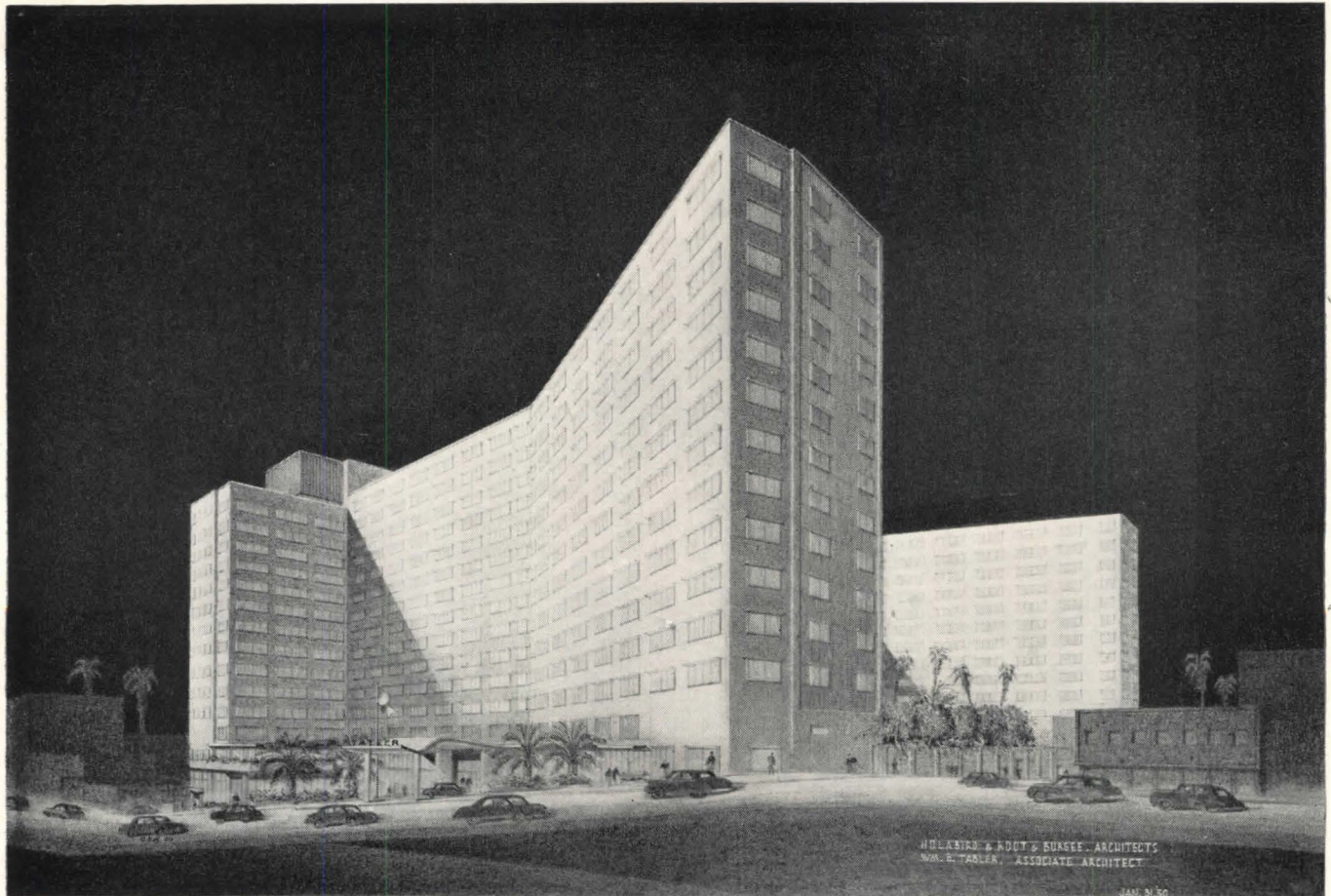
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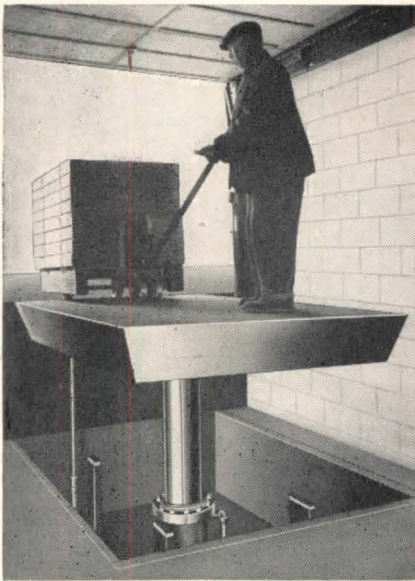
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### GLOBE HOIST COMPANY

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## REVISED OUTLOOK

(Continued from page 260)

In fact, the critical situation with respect to steel may prove to be a fairly temporary one. The present steel-making capacity of the country is considerably greater than in 1940 and is slated for further increase. On the other hand, total steel requirements for such important programs as naval construction, merchant marine ships, defense plants, and military construction are expected to be much less than in the World War II period. Other steel-using industries besides construction (such as automobiles, household equipment, and the like) will have reduced output this year.

The special types of defense construction currently being aided by the limitation order will at some stage be sufficiently taken care of so that preferential treatment will no longer be deemed necessary. At such time, more steel should be available for civilian uses than there is at present.

As time goes on the non-ferrous metals may present more serious over-all supply problems than steel. Direct military production is apt to require larger proportions of total available supply of copper, aluminum and zinc than of iron and steel. Copper in particular is required for many essential building products; short supplies of this metal can hamper many types of building projects, except in so far as substitutes may be used.

### Order M-4 as Revised

The order of January 13 was issued as an amendment to order M-4, originally issued October 24, 1950. The amended order added to the previous ban on recreational projects a temporary ban (until February 15, 1951) on all new starts of commercial buildings, except those permitted to go ahead on the basis of emergency or hardship. After February 15, the National Production Authority will license specific commercial building projects which further the defense effort, which are essential to public health, welfare or safety, or which will alleviate or prevent hardship to particular communities. Licenses will be issued by the fourteen regional offices of NPA, located in the regional offices of the Department of Commerce.

(Continued on page 264)

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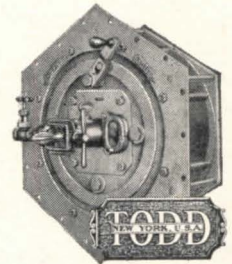
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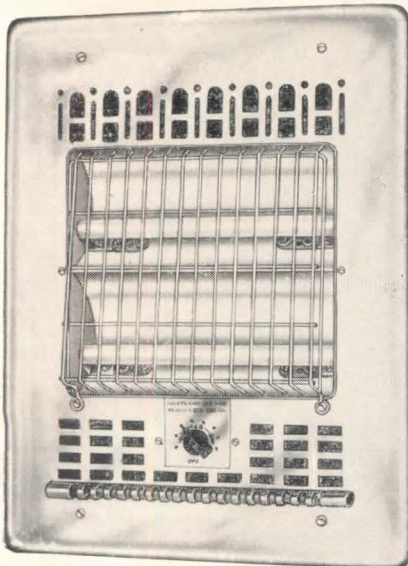
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## REVISED OUTLOOK

(Continued from page 262)

The text of the order appears to permit hereafter either strict or liberal interpretation, in accordance with the exigencies of the material supply situation as they may develop. Such flexibility would seem to be essential in a three-fold program of increasing output of military end-products, of increasing productive capacity and maintaining a strong civilian economy.

### Commercial Building Essential

An adequate volume of commercial building is one of the essentials of a strong economy. While this class of building was on a rising trend in 1950 its total volume for the year was moderate in proportion to activity in other construction classifications. It represented about 8 per cent of F. W. Dodge Corporation's contract total in 1950; over 20 per cent of the total in 1929, the last year when commercial building really boomed. Little if any of the 1950 volume of commercial building could be properly characterized as speculative.

In many respects commercial building facilities have not recently kept pace with the needs of our expanded economy. This is notably true with respect to office buildings and hotels (hotels being classified as commercial buildings for purposes of the M-4 limitation order, though not so classified in most statistical compilations). It is also true, though possibly in somewhat less degree, of warehouses, neighborhood stores and other commercial building types. In short, an extended blackout of commercial building activity would tend to hamper the civilian economy quite considerably.

### Residential Estimate Unchanged

We have retained the same estimated 1951 residential building volume that was included in the earlier estimates we published. While the effect of Regulation X (amended in January to include multiple dwellings along with one- and two-family houses) is generally believed to tend toward an approximate 50 per cent cut from last year's housing vol-

(Continued on page 266)

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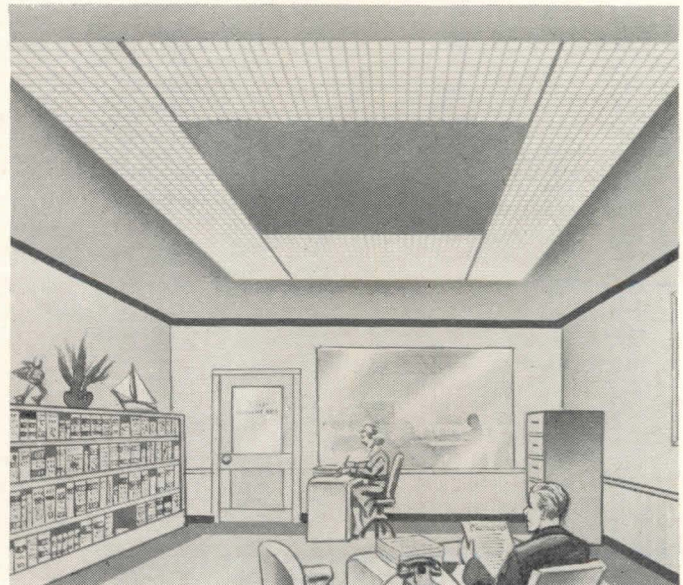
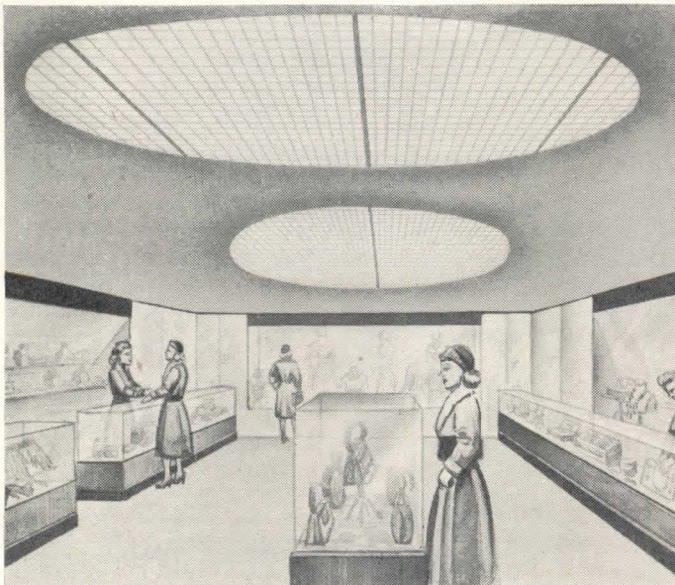
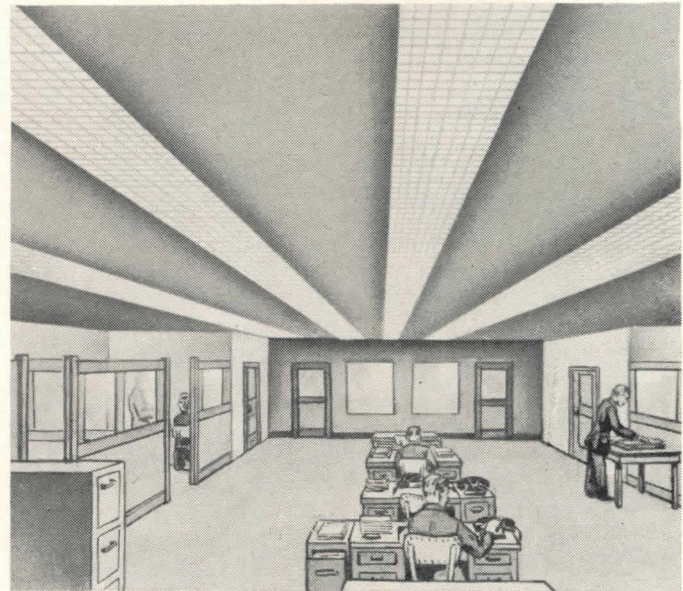
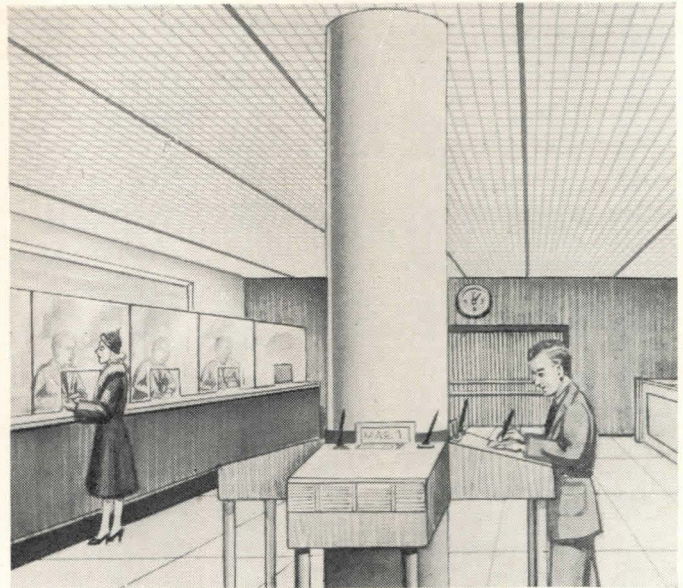
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**REVISED OUTLOOK**

(Continued from page 264)

ume, proposals have been made to Congress for legislation which would give specific encouragement to residential building activity in defense areas. Among officials directing defense mobilization, defense housing needs are recognized as having primary importance. Furthermore, government authorities have recently confirmed the previously announced intent of encouraging the construction of 800,000 to 850,000 new non-farm dwelling units in 1951.

We are still of the opinion that houses to be built on owners' order for owners' occupancy will decline in less degree this year than houses built for sale or rent.

The present revisions have included some moderate reductions in estimated volume of the public and institutional classification; these reductions are based on the expectation that limited availability of certain critical materials will tend to discourage activity in these lines.

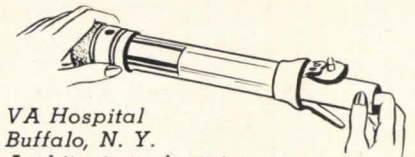
*As Production Expands*

Military requirements for materials (as well as for men) will increase continuously throughout this year 1951. According to the Council of Economic Advisers to the President, this year's defense mobilization program requires that the proportion of total national output devoted to national security be increased from 7 per cent at the beginning of the year to 18 per cent at the end. This will naturally strain the civilian economy considerably.

However, there is surely reason to hope that, after military production has attained full stride and after production capacity for numerous essential materials has appreciably increased, the strain on the civilian economy will be measurably eased. In other words, it is just possible that this transition year 1951, even with its indicated large volume of construction, may be more difficult for the industry than those which are to follow.

Revised construction estimates here shown should be understood as representing the 1951 construction prospect as appraised on January 23, 1951. Later developments of the defense mobilization program might further alter the construction prospect appreciably.

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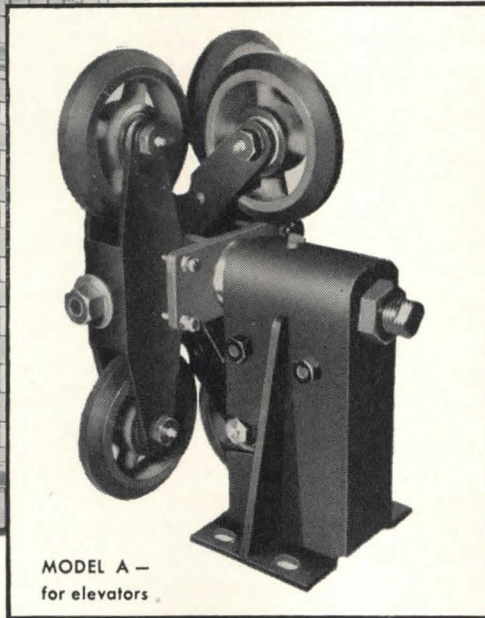
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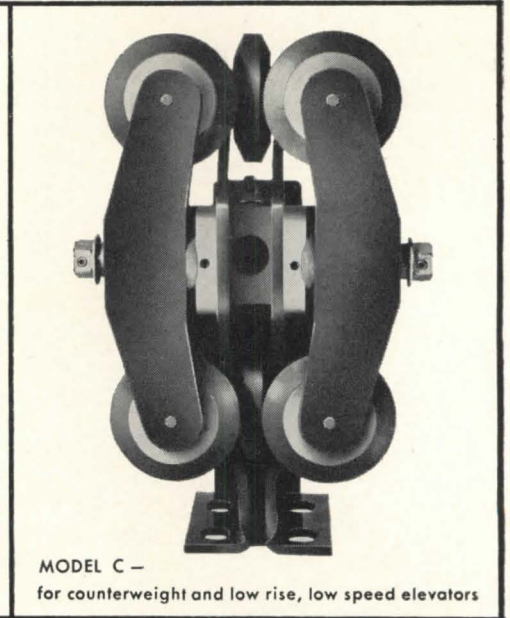




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## REQUIRED READING

(Continued from page 36)

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*Electric Illumination.* By John O. Kraehenbuehl. John Wiley & Sons, Inc. (440 Fourth Ave., New York 16, N. Y.), Second Ed., 1951. 5¼ by 8⅞ in. lx + 446 pp., illus. \$8.00.

This is a presentation of the underlying principles of the specification and design of electrical lighting for commercial and industrial buildings. Topics included are: objective and subjective specification of illumination, color and shadow, illumination from point, line and surface sources, light control, luminous architectural elements, floodlighting, novelty lighting, maintenance and economics. Added in the second edition are: new material on glare calculations, treatment of the calculation of illumination from line and surface sources, description and calculations of louver-all lighting systems, revised material on the economics of light production, new illustrations and appendices.

## BOOKS RECEIVED

*The Gothic World.* By John Harvey. B. T. Batsford, Ltd., New York, London and Toronto—A survey of architecture and art by an authority on English perpendicular architecture.

*Sweden Builds.* By G. E. Kidder Smith. Albert Bonnier, New York—Description, analysis and photographic portrayal of contemporary architecture in Sweden—its background, development and contribution.

*Residences—Neutra.* With a foreword by P. M. Bardi. Architectural Book Publishing Co., New York—Presentation of Neutra's residential work.

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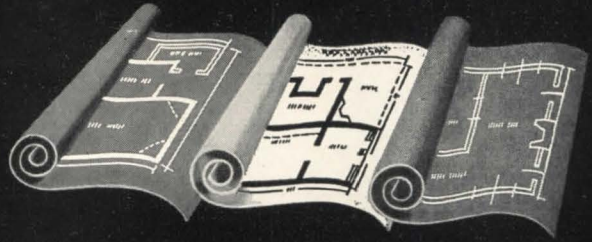
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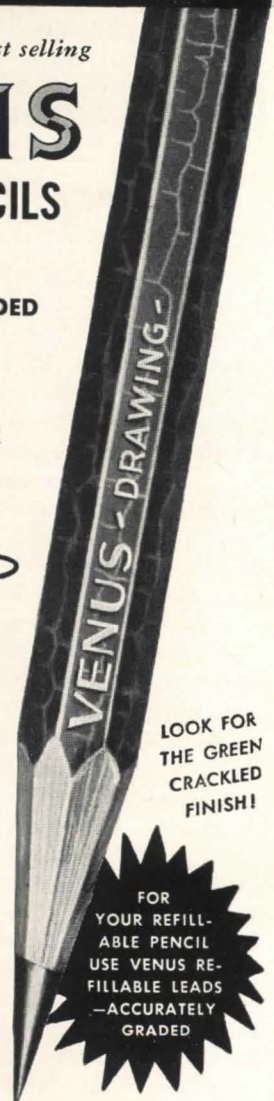
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