AMERICAN BUILDER
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BUILDING AGE
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AMERICAN BUILDER and BUILDING AGE

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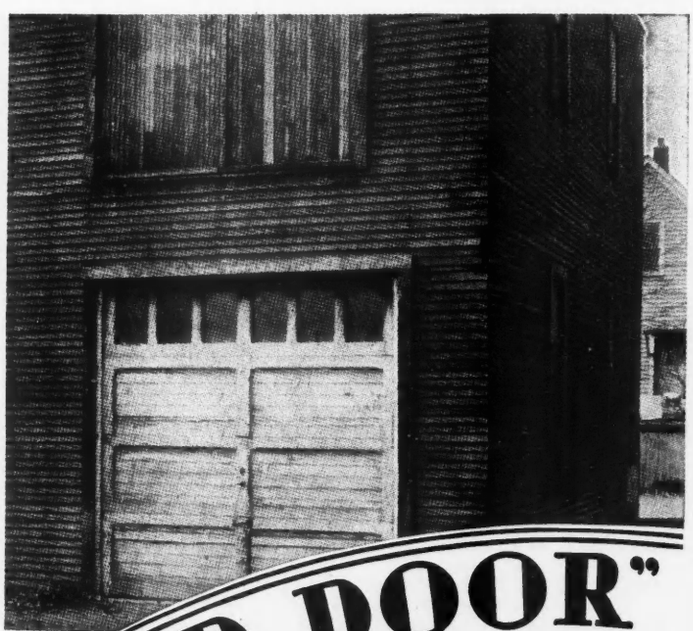

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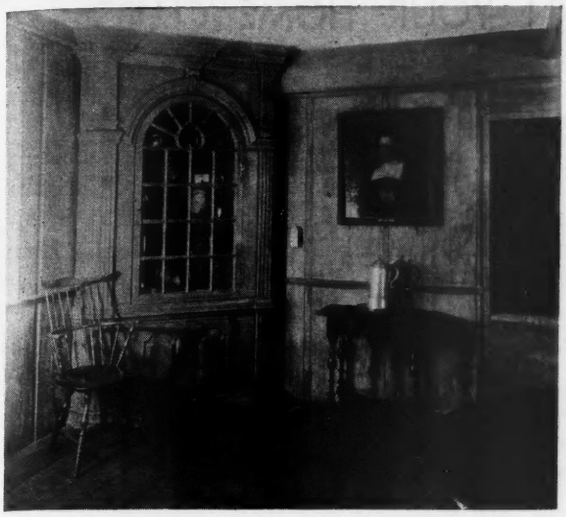


AMERICAN BUILDER AND BUILDING AGE

FOR MORE LABOR-SAVING MACHINERY

MANY economists have been urging builders, especially those engaged in home building, to make larger use of labor-saving tools and equipment in order to increase output and to cut costs. Factory production methods, applied both in the shop and on the construction job, have been advocated as the building industry's best means of competing successfully for the consumer's dollar with other industries that are on a mass production and mass selling basis.

Some progress was beginning to be noticeable along these lines when the current wave of unemployment struck the building industry and uncovered some strange new economic theories.

There is no fallacy more prevalent than that the introduction of labor-saving machinery in manufacturing, construction or transportation reduces the demand for labor and causes unemployment. Because of the widespread acceptance of this fallacious view we are now beset with such demands as that for a six-hour day with eight hours' pay.

A reduction of working hours and days without any increase in hourly pay, in order to reduce unemployment during a depression, and the establishment of a six-hour day with eight hours' pay as a permanent means of reducing unemployment, are two entirely different things. The former is economically sound; the latter is economically unsound.

Throughout the period of more than a century during which the introduction of modern machinery has been occurring, there have been outcries during every depression that machinery was reducing employment; but that never has been true, it is not true now and it will not be true in future. In every period of depression there is relatively as much unemployment in countries where there is comparatively little use of machinery as in countries where there is the maximum use of it. There is comparatively as much unemployment in other countries now as there is in the United States, although machinery is used more extensively and the output per man is greater here than in any other country.

The prevailing unemployment is due, as it has been during periods of depression in the past, to economic maladjustments, and not to the increased use of machinery; and if we permanently reduce working hours merely to reduce unemployment the effects in the long run will be a reduction of our average output and income per person, and not a reduction of unemployment. Labor must come to a realization of this fact, and, at the same time, go forward adopting and using the machinery and methods which will increase average production per capita, because only this will increase real income per capita, and thus enable the buying public to have the increased comforts and luxuries that they want, including larger and better homes.

SECURITY OF HOME INVESTMENTS

THE world-wide depression has performed at least one service for the building industry that merits a great big vote of thanks. It has shown that what we have been saying all along, with the unanimous support of builders and building supply men, architects, realtors and other construction interests, is unquestionably true: namely, the safest, most satisfactory investment for the savings of the average family is in a home of its own.

This is a fact that the building industry must not allow the American public ever to lose sight of again. It is a truth we must continue to shout from the housetops. Right now it is one of the strongest arguments that can be mustered to get people to turn to home building and improving.

The events of the past two years have caused many people to readjust their ideas of basic values. They are asking themselves what is really worthwhile in their lives. They are seeking to find out what things are permanently valuable or useful. Are stock certificates, beautifully engraved, but now practically worthless, of

basic value? They can only sadly shake their heads. Are savings deposits tied up in a closed bank worth while? The answer is an equally hopeless negative. Is gold itself a dependable value, with one of the world's greatest nations abandoning the gold standard and suggesting that possibly some form of synthetic metal, perhaps a combination of gold and silver, would be a better yardstick?

In the face of such uncertainties as these, the permanent, tangible, practical values of home ownership loom up especially clear. The security behind a gold bond or a blue-chip stock may be unquestionable, but it is far beyond the average small investor's power to ascertain its actual worth. The financial structure of most great corporations is so complicated that even experts are puzzled. The small investor must take somebody else's word; he must buy on faith. That faith has suffered a severe shock in the past two years. The blue-chip securities he bought on the advice of a reputable banker or broker at 300 are now languishing for buyers at 69. The hard earned savings he put into supposedly safe and conservative stocks, thinking he was safeguarding the future of his family, have been practically wiped out.

Value Realized in Use

On the other hand, the man who bought a home with his savings, is still profiting by them. He too may be experiencing hard times, but he is at least able to put his investment to practical, every day use. If he is out of a job he can rent part of the house, or borrow money on it, or use it as headquarters for a business enterprise of some sort. He may raise almost enough food in his garden to support his family. With no rent to pay, he is able to "sit tight," getting along as best he can until things pick up again.

Much has been said and written that is derogatory to the real estate salesman. But we suspect that from now on he will get a warmer reception from prospective investors than bond or stock salesmen. The product he has to sell can at least be seen, examined, analyzed, and put to a personal and practical use. These are considerations that the present depression has called forcibly to the attention of the investing public.

We do not question for a moment the future of American business enterprise or the stability of our banking or monetary systems. There can be no doubt about their inherent strength. We believe that securities will again came up from the depths and will eventually ascend to even higher levels than they did in 1929. But unless steps are taken, through planned production, to prevent it, this greater bull market of the future will be followed by a still greater crash. And then, as now, the working man who has invested his life savings *in a home of his own* will be better off.

Security of home investment is a live, vital subject that the building industry cannot afford to neglect. It provides a strong sales argument that history decisively supports and that millions of happy home owners will forever confirm.

OWN YOUR HOME CLUBS

THE suggestion has been made that contractors and building supply men urge their local banks to start "Own Your Own Home Savings Clubs." We think this is a good idea, and see no reason why it should not be as successful, if not more so, as the "Christmas Savings Clubs," "World Fair Savings Clubs" or "On to Paris Clubs" many banks have sponsored. Home building needs all the support banking interests can give, and this is one way they can stimulate interest and help many people to get a start towards owning their own homes. By all means, let us have "Own Your Own Home Savings Clubs."

THE HOME BUILDING CONFERENCE

A RATHER complete summary of the recent Washington meeting of the President's Conference on Home Building and Home Ownership is presented in this issue. A reading of this will give a bird's-eye view of the work of the entire Conference, and will supply a background for the detailed study of the facts uncovered and the recommendations made by the several committees of the Conference that are of special importance to the readers of this journal. The publication in detail of this valuable material will start next month when we will review the report of the Committee on Construction.

Perhaps the most significant accomplishment of this Washington Conference was that it gathered together for the first time all branches and interests of the so-called home building industry. The three thousand and more delegates in attendance represented not only every section of the United States but every shade and type of home building interest, including building contractors, architects, engineers, dealers, manufacturers, bankers and other loan interests, government officials, club women, social workers, educators and home owners.

All found a common cause in attacking the hydra-headed problem of how to supply better homes at lower costs to the great mass of the American people. The very fact that all these divergent interests got together and spent three days and nights in comparing notes and in studying this all-important question is encouraging for future teamwork and united effort in this field.

Some have expressed disappointment that this Conference did not produce some quick remedy for the present home-building depression. The purpose of the Conference was not to meet an emergency, but to set up standards for a long-time program.

Moreover, no conference nor no amount of talking in convention is going to accomplish results except where the individuals concerned exert themselves to put the Conference ideas into effect. Home building in any community will benefit from this Conference only to the extent to which the builders in that community make an effort to follow its recommendations and profit by its advice. This is an individual responsibility for every one concerned with home building, home improvements or home ownership.

Two Philadelphia Builders Point the Way to Their New Homes. They find that giant size attracts, the arrow (below) being 16 feet long.

This Sign Is 12 Feet High; the Pointing Hand Is of Sheet Metal.

SIGNS OF HOME BUILDING REVIVAL

PHILADELPHIA builders have found that an outstanding sign, something "different" in the neighborhood, is one of the best and least expensive ways to attract prospects to the newly built house. A large arrow six feet high by sixteen feet long is helping to sell one extensive operation. The lettering is pure white on a red background surrounded by a grey border. Its very massiveness gives this sign its superior value.

Another unique direction sign is on an artery leading outside of Philadelphia where a new row is being sold. The large hand cut out of sheet metal stands out on blocks four inches from the board to add to its naturalness.

A simpler way to induce the motorist to turn a corner is pictured by the curved arrow on Fallon's sign. This is just the ordinary flat painted sign but Mr. Fallon believes that the psychology of the bend in the arrow is far more result-getting than a printed command, no matter in what terms it is presented. Then for a sign at the entrance of the sample house it is doubtful if a more effective appeal can be made than is embodied in the "Page" idea. This carries with it the human touch which is lacking in most invitations presented in paint.

This "Page" Gives a Friendly Invitation to Enter and Inspect.

Photos by Thos. H. Wittkorn.

HOOVER CONFERENCE INAUGURATES

Experts Make Complete Recommendations At Washington Meeting to Improve Every Phase of Home Building and Home Ownership—Detailed Information Will Be Made Available to Builders

JOHN M. GRIES

Executive Secretary, The President's Conference on Home Building and Home Ownership.

A NEW era in the art and science of home building was inaugurated in Washington on the evening of December 2, when President Hoover rose at Constitution Hall to make the opening address of his Conference on Home Building and Home Ownership to more than 500 members of the Conference and a great body of other invited delegates, numbering in the neighborhood of three thousand persons, and comprising representatives from every division of the industry.

Speaking through a radio microphone to home owners all over the country, as well as to the assembled delegates, President Hoover laid down the principles on which the work of the Conference ought to be made effective. "The facts first must be discovered," he said, "then they must be assembled in their true perspective and the conclusions to be drawn from them must be the inexorable march of logic. The basis of action is to collate the whole of our experience to date, to establish standards, to advance thought to a new plane from which we may secure a revitalized start upon national progress in the building and owning of homes." Emphasizing the importance of the great problem of finance involved in the study of home building and ownership, President Hoover called for a solution to the question of financing homes for "those who have an earnest desire for a home, who have a job and therefore possess sound character credit, but whose initial resources run to only 20 or 25 per cent."

Conference Endorses Home Loan Proposal

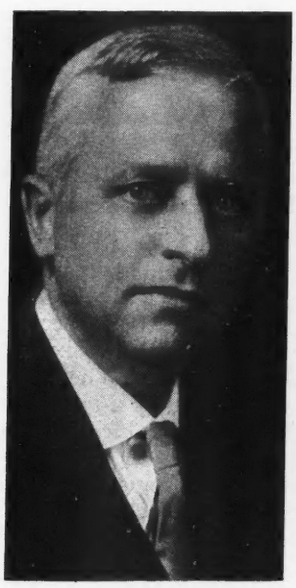
The President referred to his own home loan proposal by saying that "it was brought forward partially to meet the situation presented by the present emergency, to alleviate the hardships that exist amongst home owners today and to revitalize the building of homes as a factor of economic recovery, but in its long-distance view it was put forward in the confidence that through the creation of an institution of this character we could gradually work out the problem of systematically promoted home ownership on such terms of sound finance as people who have the home-owning aspiration deserve in our country."

The intense interest of practically all delegates in the financial question was reflected in the large attendance and brisk discussion which prevailed at the later meeting of the Finance Committee and finally consummated, at the close of the convention, in the form of a resolution delivered at the final meeting in Constitution Hall, endorsing President Hoover's home loan bank proposal and calling for its favorable consideration by Congress.

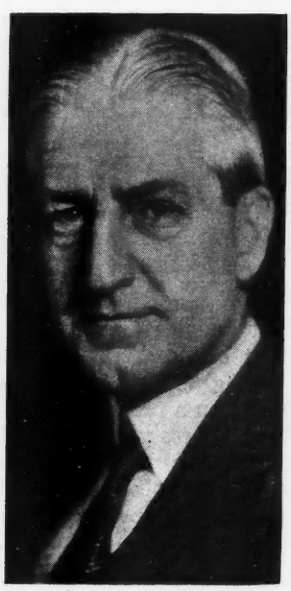
Three Days of Continuous Conference

Meeting in morning, afternoon and evening sessions, the thirty committees of the Conference followed the opening gathering at Constitution Hall with a three-day series of meetings, covering all phases of the Conference, including Types of Dwellings, Equipment, Design, Construction, New Methods and Technological Developments, Modernizing, Income, Finance, Information Centers, City Planning and Zoning, Furnishing and Decoration, Legislation and Administration and other important topics.

The reports of all committees were based on a year or more of intensive work by appointed experts, led by Dr. John M. Gries of the Department of Commerce, Secretary of the Conference. The discussions which centered around most of these reports in the Conference sessions drew forth additional data which will be incorporated into the final reports of the Conference. It is proposed to make the results of the Conference avail-



JAMES FORD



WILLIAM STANLEY PARKER

Respectively, Executive Director Better Homes in America and Chairman Committee on Research, and President Architect's Small House Service Bureau and Chairman Committee on Design.

NEW ERA IN HOME CONSTRUCTION

Conference Endorses Home Loan Proposal of President. Immense Amount of Data Is Compiled But Still Further Investigation Seems Necessary and Conference Work Will Be Continued

FREDERICK H. ECKER

President Metropolitan Life Insurance Company and Chairman Committee on Finance.

able to the public in the form of a national handbook and an additional source-book may be developed for the use of educational institutions and organizations.

What the Conference Accomplished

It is not easy to answer, in a few words, the question: "What did the Conference accomplish?" So complex and varied were the problems investigated by the committees of the Conference and so detailed were many of the reports submitted by committees that it is difficult to evaluate thoroughly the results of the Conference as a whole or to embrace its accomplishments and achievements in a few phrases. In the first place, it may be said that the Conference succeeded in setting up certain definite goals, objectives and standards and most of the committees outlined specific steps that could be immediately taken to help put their recommendations into effect.

The Conference has assembled data on every phase of home building and home ownership and has helped to interpret this data for further action. On several of our great problems in the building field today, the Conference has given force to the public-spirited conclusions of many specialties. It has defintely shown that we must have for successful home owning:

(a) Easier financing up to 75 per cent of the cost.

(b) Adoption of new methods and materials,—perhaps pre-fabrication of structural units in order to lower costs sufficiently.

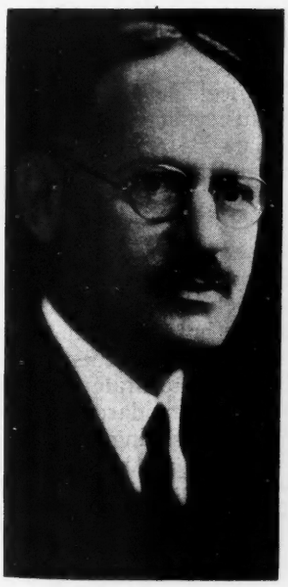
(c) More large scale operations for the building of neighborhood units, community developments, slum rehabilitation, and for the proper application of new methods and good design.

(d) Better and more economical planning of the home, to fit the physical and social needs of modern life and the modern family, and the modernizing of older homes to the same end.

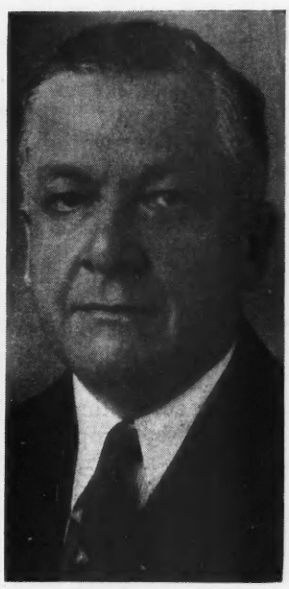
(e) New public and private effort to standardize and improve our building practices, our codes, our city planning and zoning laws and at the same time to cut down on the burden of taxation that weighs on our homes.

(f) Local co-operation of men in the industry, local information for home builders and home seekers, and leadership in the community for local educational programs.

(g) A national institute or clearing house to co-ordinate the diverse work of many different organizations in order to get the greatest possible benefit from the further research work that will be necessary.



A. P. GREENSFELDER



FREDERICK M. FEIKER

Respectively, President Associated General Contractors and Chairman Committee on Construction, and Director Bureau Foreign and Domestic Commerce and Chairman Committee on Reconditioning and Modernizing.

The need for further research was continually made evident throughout the Conference as was also the advisability of educating and informing the public through existing or new agencies. The money question seemed to dominate almost every discussion, entering into investigations of family income, land and construction costs, as well as into the all-important subject of finance.

Finance, a Prominent Issue

Leading all other subjects in immediate importance, the subject of finance brought out one of the largest gatherings of the Conference where the discussion at times grew heated on what should or should not be done in the extension of credit for building operations.

The Finance Committee recognized the need of supplying credit in the emergency situation and announced its support of the President "in any remedial measure he proposes." In spite of an acute situation existing in the first mortgage field in some parts of the country, the committee found, however, that the greatest deterrent to sound home ownership was in the second mortgage field. Two-thirds or more of all home purchase transactions require junior financing, and the committee believes that the development of reputable second mortgage companies is essential through the encouragement of junior mortgage societies and the formation of a community pool of private local interests. Second mortgage institutions in a few communities, operating on a local basis, have been successfully organized by build-

ing material dealers, groups of employers, and other local elements, it was found.

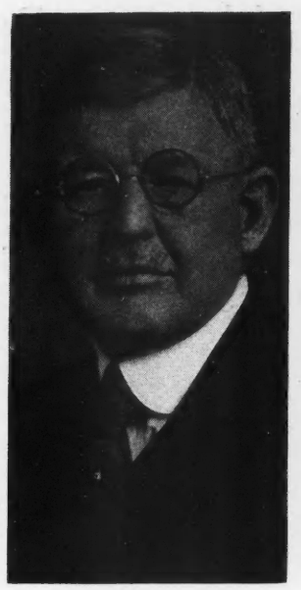
Personal causes of default in payments on houses have more to do with the present situation than any outside contributing difficulties, this committee believes. No one should undertake the purchase of a home unless he can make a down payment of about 25 per cent of the purchase price. Buyers should seek amortized long-term loans in preference to short-term straight mortgages and where there is a second mortgage the principle installment should be deferred to the end of the second or third year. To insure stability in home property values, the committee recommended the establishment of a permanent fact-finding bureau to record and publish facts on issuances of mortgages, real estate transfers, new subdivisions opened, new construction, rental trends and foreclosures. Adoption of a uniform mortgage act was strongly urged by the committee and the establishment of central appraisal bureaus in various cities was recommended for the purpose of stimulating home ownership through sound appraisals.

Delegates Present Own Views

Disagreement with the conclusions of the Finance Committee was expressed by several delegates present who were allowed to give their opinions and present them in the form of resolutions. The need for financing low-cost apartments for city dwellers, now a recognized form of housing, was emphasized by two or three delegates and some speakers expressed the opinion that the President's home loan plan did not go far enough in providing credit for new building operations. The president of the United States League of Building and Loan Associations indicated that the opinion of that body was against granting second mortgages in connection with building and loan societies. The financial interests themselves were accused by one speaker of fostering bad construction by lending money on poor and ugly housing. All discussion was incorporated into the proceedings of the meeting but no definite action was taken on any proposal or resolution.

ERNEST T. TRIGG THOMAS S. ADAMS

Respectively, President John Lucas Paint Company and Chairman Committee on Home Ownership and Leasing, and Professor of Political Economy Yale University and Chairman Committee on Taxation.



MORRIS KNOWLES COLLINS P. BLISS

Respectively, President Morris Knowles, Inc. and Chairman Committee on Utilities for Houses, and Head of Dept. of Mechanical Engineering New York University and Chairman Committee on Mechanical Equipment.

Ways and means of bringing down construction costs were discussed in various committee meetings. Accordings to experts on technological developments, the industry must adapt itself to industrial methods, eliminate costly methods of erection and for them substitute the fabrication of structural units in factories, the transportation of these to the site and their quick and efficient assembly at that point. Many kinds of new materials and products lend themselves to this treatment, it is asserted, and it might even be possible to fabricate whole rooms, transport them to the site and lift them into position with a derrick.

In this way, all the latest building products and house equipment, such as labor-saving electrical devices of all kinds, can be installed in houses without too great an increase in cost.

The Committee on Technological Development placed the waste in the building industry at 53 per cent, or approximately two billion dollars, 34 per cent of which is chargeable to poor management, which is in turn, a result of inefficient methods and obsolete machinery, it was contended.

Many experts believed that some form of pre-fabrication away from the site is indispensable to cheap housing and that we will not get cheap housing unless and until this is put into effect; but the Committee on Construction believed that reduction of costs of small houses may be brought about by accurate estimating and cost accounting, by the use of standardized quality materials, by proper use of labor saving devices and equipment, and by proper job organization. Comparatively few builders use regular standardized forms for detailed estimating, cost accounting and job scheduling, it was pointed out.

HOOVER'S HOME FINANCING

The Federal Home Loan Bank system after having been recommended to Congress in the President's Message, is now before both Houses in an identical Bill, introduced

ALFRED K. STERN HARLAND BARTHOLOMEW

Respectively, Director Julius Rosenwald Fund and Chairman Committee on Large Scale Operations, and President National Conference on City Planning and Chairman Committee on Sudivision Layout.

The committee reported that builders should consider the following with a view to effecting economies:

1. **The simple plan versus the complicated plan or design, coordinated with materials.**
2. **Elimination of cellars and attics.**
3. **Type of foundation.**
4. **Room dimensions to meet stock sizes of lumber.**
5. **Standard framing, doors and windows.**
6. **Location of bath and kitchen to save plumbing expense.**
7. **Efficient placing of heater.**
8. **Lath and plaster versus wall board.**
9. **Spray painting.**
10. **Prefabricated construction units and interior fixtures.**
11. **Elimination of back stairs.**
12. **Smaller number of interior partitions.**
13. **Central heating.**
14. **Elimination of false appurtenances.**
15. **Use of well-seasoned lumber.**

Another practice recommended for reducing construction costs was the extension of winter construction. Too few home building organizations are giving attention to the construction of homes for families living on $2,000 or less per year, the committee said, in urging a study to meet the demand for homes costing $5,000 or less.

The relative merits of single-family dwellings, two-family dwellings and apartment houses were discussed in a long session of the Committee on Types of Dwellings. This committee took the broad view that each of these types serves best the needs of some groups in the community but the idea was advanced that changes in the plan, design, and management of single-family homes might make them popular for many people who now dwell in apartments. It is believed that, faced with the alternative of apartment renting or home buying, many families have reluctantly chosen the apartment. Many apartment dwellers might prefer single-family houses if they were able to rent or buy them with similar advantages of cost and convenience, it was pointed out. One speaker gave the factors which are helping to increase apartment living as: Fewer children, troublesome house and yard maintenace, working housewives, changing jobs, and proximity to job. In the city of Wilmington, Delaware, he said, 42 per cent of the families have no children and 21 per cent have only one child.

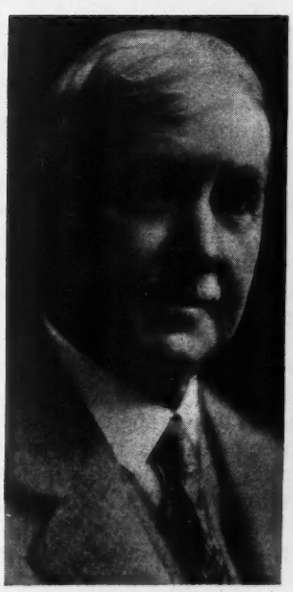
The question was raised whether we have not forced people into apartments. Young couples may want to live in single-family houses but finding dwellings too large that do not suit their needs, they regretfully take apartments. This seems to point to the construction by builders of "elastic" houses of four rooms, costing $5,000 or less on lots 50 by 100 ft. in order to compete with three-room apartments.

That there will be a revival of small house building in the next five years was predicted. Later on in the decade there might follow a sizable revival of apartment building, it was felt. Investigations show that 60 per cent of family units are built in response to new population.

Land value seems to be one of the chief factors determining types of dwellings, according to the committee's findings. Overcrowding is closely associated with high land values; but these may be stabilized to some extent by city planning and zoning. The ratio of the cost of a lot to the cost of the house to be built upon it remains fairly constant, regardless of whether the lot is 14, 25, 30, or 40 feet wide. The contemplated density of land occupancy apparently is the chief factor in determining land costs.

Average Design Seriously Defective

Finding that the design of the average small American house is "seriously defective" the Committee on Design recommended the adoption of group design as a remedy—the planning of dwellings not as isolated units but as communities. This committee believes that group design is practical inasmuch as the large majority



ALBERT SHAW BERNARD J. NEWMAN

Respectively, Editor Review of Reviews and Chairman Committee on Education and Service, and Director Philadelphia Housing Association and Chairman Committee on Legislation and Administration.

PLAN NOW BEFORE CONGRESS

on December 9 by Senator James E. Watson of Indiana and by Representative Robert Luce of Massachusetts, and referred to the Committees on Banking and Currency.

GEORGE K. BURGESS JOHN IHLDER

Respectively, Director Bureau of Standards and Chairman Committee on Technological Development, and Executive Director Pittsburgh Housing Association and Chairman Committee on Types of Dwellings.

of urban houses are now being produced in large groups by operative builders. This committee condemned the use of faked gables, the use of too many materials in a small home, and the attempt to make a two-story dwelling look like a story-and-a-half house. Modern traffic has tended to transform the interior of a block into the logical center of social and landscape interest, the committee believes. Row types point the way to low cost housing better than any other dwelling types reported in the larger cities, the committee declared, maintaining that a well-designed, six-room, row house can be produced at a cost of 20 to 25 per cent lower than the same house if built free-standing.

The committee noted a tendency in the last few years for the cost of dwellings to increase due to increase in size, features, details, mechanical equipment, and to the over-elaboration of decorative effects. This complexity was condemned where it was obtained at the expense of sound structure and adequate space. Above all, the committee felt that home financing interests should lend money only on sound designs instead of taking only a casual interest in the subject. Building material interests were also called upon to collaborate in the improvement of design.

Home Modernizing

Upwards of $500,000,000 is being spent yearly on household repairs and maintenance, was the report of the Committee on Reconditioning, Remodeling and Modernizing. This committee recommended the immediate emergency organization of community groups in all centers to stimulate further home repair activity and urged the establishment of a steering committee made up of representatives of local architects, builders, construction trades, and civic organizations, to take the initiative in reconditioning activity.

Apart from the higher standards of living possible in an up-to-date house, the committee pointed out that proper maintenance protects a home owner's investment and the owner finds his property more readily marketable if he desires to dispose of it and his home will be a better security for a loan if he wishes to borrow on it.

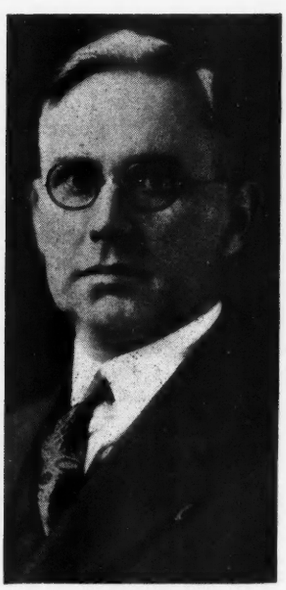
Homes Must Suit the Family Needs

If the American home is to survive, it must fit the needs of the average American family with growing children, the Committee on Standards and Objectives declared. The financing and building of homes of all types must be so arranged and organized that home ownership may be available with a minimum of attendant risk to every family in the United States competent to own a home, on terms that do not involve the starving of the family budget in such essentials as savings, health, recreation, or education, and yet preserve adequate standards as to housing. Adequate housing may be procurable at rentals that leave enough of the family income for other fundamental needs. This committee recommended long blocks to eliminate unnecessary streets and so to effect economies. No apartments should be built more than two rooms in depth, according to the committee's belief and rooms should open only on the street or on large yards or gardens with no opposite wall at nearer distance than the height of the building. Twelve houses to the acre was sufficient density, the committee said, and lots should be 40 feet wide for detached houses; not less than 30 feet for semi-detached houses and preferably 18 feet for row houses.

Homes That Are More Flexible

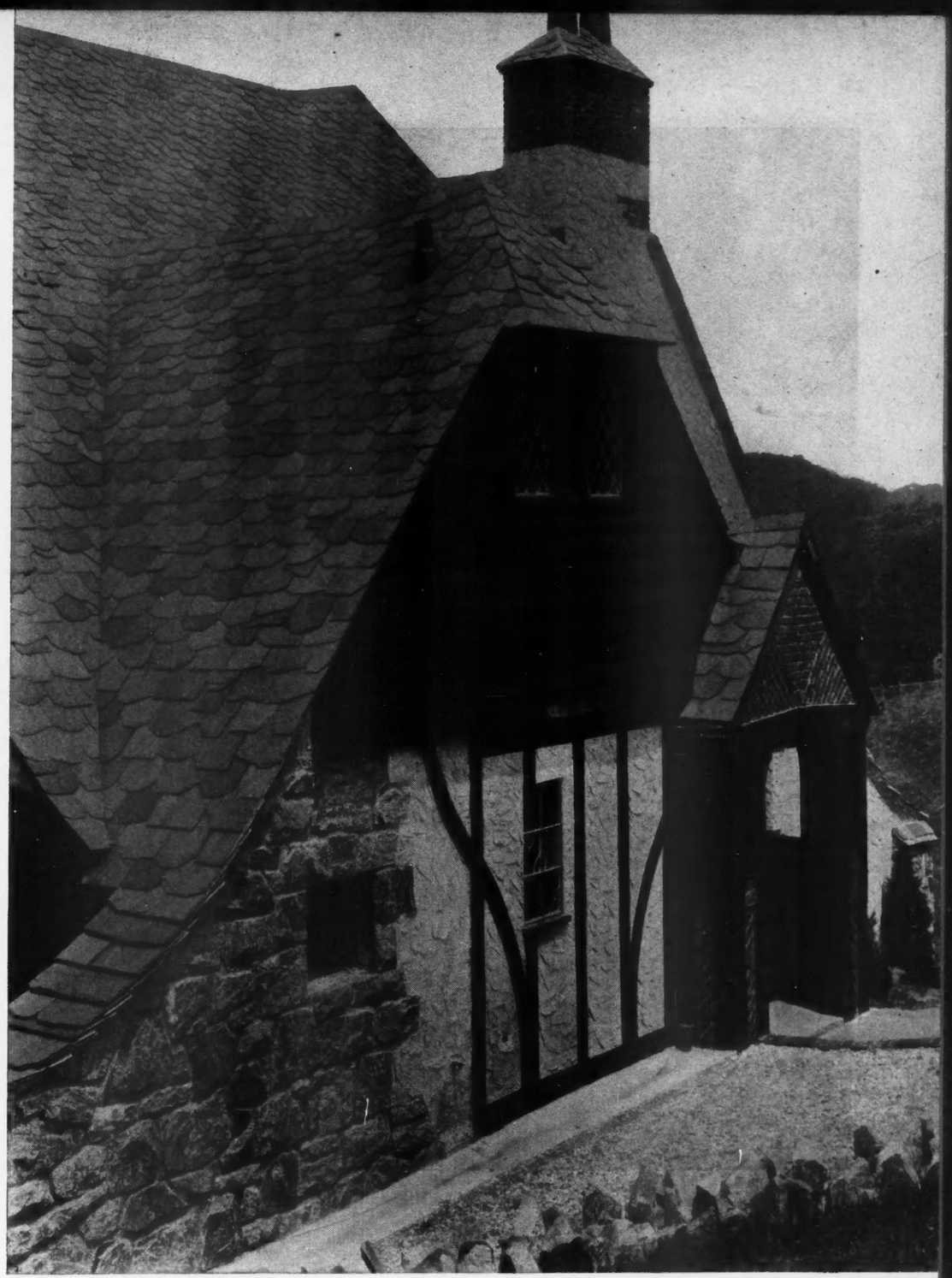
What can builders and architects do to make our houses more flexible? was the question raised by the Housing and Homemaking Committee. In many instances, additional space might be secured without more square feet of floor, the committee believed. Sometimes adequate heat or better lights would make more rooms available. Sometimes space may be obtained by changes in arrangement, as adding doors which permit one room to be closed off from another.

(Continued to page 66)



ABRAM GARFIELD A. R. MANN

Respectively, Fellow American Institute of Architects and Chairman Committee on Blighted Areas and Slums, and Provost Cornell University, and Chairman Committee on Farm and Village Housing.



HOUSE AT HARTSDALE,
NEW YORK
R. C. HUNTER,
ARCHITECT

Better Homes— and Bureau Service for 1932

For the benefit of its readers desiring additional architectural service, this publication is happy to announce its alliance with the Architects' Small House Service Bureau, Inc. Working drawings and quantity surveys are available for the various designs prepared by the Bureau and shown in these pages. Other architects whose work we illustrate are also glad to correspond with our readers regarding their designs.

The Architects' Small House Service Bureau is an organization made up of architects, nation-wide in scope, and bears the endorsement of the American Institute of Architects.

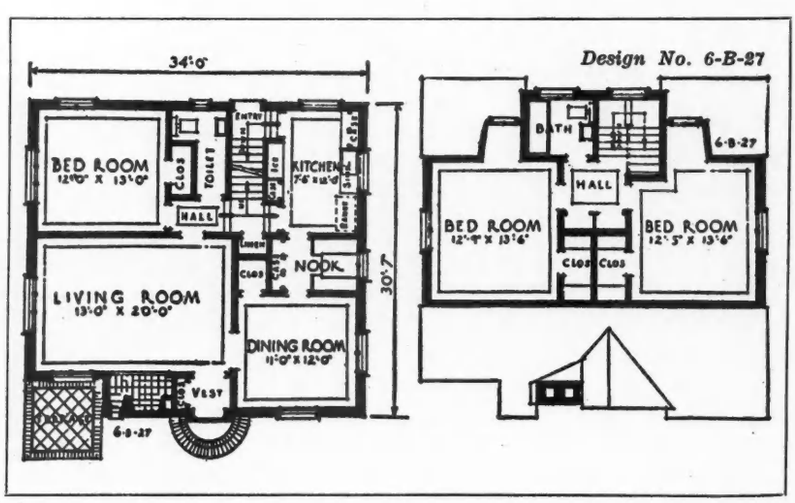
Communications may be addressed in care of this publication, 105 W. Adams St., Chicago.

Design No. 6-B-27, Copyright Architetcts' Small House Service Bureau, Inc.

Fervidly French

This Bureau plan shows an exceptional orderliness of form and mass; variegated tile roof contrasted with light stucco walls; broad outside chimney forming part of entrance feature; casement windows throughout; French doors opening on terrace; brick trim about entrance, on chimney, and forming window sills and foundation; semi-circular brick stoop; entrance door of wide planks with V-type joinings and wrought iron strap hinges; deep reveals at openings.

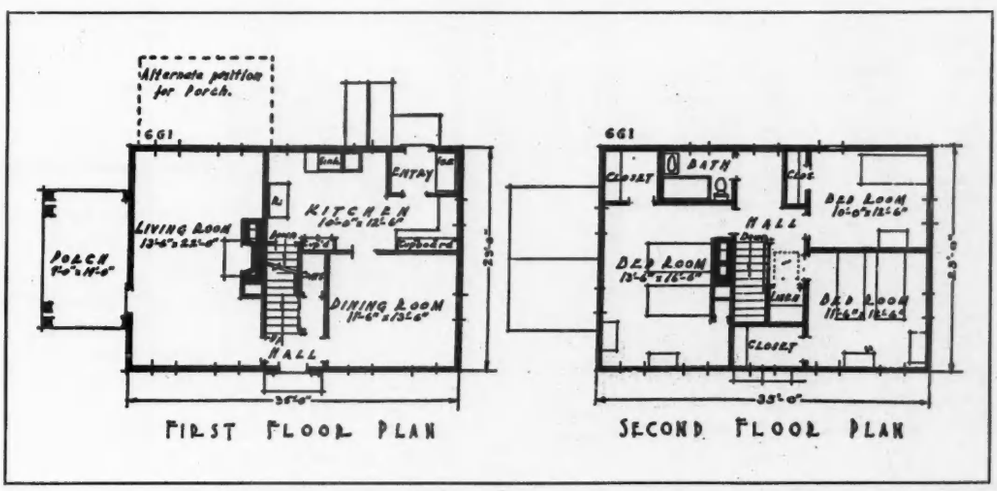
Features of the interior are: A coat closet in the vestibule; fireplace recessed in inglenook as shown in sketch; built-in breakfast nook between kitchen and dining room; downstairs toilet and adjoining bedroom; linen closets in both upper and lower halls; two bedrooms and complete bath on second floor; package receiver in rear entry; full basement.

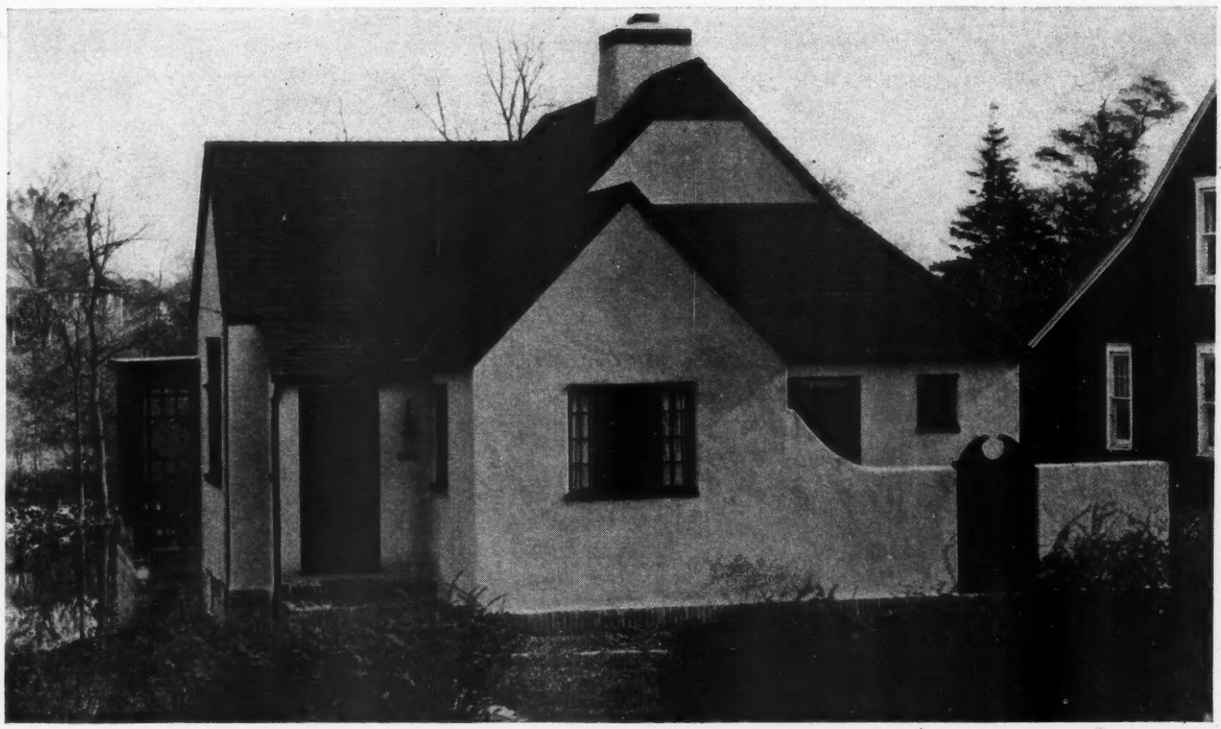


Design No. 6-G-1, Copyright Architects' Small House Service Bureau, Inc.

New England Colonial Home

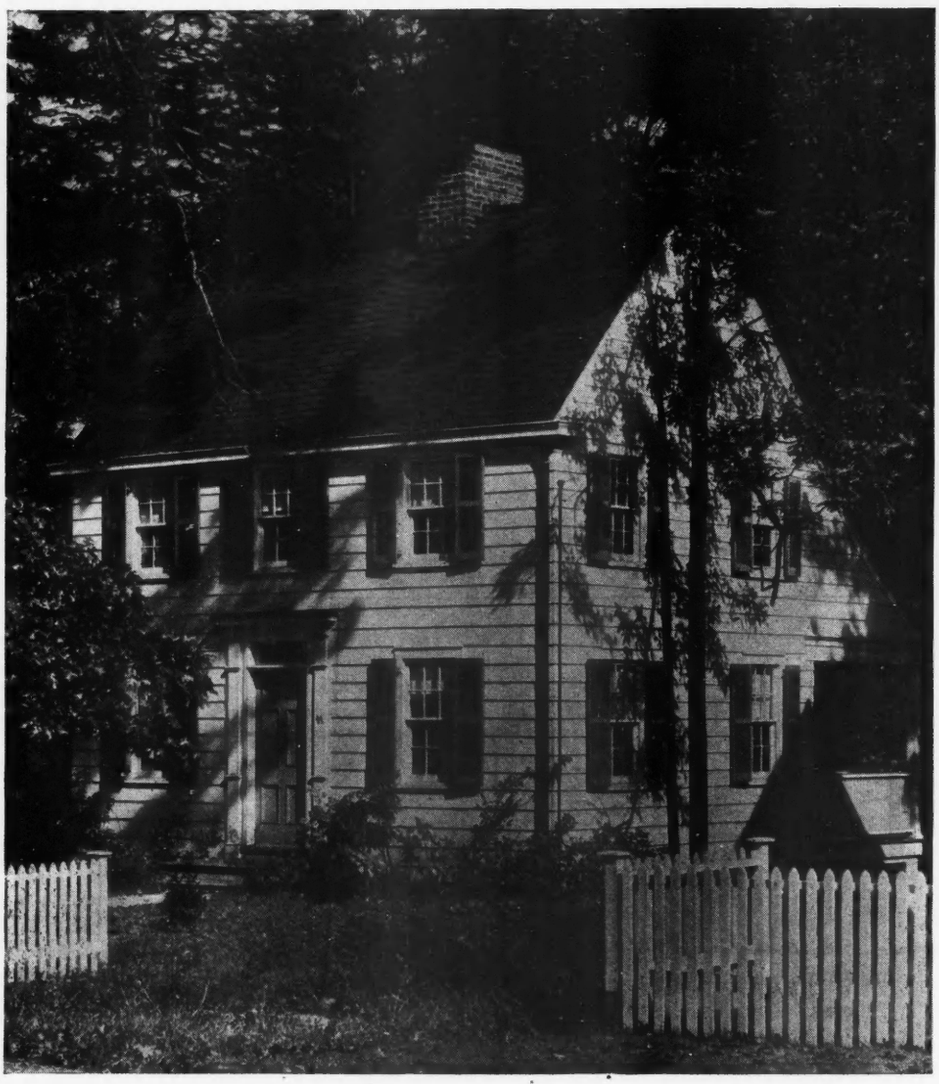
Features of the interior are: Entrance hall with coat closet; central stairway; Colonial fireplace with wood mantel; French door opening on porch; dining room; pantry (this space may be used for breakfast nook); inside stairway to basement opening from kitchen; three bedrooms and bath on second floor; commodious closets; scuttle in hall ceiling leading to attic storage room—disappearing stairway could be arranged here.

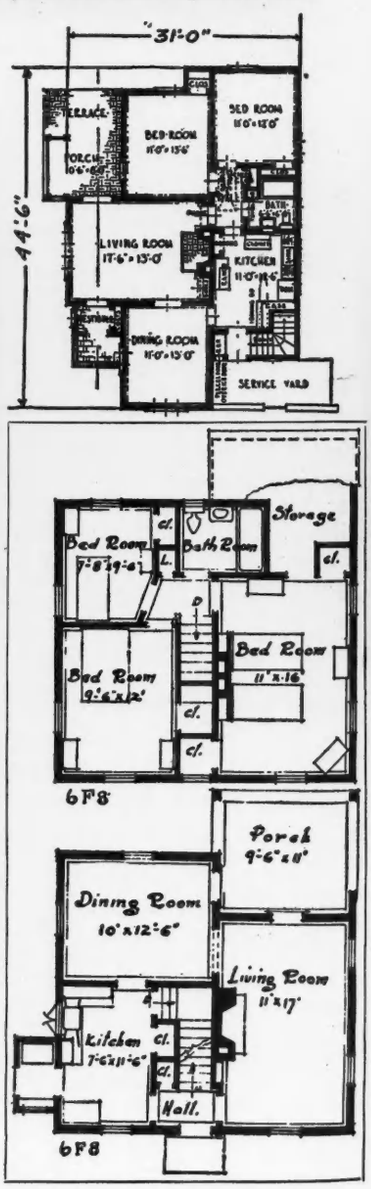




Two Bureau Designs

English No. 5-D-29 above.
Colonial No. 6-F-8 below.



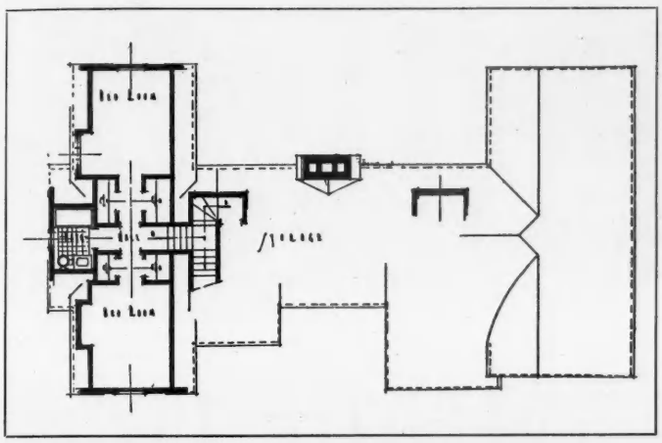


Low Sweeping Roof Lines

Residence of C. H. Peterson
Port Washington, Long Island, New York

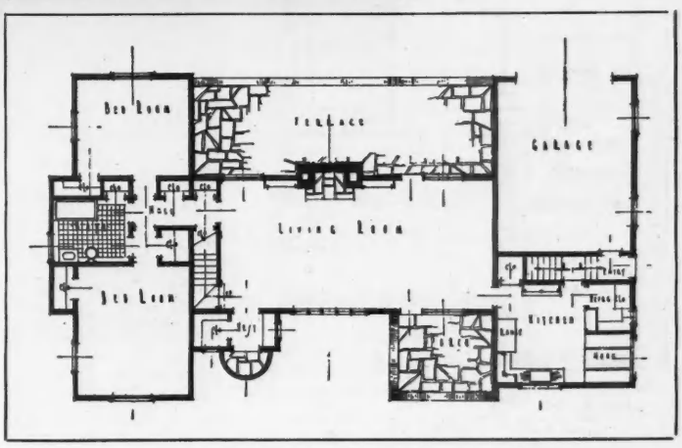
OTTO PREISS
Architect

W. L. WILLIAMS
Builder



This Gable and Dormer Detail Reveal the Charm That Lies in Correct Form and Proportion Without the Use of Superfluous Ornament. The relation of wall to window space is harmonious.

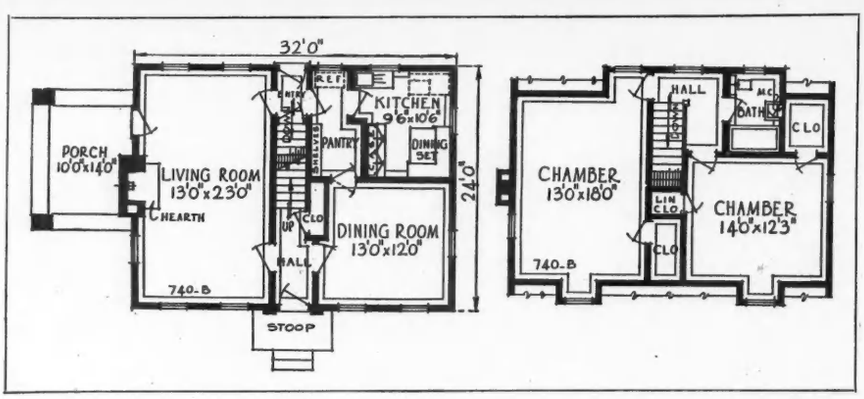
Stucco Is an Ideal Material for Many Suburban Designs of This Type. Steel sash can be appropriately used here and they are attractive components of the ensemble. The broad and free handling of the roof lines is characteristic of Mr. Preiss' designs. The doorway and vestibule treatment is also interesting in this case.



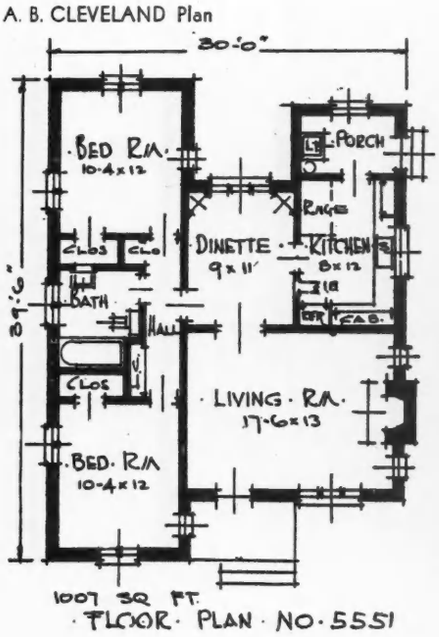
NATIONAL Plan

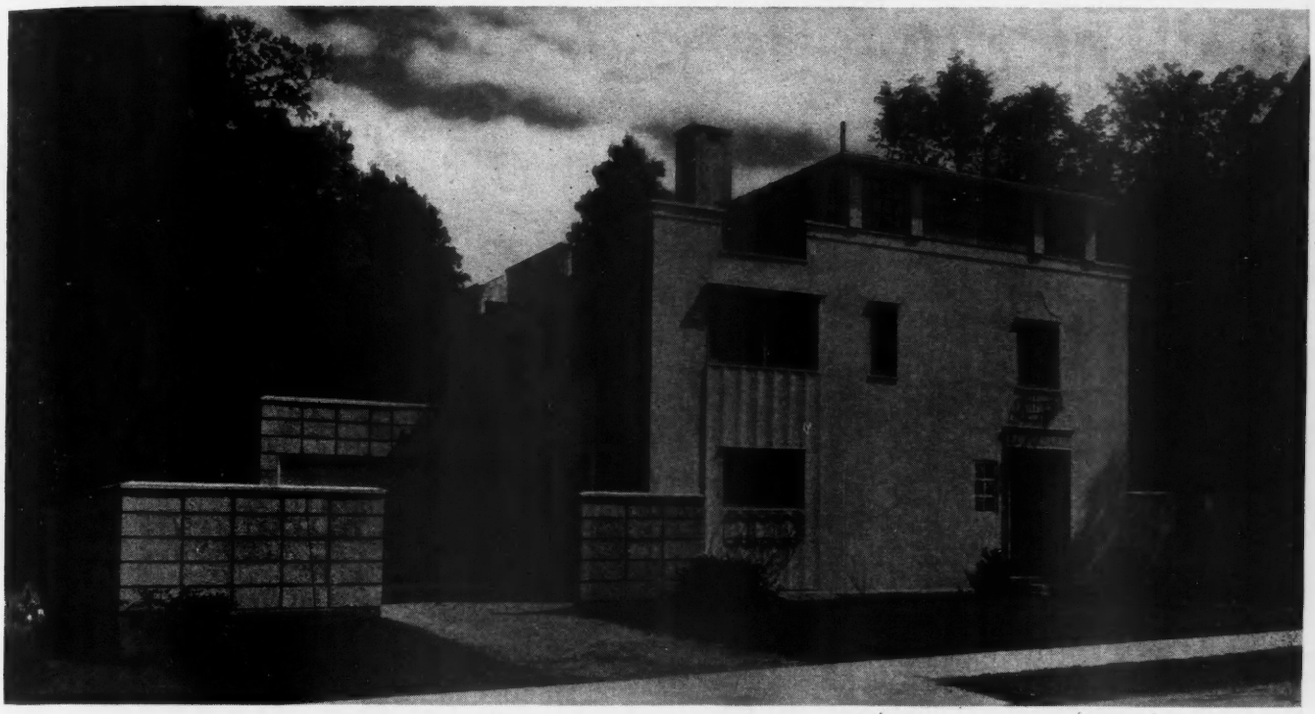
Cottages—Colonial and English

Two Compact Economy Homes Are Illustrated Here, the Colonial from the East, the English Brick from California. Each makes a house in step with 1932 standards.



A. B. CLEVELAND Plan

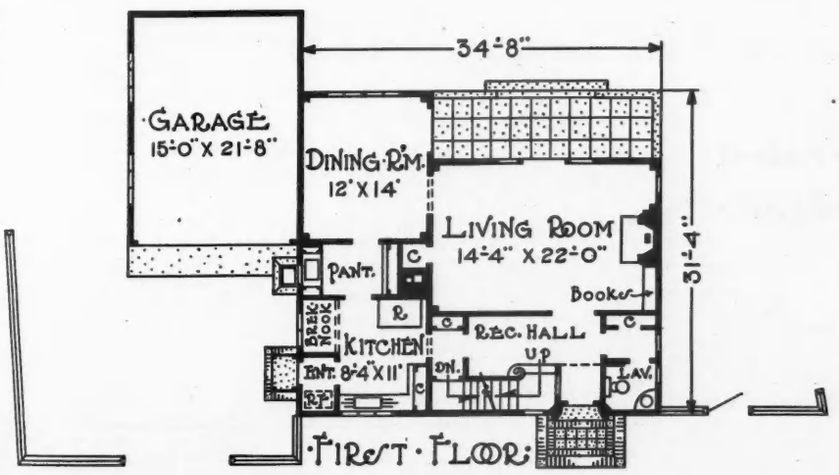


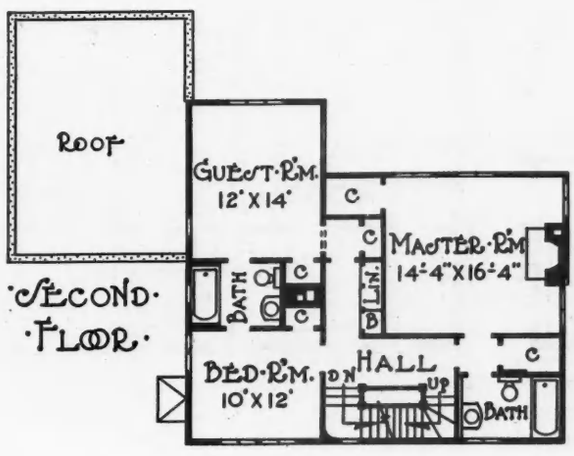


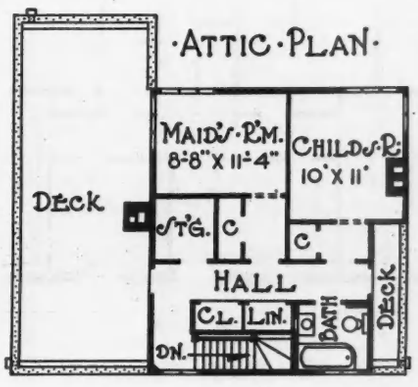
Restrained Modernism

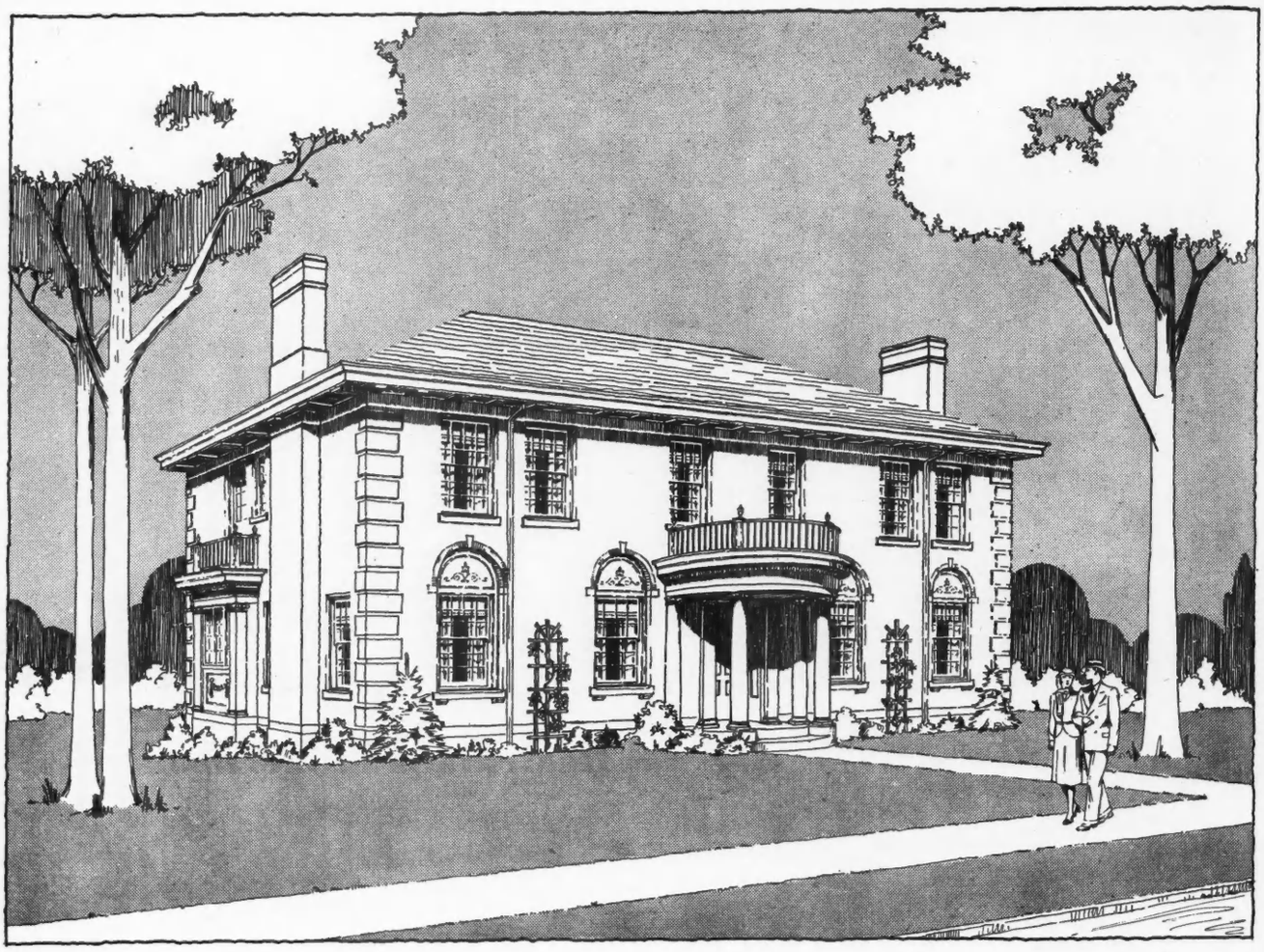
Residence of Mrs. B. C. Ellery
Brookline, Mass.

GUNTHER & BEMIS
ASSOCIATES
Architects





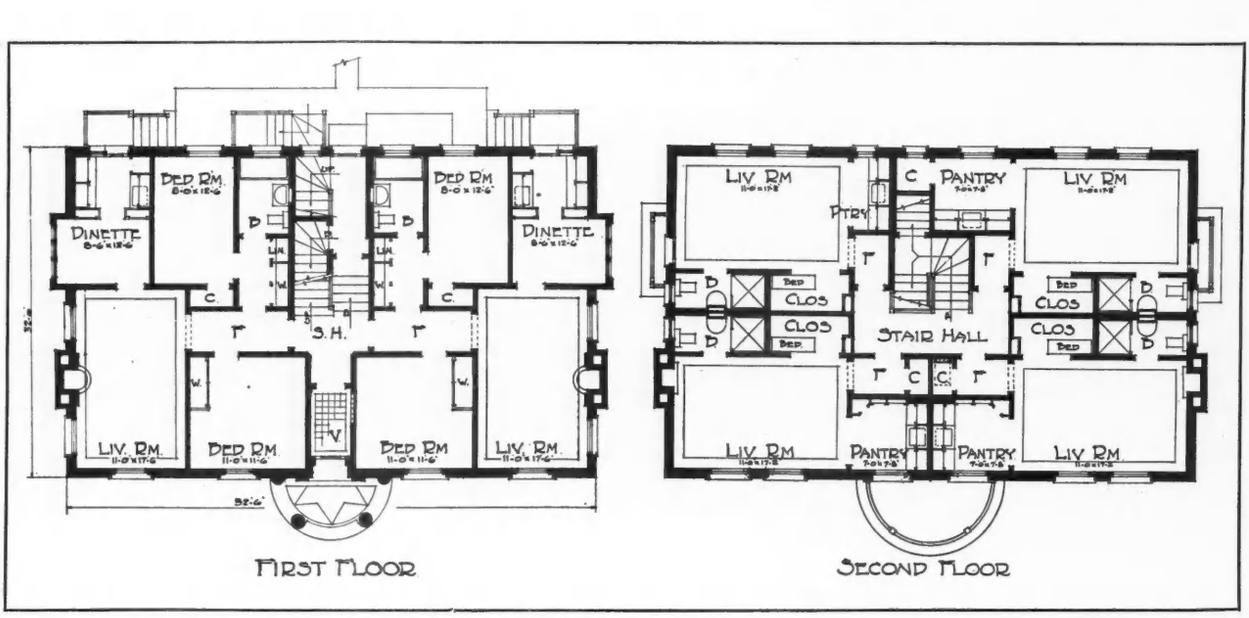




WILLIAM G. KRIEG, Architect

Six Apartments Concealed in this Stately Residence

Designed for Construction Near the Campus in a Thriving State University Town, This Building Is Popular with Faculty and Students and Proves an Excellent Investment.

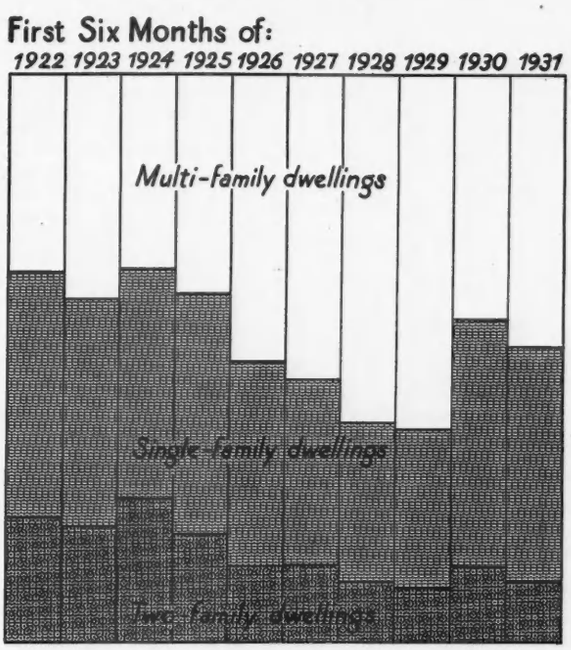


Houses Vie With Apartments in 1931

Trends in Population, Building Costs, Land Development and Family Status Forecast Types of Future Construction

DURING the first six months of 1931, the ratio of new apartment construction to single-family house construction in 65 cities was somewhat greater than in the first six months of 1930 as shown by the accompanying table based on building permit figures collected by the U. S. Department of Labor. It should be noted, however, that this graph is based on reports from the 65 largest cities and that in the remaining 300 or more cities of more than 25,000 population, these ratios would not hold because the great bulk of 1 and 2-family construction during the past decade has been outside of the large cities. Figures that take in but 65 cities can be used only as giving a partial indication of the true ratios of the various types of residential construction for the country as a whole.

Comparison of Residential Construction in 65 Cities, Showing Percentage of Families Proided For in New Apartments, Single-Family and Two-Family Houses for First Six Months of Every Year Since 1922



The rapid growth of urban centers in the past ten years is one factor that has tended toward increased apartment construction. There are now 376 cities with a population of 25,000 or more; about 65 per cent of our increase in population has been absorbed into these cities in the past decade, census figures show. It is likely that the growth of suburbs will continue to play a leading role in sustaining the popularity of the single-family detached house. There is a growing tendency to build up secondary centers of distribution around large cities; and improved transportation facilities are furthering the movement out from the cities. Surveys indicate that most of the families now entering the suburbs want single-family detached homes in a price range under $10,000 and this means a tremendous cumulative demand for this type of structure throughout the country.

But apartment houses have not been barred from the suburbs. It has been found in many cities that a considerable number of families are attracted by well-planned apartments in suburban districts and these have been erected in increasing numbers.

Meanwhile, within the limits of the city proper, there remains the problem of rehabilitating slum areas. The erection of expertly planned apartment houses, built on a limited dividend basis, has been advocated as one solution and if this movement gains headway it will accelerate the apartment house ratio. However, slum rehabilitation work requires considerable co-operation between private sponsors and city and state authorities and it will probably be a few years yet before it gains much headway in the country as a whole.

The rising cost of land in and around our urban centers is one factor that is tending to favor more apartment construction. In row houses and in multi-family structures, more families can be accommodated per square foot of land; and thus, where the cost per square foot of land is high, it can be distributed over a greater number of families.

Another cost factor, of course, is that of construction. In 1930, the Department of Labor found that the average cost of new dwellings, per family, in 257 cities was as follows: 1-family dwellings, $4,993; 2-family dwellings, $3,924; and multi-family dwellings, $3,857. These figures include the cost of construction only. A differential in cost *per family* is here shown in favor of the apartment type.

Where land costs are not too high, however, the row house type seriously challenges the apartment.

The assumption of some experts has been that the single, detached house is a comparatively high-cost proposition and that it should be superseded by apartment housing. This view disregards entirely the desires of the majority of American families and does not take into account the tremendous reductions in costs that have been made in the construction of single-family houses during the past two years.

Another trend that favors the single, detached type is the increasing number of well-planned and restricted community developments in the suburbs of cities. The efforts of community developers alone will undoubtedly provide a strong impetus to the construction of the single-family types.

It has been said that our types of construction will be influenced by the possibility that from now on there will be fewer children per family in this country. It is difficult to say how much effect this will have, even if it actually proves to be true. Undoubtedly, the desire for the welfare of children is a potent force in most families leading to the possession of a single-family house.

A recent study in Chicago made by Coleman Woodbury, originally published in the *Journal of Land and Public Utility Economics* and republished in the *Monthly Labor Review* of the Department of Labor, throws considerable light on the whole question of family attitudes toward apartment house *vs.* single-family home living.

Among home owners, the welfare of the children was most frequently given as the chief consideration leading to home ownership, followed by these other reasons: "safety in investment," "forced savings," "recreation and leisure activity around house"; "protection and security"; "lack of play space in apartment districts"; "noise in apartment districts."

1931 Totaled 4¼ Billion Dollars

Estimates Based on Actual Reported Contracts Let in First Eleven Months Give Total of All Construction for Full Year

DURING the year 1931, building in the United States reached a total of $4,312,839,019. While this is an enormous volume of work, it is only a little more than half of the average volume for the five year period, 1926 to 1930 inclusive, which is probably more nearly the normal volume for the building industry. Just how the annual average volume of $8,198,562,000 was distributed between various classes of work is shown in detailed figures, as well as graphically, at the bottom of this page.

The estimate for the year 1931 is based on actual contracts let during the first eleven and a half months of the year, as reported by the F. W. Dodge Corporation. To these reported figures, factors were applied to account for building in the eleven western states, which were not covered by the reports, and also for unreported and

The Annual Building Market—$8,198,562,000

FIVE YEAR AVERAGE—BASED ON YEARS 1926–1930 INCLUSIVE

RESIDENTIAL BUILDING

Single Houses	$ 741,593,400
Two-Family Houses	138,157,100
Housing Developments	377,480,380
Total	$1,257,230,880
Apartments	$ 979,471,980
Hotels	177,432,580
Total	$1,156,904,560

(Above figures from the F. W. Dodge Corporation cover reported contracts for the entire United States.)

Unreported and Moderate Cost Construction	$1,840,080,000

(This figure is an estimate by American Builder and Building Age, substantiated by the F. W. Dodge Corporation in their annual summary circulars of January 2, 1930, and January 2, 1931; the figure used being 20 per cent greater than the F. W. Dodge Corporation estimate for this class of work.)

Total Average Annual Residential Market	$4,254,215,440

NON-RESIDENTIAL BUILDING

STORES AND OFFICE BUILDINGS:

Banks	$ 36,956,560
Offices	376,164,000
Offices and Banks	81,990,980
Stores	191,553,500
Total	$686,665,240

INDUSTRIAL BUILDINGS, GARAGES AND WAREHOUSES:

Garages	$148,307,180
Warehouses	94,251,740
Mineral Extraction	36,664,960
Food Products	64,403,740
Chemical Industries	21,083,800
Leather	2,880,260
Power Plants	179,177,800
Iron and Steel	70,792,940
Vehicles	29,041,600
Petroleum	41,598,740
Paper and Pulp	19,873,060
Printing and Binding	15,901,600
Rubber	4,939,900
Textile	40,525,340
Lumber	12,429,540
Non-Ferrous Metals	26,761,320
Miscellaneous	75,481,560
Total	$884,115,080

EDUCATIONAL, RELIGIOUS AND MEMORIAL:

Gymnasiums	$ 10,694,720
Libraries, Museums, etc.	27,385,040
Schools and Colleges	387,393,940
Churches	117,478,020
Convents	9,521,000
Memorial Buildings	12,824,140
Total	$565,296,860

PUBLIC BUILDINGS, ETC.:

Institutions	$ 28,034,920
Hospitals	160,729,500
Military and Naval	12,872,660
City Halls, etc.	53,554,560
Fire and Police Stations	20,355,260
Post Offices	11,825,200
Auditoriums and Halls	22,028,600
Clubs and Lodges	78,667,500
Parks	7,178,320
Park Buildings	25,820,000
Theatres	80,292,800
Total	$511,359,320

(These figures derived from the annual summary circulars, dated January 2, 1930, and January 2, 1931, of the F. W. Dodge Corporation.)

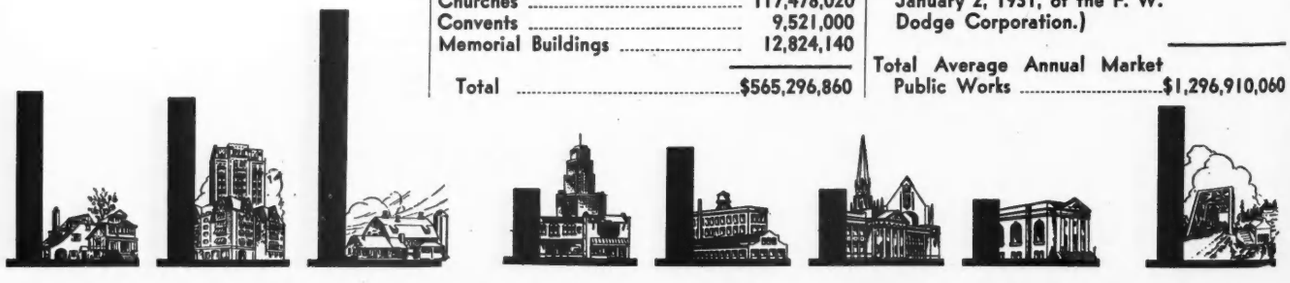
Total Average Annual Non-Residential Market	$2,647,436,500

PUBLIC WORKS AND UTILITIES

Water-front Developments	$ 65,320,140
Bridges	150,021,440
Incinerators	3,572,040
Lighting Systems	35,675,620
Railroad Construction	152,421,880
Railway Buildings	70,831,380
Sewerage Systems	118,006,720
Highways	627,847,160
Water Supply Systems	73,213,680

(These figures derived from the annual summary circulars dated January 2, 1930, and January 2, 1931, of the F. W. Dodge Corporation.)

Total Average Annual Market Public Works	$1,296,910,060



15.4%	14.2%	22.5%	8.3%	10.7%	6.8%	5.8%	16.3%
Residences—1 and 2 Family	Apartments and Hotels	Unreported and Moderate Cost Construction	Stores and Office Buildings	Industrial Buildings, Garages and Warehouses	Educational, Religious and Memorial	Public Buildings	Public Works and Utilities

RESIDENTIAL MARKET 52.1% | NON-RESIDENTIAL MARKET 31.6% | MISC. 16.3%

small work of $5,000 and less, including alterations.

Most of the small, unreported work is carried out in the small towns and rural districts and classifies as residential building. It is so shown in the accompanying tabulation.

The total 1931 building volume has been broken down into two tabulations, which appear on this page. One of these shows the volume of work by classes of construction, the other by months. In breaking down these figures, an interesting and important fact, relating to the reduced cost of building, was disclosed.

Comparing 1929 with 1931, the cost of residential construction dropped from $4.90 per square foot in 1929, to $4.27 per square foot in 1931, a reduction of 13 per cent in the unit cost of actual contracts let. On a $10,000 home this would mean a saving of $1,316. This substantiates the constantly repeated claims that it is cheaper to build now than at any time in a number of years. The reduction is even more impressive than appears at first glance, in view of the fact that it has been accomplished in the face of a steadily progressing tendency to use more expensive equipment in dwellings of all types,

This reduction of costs, which was much more pronounced in 1931 than in 1930, also indicates that the loss in residential building volume during the last two years was not actually as great in square feet as the loss in dollar volume would indicate.

Referring to the tabulation of building by classes, it should be noted that no figures for number of buildings and square feet are given for alterations, under the heading residential building. These estimates are omitted because this work does not provide either new buildings or additional dwelling space.

Under the heading public works and utilities, the number of projects is given instead of the number of buildings as much of this work is in the nature of lighting systems, water systems, highways and so forth which does not involve buildings. This figure, number of public works and utilities projects, is not included in the total number of buildings in either the tabulation by classes or the tabulation by months.

While, as already stated, public works and utilities cover a considerable volume of work which is not buildings, it also includes a considerable number of buildings, such as railway buildings. This may be seen by referring to the five year average tabulation on the opposite page, where this group is broken down into detailed subclasses. These public works and utilities buildings add a considerable amount to both the dollar value and square footage of actual buildings erected.

ESTIMATED TOTAL BUILDING IN 1931 BY CLASSES

CLASS	Number of Buildings	Square Feet	Value
Residential			
Single Houses	56,594	101,542,464	$432,872,919
Developments	25,411	39,985,562	154,640,416
Two-Family Houses	6,118	13,554,978	49,736,722
Apartments	4,947	52,853,939	241,934,074
Hotels	409	3,871,666	23,067,296
Unreported Homes A	193,477	117,807,974	503,040,049
Unreported Alterations A			359,314,321
Total	286,956	329,616,583	$1,764,605,797
Commercial			
Airports	198	1,827,968	$ 9,540,077
Banks	275	567,943	14,783,756
Garages	5,176	10,279,599	43,028,059
Offices	1,639	14,081,423	119,778,330
Offices and Banks	39	2,583,135	29,041,045
Stores	7,862	13,749,536	83,676,091
Warehouses	1,931	15,831,425	65,249,883
Total	17,120	58,921,029	$365,097,241
Factories	3,032	22,974,055	$131,101,281
Educational Buildings			
Gymnasiums	107	825,841	$ 5,972,934
Libraries, Laboratories	228	1,934,750	22,444,073
Schools and Colleges	3,264	39,336,856	228,818,311
Total	3,599	42,097,447	$257,235,318
Hospitals, Institutions			
Hospitals	682	13,550,865	$103,965,650
Institutions	328	3,541,659	23,141,933
Total	1,010	17,092,524	$127,107,583
Public			
City Halls, Capitols	493	6,920,920	$ 72,383,359
Fire, Police Stations	447	5,046,244	28,779,158
Military and Naval	228	3,403,320	16,249,640
Post Offices	439	9,954,870	75,268,618
Total	1,607	25,325,354	$192,680,775
Religious, Memorial	1,750	6,370,668	$ 61,171,878
Social and Recreational			
Auditoriums	142	1,301,539	$ 10,627,422
Clubs and Lodges	881	5,316,799	33,610,189
Parks	193	45,088	5,865,834
Park Buildings	828	3,895,694	25,142,965
Theaters	417	5,124,704	39,820,379
Total	2,461	15,683,824	$115,066,789
Public Works, Utilities	20,482B	8,419,377	$1,298,772,357
Total, all Classes	317,535	518,081,484	$4,312,839,019

A.—Comprises projects of $5000, and less.

B.—Number of public works and utilities projects. Not included in Total, all Classes shown below.

ESTIMATED TOTAL BUILDING IN 1931, ARRANGED BY MONTHS

MONTH	BUILDINGS				PUBLIC WORKS		TOTAL
	Reported		Unreported A				
	Number	Value	Number	Value	Projects	Value	Value
January	7,478	$146,019,830	14,065	$62,688,010	1,076	$104,732,210	$313,440,050
February	10,652	175,573,776	13,605	60,640,353	1,210	88,079,936	324,294,065
March	12,157	240,552,950	21,939	97,787,263	1,849	166,893,980	505,234,193
April	13,588	222,253,071	19,778	88,151,758	2,079	144,962,588	455,367,417
May	13,874	220,786,384	19,228	85,702,148	2,398	122,022,208	428,510,740
June	11,321	195,104,470	20,477	91,266,917	2,233	169,963,200	456,334,587
July	11,212	188,402,520	17,806	79,364,250	2,273	129,054,483	396,821,253
August	9,907	176,156,860	14,382	64,104,177	1,891	80,259,850	320,520,887
September	9,099	181,997,627	16,030	71,447,888	1,962	92,801,946	346,247,461
October	9,825	175,595,756	16,132	71,901,977	1,417	90,707,870	338,205,603
November	7,868	114,164,820	9,702	43,242,027	1,091	52,150,670	209,557,517
December C	7,076	115,104,228	10,333	46,057,602	1,003	57,143,416	218,305,246
Total	124,058	$2,151,712,292	193,477	$862,354,370	20,482	$1,298,772,357	$4,312,839,019

C.—Estimated. A.—Comprises projects (including alterations) of $5000, and less.

The Road to Prosperity*

By SAMUEL O. DUNN,
President, American Builder Publishing Corp.

AFTER several years of prosperity during which we were often told that there had been discovered a "new economics" the application of the principles of which would cause us to prosper forever, there occurred somewhat more than two years ago a collapse of our stock market which resounded throughout the world.

Immediately the principles of the new economics, which had helped to inflate the stock market but did not prevent it from collapsing, were drafted into service to prevent a depression. There was nothing new in the injunctions then given by leaders in public and business life to retain and even enlarge our "confidence", because we had had "sunshine" movements to keep us confident at the beginning of most previous depressions. There was, however, something new in the program of having business maintain wages and capital expenditures, and our governments maintain and even increase their expenditures upon public works, for the purpose of alleviating and abbreviating the depression.

The "new economics" has worked as badly since the stock market collapsed as it did in preventing it from collapsing. We have now had one of the longest periods of profound depression in history, and we are all still struggling to improve conditions which many seem almost to have concluded are irremediable.

Although the new economics has so completely failed to prevent the destruction of our prosperity or to cause it to revive, it is still on the job making false diagnoses of our ailment and prescribing quack remedies for it. We are being told that the principal cause of the coming of the depression with its attendant unemployment was over-expansion of our industries and resulting over-production, and that the remedy is to reduce hours of work so that there will be enough employment to go around, and to maintain wages in order that labor can maintain its purchasing power. The issuance of huge amounts of government bonds to provide for expenditures upon public works to reduce unemployment is another favorite remedy of the new economists for the depression.

We Can Not Spend or Tax Ourselves Rich

I did not believe the new economics was conducting us to greater prosperity when we were prosperous. I believed it was conducting us toward destruction. I do not believe that it is now leading us back to prosperity, but that the more we apply its principles the more deeply we will become mired in the morass in which we are still floundering. If you will analyze the new economics you will find it is premised upon the assumption that the more we loaf and spend, and especially the more our governments spend, the richer we will be. The more our governments spend the more our taxes will be; and therefore there is implied in the new economics the theory that the way for us to get rich is to tax ourselves rich. That is the road to ruin, not to prosperity. That is the road that has been traveled by every nation that has finally destroyed itself economically; and within recent years the American people have been traveling that road as fast as it ever was traveled by any people in history.

It will be the old, not the new, economics that will conduct us on the road to prosperity. The old economics taught that there is no such thing as general over-expansion and over-production in industry, and that is as true now as it ever was. The old economics taught that weatlth was created by the work and thrift of the individual, and not by riotous private and government expenditures, and that is as true as ever. The old economics taught that depressions were due to maladjustments in finance, industry and commerce, and could be terminated only by readjustments of the economic relations between different branches of industry, commerce and classes of the people; and that is as true as it ever was. The old economics taught that the less government interfered to help some industries and classes at the expense of others, the more a nation would prosper; and our recent experience has demonstrated the truth of that more clearly than ever, and that no nation that disregards it can long prosper.

Home Building as a Business Reviver

It was just after the termination of the four-year period of unusually active residential construction which ended in 1928 that I thought I had discovered that the building of homes afforded the largest potential market in the United States. The enormous decline in residential construction since then may seem to have indicated that my supposed discovery was only an erroneous opinion formed by one who did not know the facts. I believe, however, that the comparatively small amount of residential construction that has been done within the last three years, and especially within the last two years, has not shown that I was wrong three years ago as to the size of the potential market, but has simply enlarged the market, and I still believe that home-building affords much the largest potential market in America.

It has been estimated that during the four years ending with 1928 expenditures upon residential construction exceeded normal by about $365,000,000 annually. If that estimate is approximately correct, then expenditures during the last three years, allowing for the decline in the prices of building materials, must have averaged about $750,000,000 annually less than normal, and there has accumulated a large deficiency to be made up. I think, however, that the deficiency is vastly larger than such figures indicate, because even during the recent period of prosperity the standard of homes of a very large majority of our people was falling behind their other standards of living.

All of our economic wise men have been seeking for ways to restore prosperity. One of the thoughts often expressed by the exponents of this "new economics" is that we must develop some new industry to create additional wants and employment, as, it is said, the automobile industry did during the last decade. Television, for example, is often mentioned as a prospective new industry. But why go star gazing for some new industry to serve these purposes when home im-

*Portions of an address presented on December 7 at the Annual convention of the Associated Leaders of Lumber and Fuel Dealers.

provement and construction, the oldest of all industries, would serve the purpose far better?

Expenditures for residential construction amounted in this country in the four years ended with 1928 to over 11 billion dollars. There are those who say that at the end of 1928 residential construction had been overdone. But what is the evidence that it had been overdone? Did a large majority of our people at the end of 1928 have homes that were more attractive and commodious, equipped with more modern conveniences, and more attractively furnished than they wanted? The decline that has occurred in residential construction has been due, not to the fact that it had been overdone from the standpoint of the kind of homes the American people want or should have, but to causes which made difficult or impossible continuance of it on the scale on which it was carried on in the four years ended with 1928.

"How are we to revive the improvement and construction of residential buildings?" In the same way we must revive any kind of business. We must adjust ourselves to conditions that we cannot change, and improve conditions that we can change.

A Selling Job for Builders and Dealers

One fact we must recognize is that competition is not confined to persons and concerns within the same industry, but that one of our most important forms of competition is that between industries. The American people must be made to want larger and better homes so much that they will prefer and definitely decide to spend more for them rather than for other things. Probably the strongest competition that the home building industry receives is from the automobile industry. Having convinced the American people that every family should have one car, that industry is now engaged in trying to convince them that every family should have two cars. The automobile industry not only does more national advertising than any other industry, but it has agents in every community that use the most efficient selling methods known. If the home building industry is to meet that kind of competition the different parts of the industry—manufacturers, contractors, material dealers—must use equally effective sales methods, both nationally and locally. The contractors and material dealers might be called, not unaptly, the local agents of the building industry. It is they who are in direct contact with home owners and prospective home owners. Therefore, they must be mainly relied upon to create among the American people an effective desire for larger and better homes in order that the home building industry may successfully meet the competition of other industries that are trying to sell the people other things.

Labor Costs Must Come Down

In deciding whether they shall spend their available funds for larger and better homes or for other things, the people will be influenced by the prevailing opinion as to the way in which they can get the maximum amount of satisfaction and benefit for a given expenditure. There is a widespread belief that the cost of residential construction is high as compared with the costs of other things from which people derive satisfaction and benefit, and that the resulting relatively high cost of owning or renting a home is due to high costs of labor and financing, and to excessive taxation.

It is unquestionably true that the wages of the labor employed by the building industry have been high, as compared with the wages of labor employed by other industries, and that labor in the building trades has practiced restriction of output to an excessive degree. During the present depression the incomes of most classes of people have declined. Wages in most industries have been reduced. Those whose incomes have been reduced cannot afford, directly or indirectly, to pay as high wages to employees of the building industry or any other industry as they formerly could.

The policy of maintaining wages favored by leaders in government and business two years ago was predicated upon the assumption that by that and other means general deflation and depression could be prevented; but subsequent developments have shown that that assumption was unfounded. I am not an advocate of low wages; but experience in this as in previous depressions has shown that when, in spite of all efforts to prevent them, a series of vitally important economic readjustments has begun, it is necessary to complete them and to reestablish economic parity between different industries and classes of people, before a real start can again be made upon the road to prosperity. Many of the readjustments necessitated by the present depression already have been made, and others, including such readjustments as reductions of wages in the building and the railroad industries, must be made. A revival of prosperity can begin before all these readjustments have been made, but they must be finished before we can have general and great prosperity, and those who resist them, or lack the initiative and courage to demand and fight for them, are simply delaying the return of real prosperity.

Economy in industry is not secured, however, merely by reductions of prices and wages. It depends also upon the use of the most improved machinery and methods. Maximum economy in providing the American people with better homes will not be achieved unless manufacturers provide and contractors and builders acquire and use machinery which will enable homes to be improved and built with the greatest practicable economy in the use of both labor and materials.

Stimulating Effect Will Be Far-Reaching

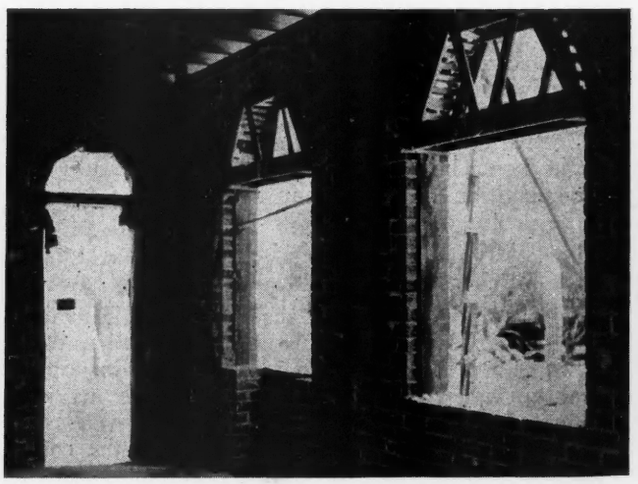
A revival of residential improvement and building on a large scale will contribute more to the prosperity of the American people than any other single cause because it will create a market in every community for so much labor and for the products of so many industries. Many of you, no doubt, have read the pamphlet of Paul M. Mazur of the banking firm of Lehman Brothers, entitled "Huge Home Building Credit Viewed as a Business Lever", in which he estimated the effects that would be produced by a $4,000,000,000 increase in building construction upon the demand for the products of the numerous industries for which it would afford a market. He estimated that it would provide employment for a year for more than one million men at wages aggregating $2,120,000,000, and a market for $1,880,000,000 worth of materials. He gave a list of more than fifty industries, the demand for whose products would be made from 9 per cent to 50 per cent greater than it was in 1927.

Whose task is it to create among the American people a strong desire for larger and better homes and to create the conditions necessary to enabling that desire to be satisfied? Obviously, it is primarily the task of the building industry, including manufacturers of and dealers in equipment and materials, and contractors and builders, because, excepting the home owners themselves, they will benefit most directly and largely by an enlargement of the home building market.

THE STARTING COURSE of a Capistrano tile roof, showing method of laying-off and figuring overhang. Tile is laid twenty per cent random, over ten-year guaranteed composition roof, W. E. Rudasill, Builder.

Construction J

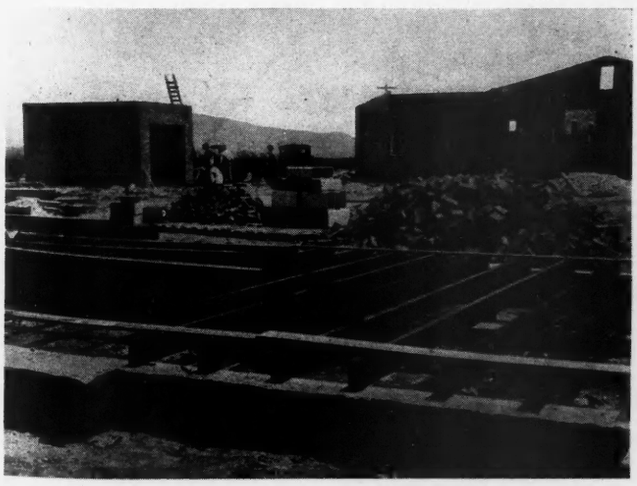
2" PLANKS USED in forms for concrete foundation to be reused later as floor joists. P. G. Owen, Contractor (at right), says forms are easy to build and brace.



CENTERING FOR BRICK arches over door and windows, solid brick wall construrction as employed by Herbert F. Brown, Tucson, Arizona, Contractor.

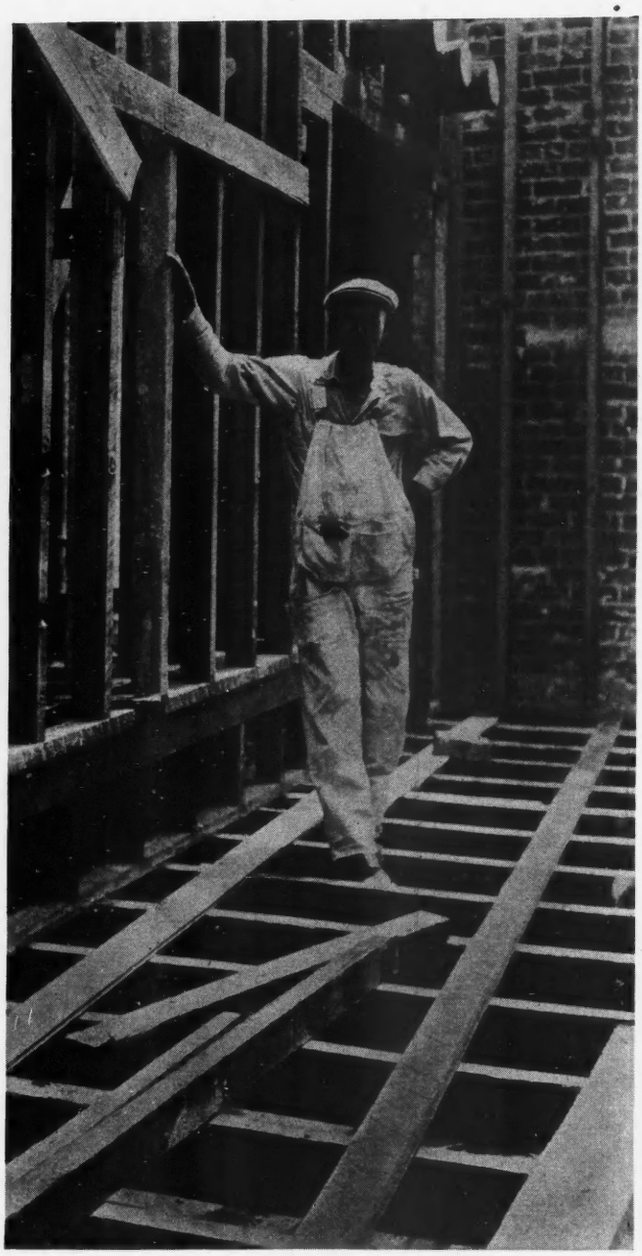
IDEAL BOND, brick wall construction popular in southwest. Glenn Kaiser, brick contractor, demonstrates corner layout. Large size brick 3x4x8½", run 81 to square yard for nine-inch wall; leaving air space in center.

n Job Helpers



TERMITE-PROTECTED floor joists in place on house in Tucson, Arizona. Lumber is especially treated to prevent destructive action by ants.

BURNT TIMBERS used to produce "Old Pueblo" style architecture. E. F. Jacques, Tucson, Arizona, Architect. Note detail of window frame with burnt member in place.



Roy Price, Carpenter, Standing on Open Floor Joists as He Illustrates Difficulty of Working on Job Where Sub-floor Is Omitted.

Tight Sub-Floor Best

Roy Price, Carpenter, Says. "Ask the Man Who Works on One"—Saves Time and Money

IN many of the southern states, home builders very often leave out the sub-floor entirely, laying the finished floor directly upon the joists. This undoubtedly reduces costs, but there is considerable argument about the advisability of the practice.

We asked Roy Price, who was working on a sub-floorless job at the time for his opinion. He stated it in no uncertain terms.

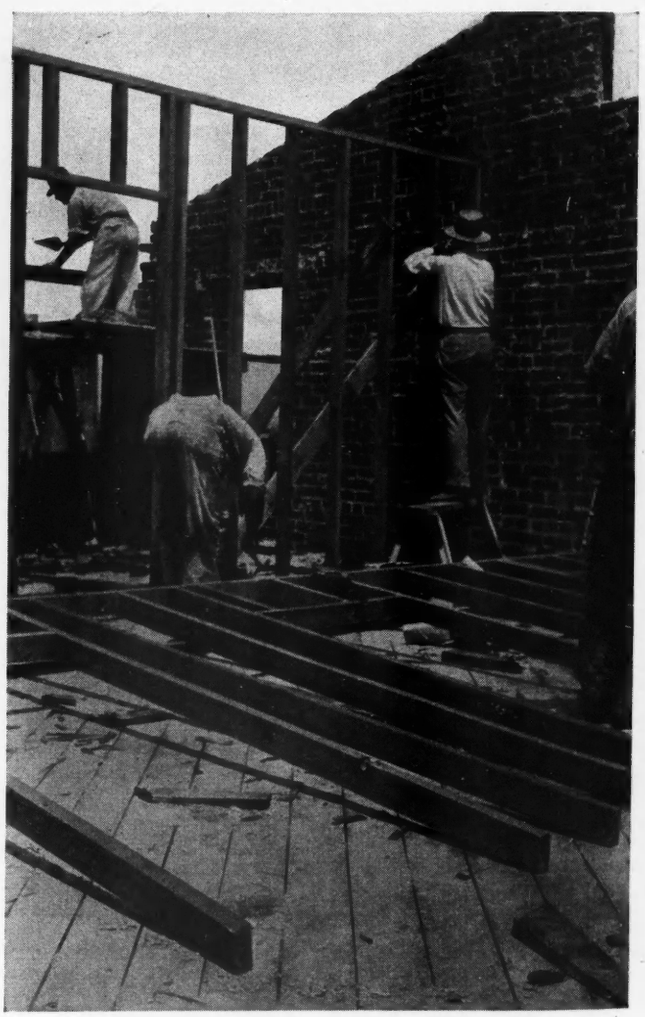
"In the first place, you lose structural strength," he said, "and there is the increased danger from termites and a creaking floor.

"But my principal objection is its effect on the workmen. It slows up the job all along the line. Everyone who does anything on the job has to pick his way from joist to joist. When he does considerable work he has to improvise a bit of floor by laying a few boards together. The bricklayers, for example, use good clean lumber for this purpose, and when they get through it is covered with mortar, cracked, dented, and practically worthless.

"The carpenter is the principal sufferer, for he is expected to work with this damaged lumber. Whenever he wants to set a horse down, he has to stop and fix up a place to set it. The ever-present danger of slipping or skinning a shin slows up work.

"It is my opinion that the time lost by carpenters, bricklayers, plasterers, electricians, and others due to the absence of a sub-floor to work on more than offsets the saving that the builder expects to make."

In spite of such opinions as that of Roy Price, many builders go ahead with first-class houses without sub-floors, and stoutly contend that they get satisfactory results. Protection from cold is not considered necessary, and it is claimed that the strengthening value of the sub-floor is slight, especially in one-story brick constructions, which is the most common type in some sections.



Carpenters Erecting Framing for Partition on House with Adequate Sub-floors Which Facilitate Work. Leonard Carr, Tucson, Arizona, Contractor.

THE HOUSE OF THE MONTH

A Charming Colonial Cottage

Attractive—Convenient—Inexpensive

POLAK AND SULLIVAN, Architects

THIS beautiful Colonial dwelling has recently been erected on a corner in a restricted residential section in the city of New Haven, Connecticut. The artist's unusual drawing of this home reveals the charm and propriety of its proportions and details. The two bays in front are especially appealing; and the chimney, entrance, window and roof treatment all combine to form an harmonious picture. The walls have been painted white and the exterior trim a soft green. Inside the Colonial feeling has been carried out in the fireplace, corner cupboards, doors, trim, and staircase. The complete floor plans on the following pages will show how comfortable and convenient the room arrangement is and how well suited to the needs of the modern American family. And finally, the accompanying cost analysis discloses how economically this home can be built.

WORKING DRAWINGS OF THIS HOME ON THE NEXT FOUR PAGES

Cost Analysis of the "House of the Month"

Whenever possible, cost analyses will be shown in connection with our House of the Month. It must be understood that American Builder and Building Age cannot vouch for the accuracy of these figures and it must be remembered that cost figures obviously vary a great deal for different sections of the country because of different conditions affecting labor and material prices. Separate figures for material costs and labor costs will be shown when these can be secured.

ACTUAL CONSTRUCTION COSTS OF COLONIAL COTTAGE, INCLUDING GARAGE

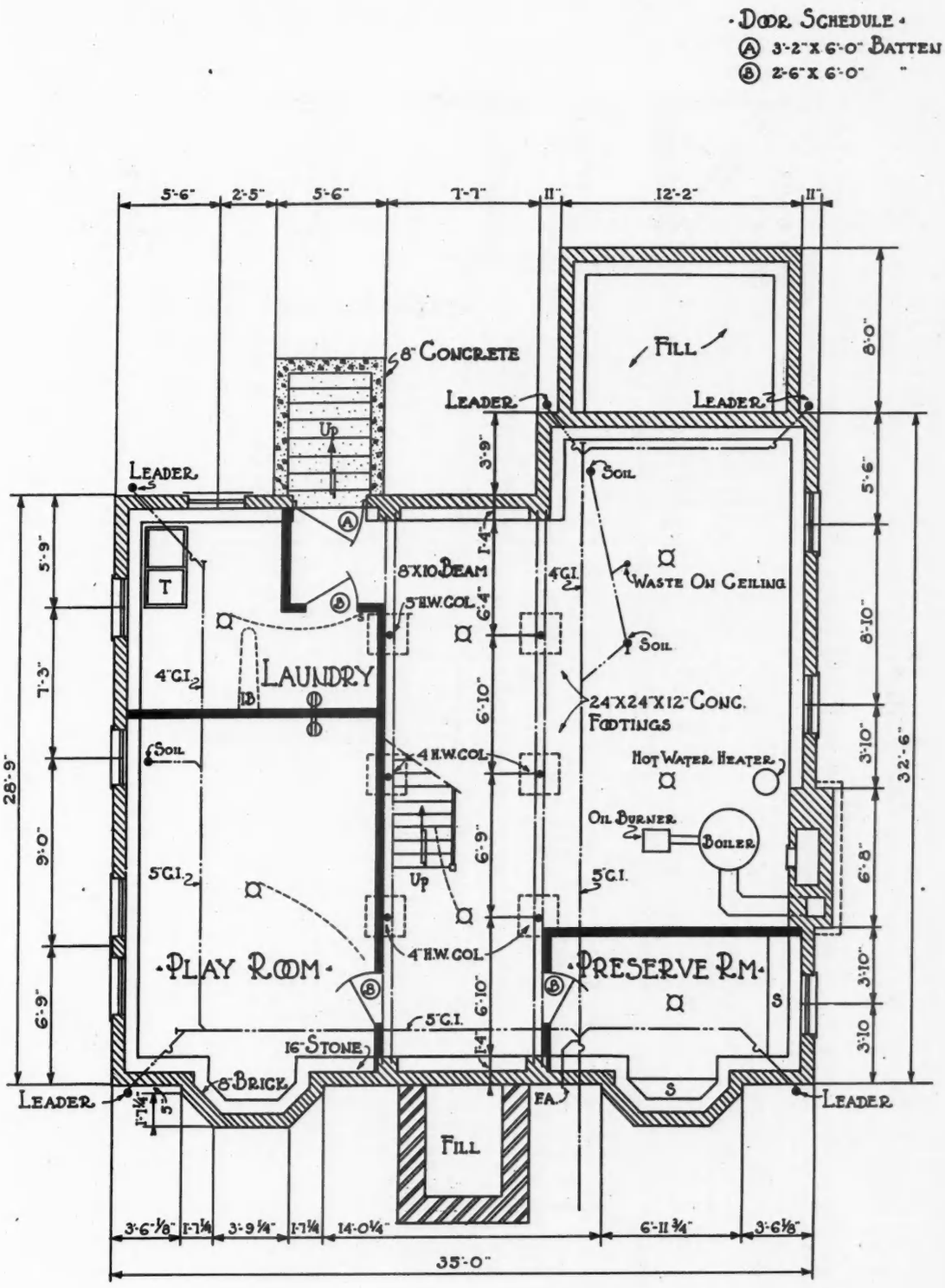
	Material	Labor	Total
1. Complete Excavation	.....	.....	$ 150.00
2. Cement Work (Including concrete walls, cellar window sills, cellar floor, steps, and chimney cap)	.....	.....	$ 400.00
3. Masonry Work (Including brick and stone work, flues and flue lining, clean-out doors, ash dump, flue rings, throat and damper)	$ 225.00	$ 225.00	$ 450.00
4. Carpentry and Millwork (Including rough lumber, interior trim, flooring, doors, glazed sash, window frames, stairs)	$1,921.00	$1,000.00	$2,921.00
5. Structural Steel	.....	.....	$ 58.00
6. Hardware	.....	.....	$ 150.00
7. Roofing and Sheet Metal	.....	.....	$ 175.00
8. Lathing	$ 55.00	$ 35.00	$ 90.00
9. Plastering	.....	.....	$ 450.00
10. Electrical Work (Fixtures and Wiring)	.....	.....	$ 338.00
11. Plumbing (Piping, fixtures and fittings)	.....	.....	$ 725.00
12. Heating (Equipment and installation)	.....	.....	$ 675.00
13. Painting and Decorating	.....	.....	$ 525.00
14. Tile Work	.....	.....	$ 300.00
15. Mantels, Cupboards, Etc.	.....	.....	$ 81.00
16. Special Equipment and Items			
Rubber tile	.....	.....	$ 122.00
Weatherstripping exterior doors	.....	.....	$ 30.00
Metal roll screens on casements; wood screens on double-hung sash	.....	.....	$ 135.00
Shades	.....	.....	$ 50.00
17. Landscaping and grading	$ 175.00	$ 100.00	$ 275.00
18. Permits	.....	.....	$ 30.00
TOTAL			$8,130.00

Approximate Cubic Footage: 33,752
Cost per Cubic Foot: 24c
Size of Garage: 12' x 20'

GENERAL OUTLINE SPECIFICATIONS

FOUNDATION: 16" stone, 8" brick underpinning.
FRAMING: Balloon framing.
EXTERIOR WALLS: 2" x 4" studs, sheathed, covered with building paper, clapboards 8" to weather.
ROOFING: Cedar shingles.
GUTTERS AND LEADERS: Crown moulded wood gutters, copper leaders.
FLOORING: Clear, plain sawed oak.
INTERIOR FINISH: Papered throughout, except kitchen, bath, closets, and lavatory. Southern pine trim.
PLUMBING: Brass water piping. Good quality plumbing fixtures.
HEATING: Hot water system, using heat cabinets.
ELECTRIC FIXTURES: Handmade Colonial fixtures except in bedrooms and bath.
FIRST FLOOR: The side walls are papered, sand-finished plaster ceiling, back band, moulded casings with plinth blocks at doors. Elliptical cased arches between living room, dining room, and hall, and also between living room and sun room. Main stairs have oak treads, pine risers, white wood balusters and birch handrail. There is a built-in china closet in dining room. The wood mantel in the living room is pine, painted to match the trim. The opening is faced with water-struck brick. All casement windows are equipped with metal rolling screens, and all double-hung windows have wood screens.
KITCHEN: Kitchen has painted walls and ceiling, rubber tile floor, built-in cabinets, ironing board, and electric refrigerator (not in contract). The butler's pantry has built-in cabinets, rubber tile floor, combination sink and tray with chromium fittings.
SECOND FLOOR: Rooms are papered, and have a sand-finished plaster ceiling, back band, moulded trim and clear oak floors.
BATHROOM: Bathroom has a white tile wainscot 4'-6" high with a black base and cap, built-in shower and bath, basket weave black and white tile floor, chromium finished fittings, and a built-in medicine cabinet.
BASEMENT: Contains laundry room, preserve cellar and recreation room.
OTHER FEATURES: Disappearing stairway from second floor to attic.

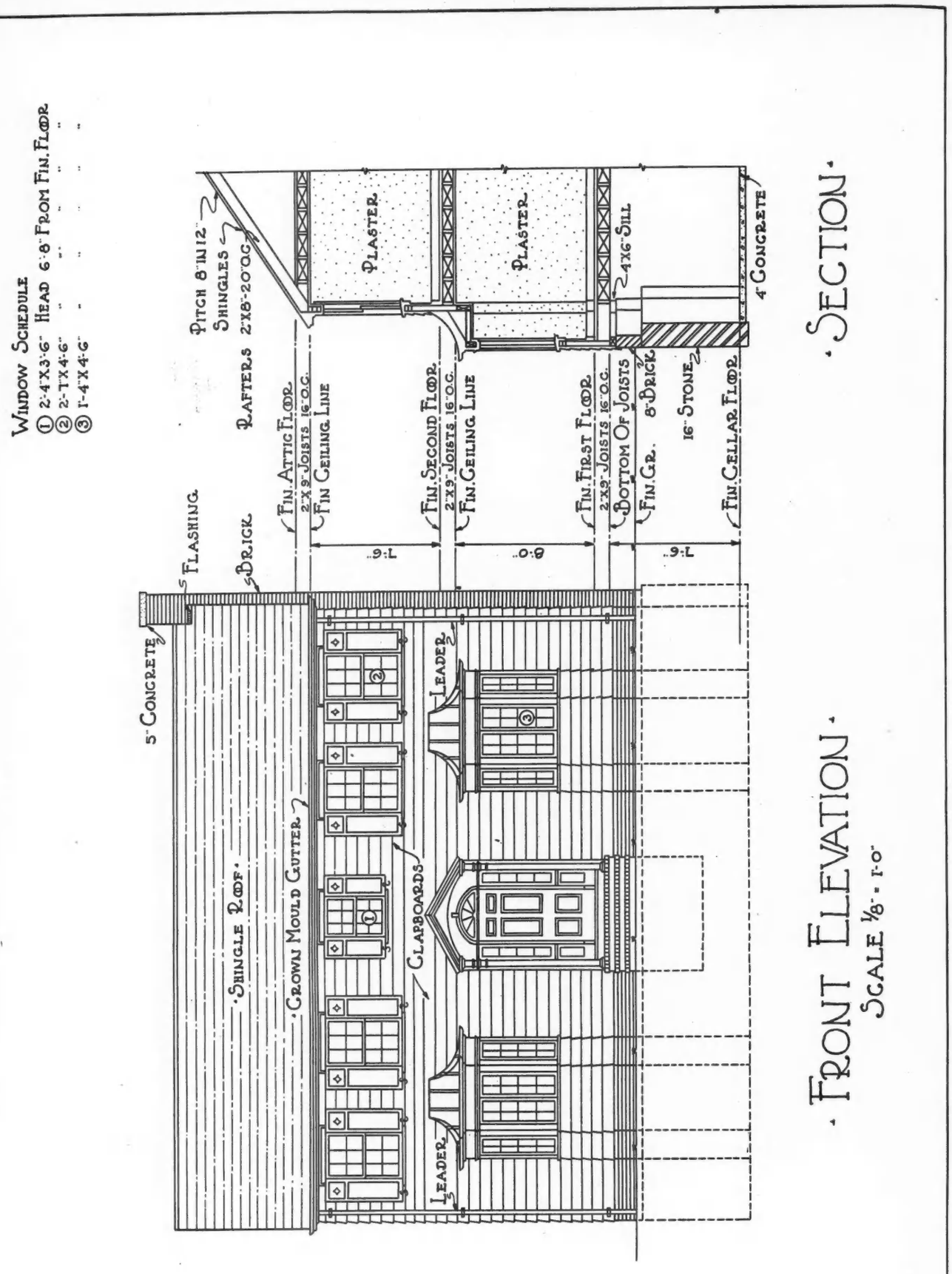
33752
24



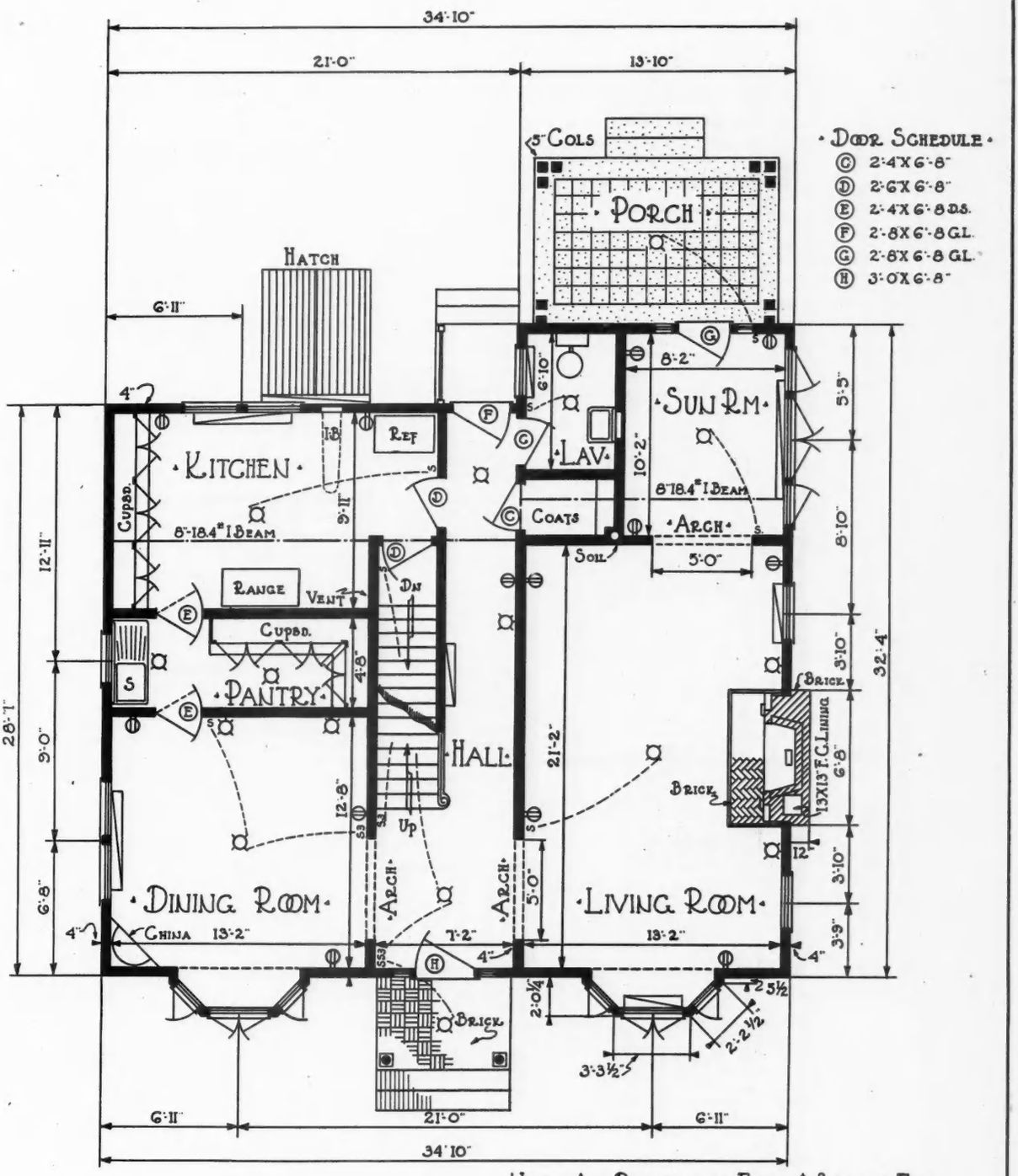
CELLAR PLAN

SCALE 1/8" = 1'-0"

A Solid Stone Wall, 16" Thick, Was Laid for the Foundation. Above the ground level, an 8" brick wall rests on the stone. Drawings by Polak and Sullivan, Architects.



The Cross-Section Detail in This Drawing Shows That the Ceilings Have Been Kept Economically Low in This January "House of the Month." Drawings by Polak and Sullivan, Architects.

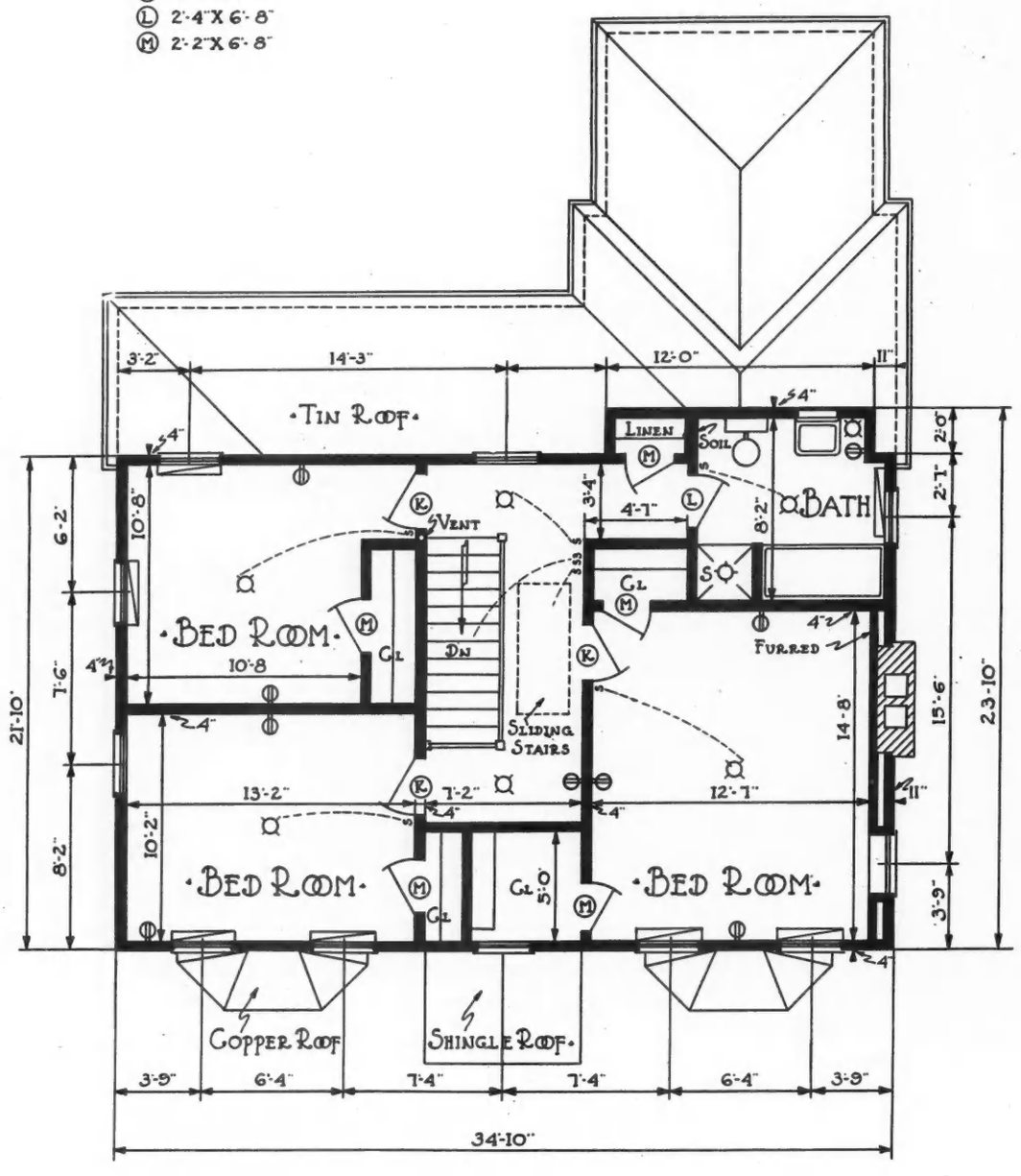


NOTE: ALL DIMENSIONS FIRST & SECOND FLOORS TAKEN TO STUD LINES.

FIRST FLOOR PLAN

SCALE 1/8" 1'-0"

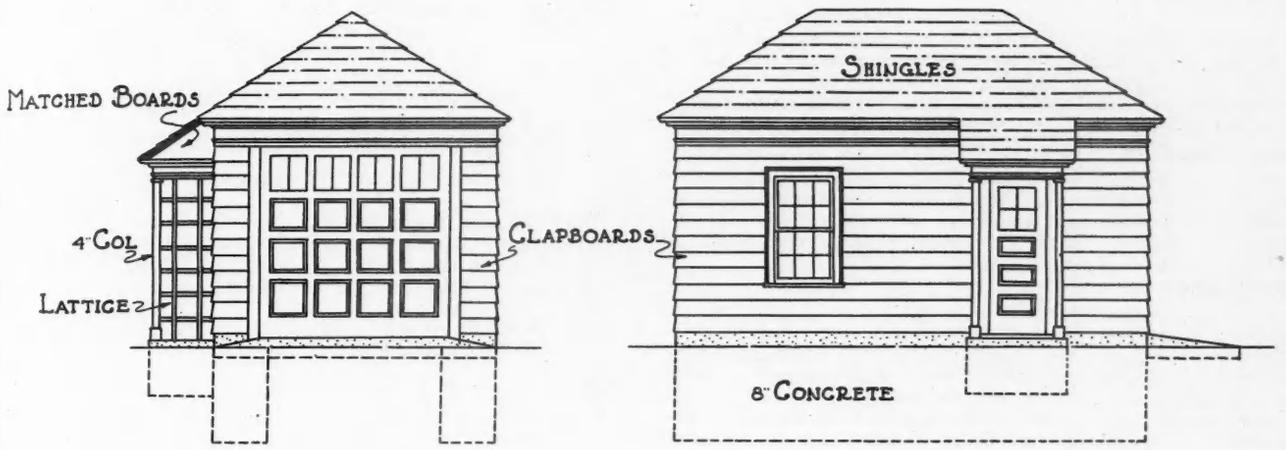
Note the Sun Room and Porch Leading Off the Living Room and the Presence of a Downstairs Lavatory. The enclosed pantry is also a feature. Drawings by Polak and Sullivan, Architects.



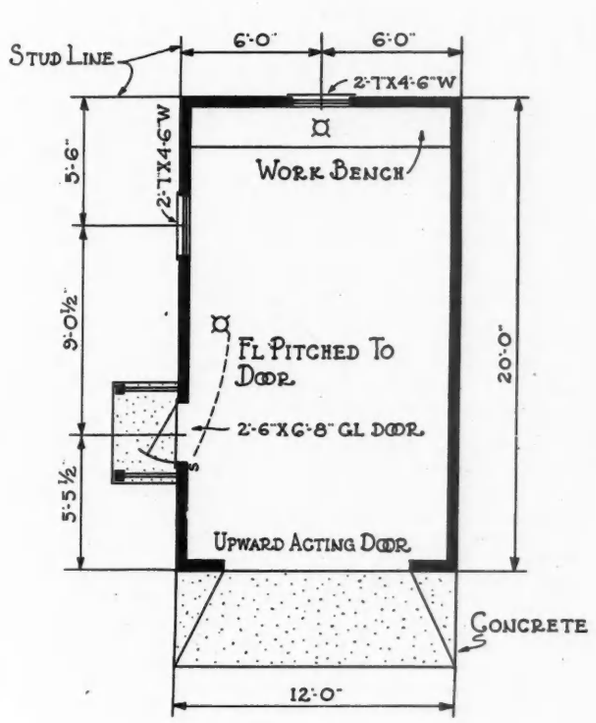
SECOND FLOOR PLAN

SCALE 1/8" = 1'-0"

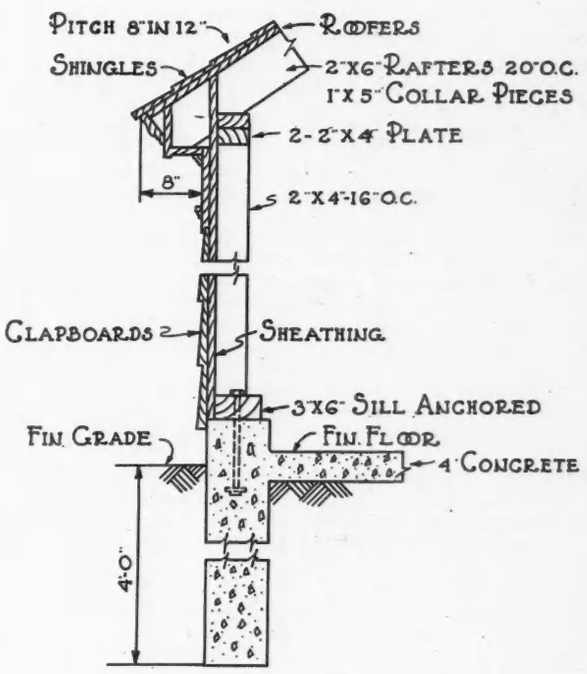
In the Master's Bedroom, the Wall on the Chimney Side Has Been Furred Out, Providing an Attractive Window Niche. The upstairs plan is notable for the unusually large closets.



· FRONT ELEVATION · · SIDE ELEVATION ·



· PLAN ·



· SECTION · SCALE ½" = 1'-0"

ONE CAR GARAGE ·

SCALE ⅛" = 1'-0"

An Attractive Little Garage Suitable for the January "House of the Month" Is Shown on This Page with Complete Details and Elevations. Drawings by Polak and Sullivan, Architects.

Master Specifications for Good Carpentry Construction*

Scope

The scope of these specifications is confined to the erection of the rough structural frame above masonry footings and foundations, joists are covered with sub-flooring; and exterior walls are sheathed and the roofs boarded and the whole protected with waterproof building paper.

Window and door frames and exterior mill trim, siding, shingles, etc., are not included.

Details Required

Though customarily not furnished, certain of the illustrative drawings used in conjunction with this specification are obviously necessary and should be included among the details of the building if the full intent of the specifications is to be conscientiously carried out.

Specification Form

The form of this specification is that of a "Master" which includes all clauses which in ordinary practice apply to average work. All clauses, obviously do not apply to every building. In formulating the "Rough Framing and Carpentry Specifications" for a particular building, only those clauses which apply should be selected for inclusion. Special provisions or methods but seldom required are not included —such clauses should be added wherever necessary to define the procedure clearly and especially to obviate controversy involving responsibility and cost.

Notes

Notes in italics are explanatory or advisory only and should not be included in the specification.

Selective Words or Phrases

Wherever words or phrases occur in the body of the specification paragraph printed in italics and enclosed in parentheses, choose that word or phrase which applies to the particular work, omitting those that are irrelevant. Wherever the word "specify" occurs in italics enclosed in parentheses, thus *(specify)*, add the particular word or clause applicable, optional with the specification writer.

Local Ordinances

These specifications are based upon the recommendations of the National Committee on Wood Utilization, United States Department of Commerce; the National Lumber Manufacturer's Association and other national bodies. Engineering data are based upon the findings of the United States Department of Agriculture, Forest Products Laboratory.

Due to lack of universal adoption of nationally accepted standards, the specifications should be correlated with the requirements of local ordinances relating to this division of the work.

Alterations and Additions

These specifications cover new work only. For additions and alterations add such clauses covering repairs and replacements and the joining of old and new work as may be required.

(1) General Conditions

The General Conditions governing the General Contract apply to the work under this division.

Note: *The American Institute of Architects' standard form of General Conditions is advocated.*

(2) Work Included

The work included under this heading is all of the rough structural wood framing as shown upon the drawings and details and herein specifically mentioned.

Note: *Amplify or amend as required for the particular work, and especially in the case of alterations and additions.*

(3) Preliminary Provisions

Note: *Provide for the following under other specification divisions when and where they apply.*

(3a) Footings, Foundations, Etc.—

(3a1) Footings—All footings shall be set well below the frostline and rest on firm soil. They shall be made of a good grade of concrete and be allowed to season thoroughly before starting the framework or masonry foundation.

(3a2) Bearing Surfaces—Bearing surfaces shall be flat and horizontal, and have an area equal to:

1 sq. ft. for every 4 tons of weight for coarse sand, gravel or hard clay.

1 sq. ft. for every 3 tons of weight for dry clay and fine sand.

1 sq. ft. for every 2 tons of weight for ordinary sand or clay.

1 sq. ft. for every 1 ton of weight for wet, soft clay or loam.

(3a3) Column Footings—Footings for columns shall be square and the base shall have a depth equal to one-half the length or width and the top shall sit high enough to support the columns at least 3 in. above finished basement floor.

Note: *See Fig. 6.*

(3a4) Wall Footings—Footings for walls shall be at least 12 in. wider than thickness of foundation wall and at least 8 in. deep.

Note: *See Fig. 7.*

(3a5) Chimney Footings—Footings under chimneys shall be not less than 12 in. deep.

(3a6) Basement Stud Partition Footings—Provide concrete footings under all stud basement bearing partitions. Footings shall extend 3 in. above the basement floor forming a concrete base carefully troweled smooth which shall be at least the width of the finished partition. For non-bearing partitions form a similar base of concrete when the finished concrete floor is laid.

(3a7) Foundation Walls—Foundation walls shall be at least 12 in. thick. Materials for foundations shall be a good grade of concrete, approved concrete blocks, hard brick, hollow load bearing tile, stone masonry or other approved impervious material adapted to local soil conditions. The top of the foundation walls shall be leveled-up so as to furnish uniform bearing for framing.

(3a8) Drainage—Tile drainage, level with the footings shall be provided on up-hill side of walls and on all other sides where ground water is apt to collect.

(3b) Dampproofing—

Note: *Moisture is necessary for the growth of fungi, the most common cause of wood decay. Proper dampproofing at all points of juncture between masonry (usually prone to capillarity) and wood should obviously be provided.*

Provide integrally waterproofed mortar or concrete at all points of contact between masonry and wood or dampproof the masonry at these points with a coating of dampproof paint.

(3c) Dowels, Anchors, Etc.—

(3c1) Post or Column Dowels—Provide steel anchor dowels for all wood posts or columns, ¾ in. in diameter, set 12 in. in concrete footings and extending 2 in. into hole bored in bottom of columns. Accurately center dowels in footings.

Note: *See Fig. 6.*

(3c2) Sill Anchors—Furnish and install, accurately located (as detailed), ¾ in. diameter steel hook bolts to anchor all *(sills) (sill plates)* to masonry walls. Anchors shall be set from 16 in. to 20 in. in the masonry work and not more than 8 ft. apart between stud locations with one anchor on each side of all corners. They shall project a sufficient height above top of masonry to pass through the sill and take large nuts and washers.

Note: *See Figs. 11 and 12 for details.*

(4) Materials and Dimensions

(4d) Wood Posts or Columns—

(4d1) Grade and Species—Solid timber, No. 1 Common Grade of Douglas Fir, S4S.

(4d2) Dimensions—Sizes marked on plan.

Note: *Posts should be preferably square, and in any case not smaller than 4x6 in. Provide full bearing for width of girder supported. Height should not be greater than 50 times its least dimension. Posts 6x6 in. or less over which girder is spliced or butt-jointed should be provided with ribbed cast iron caps. Posts supporting wood girders should not be spaced more than 10 ft. apart.*

(4e) Wood Girders—

Note: *Wood girders may be built-up or solid. While either*

*As developed by architects and engineers for the Weyerhaeuser Forest Products Organization, St. Paul, and published in a new manual entitled "Standard Specifications for House Framing." The second half of these specifications will be presented in our February issue. In reproducing these we have omitted the Weyerhaeuser recommendations as to grade, species and qualities of materials.—Editor.

STANDARD DETAILS FOR HOUSE FRAMING

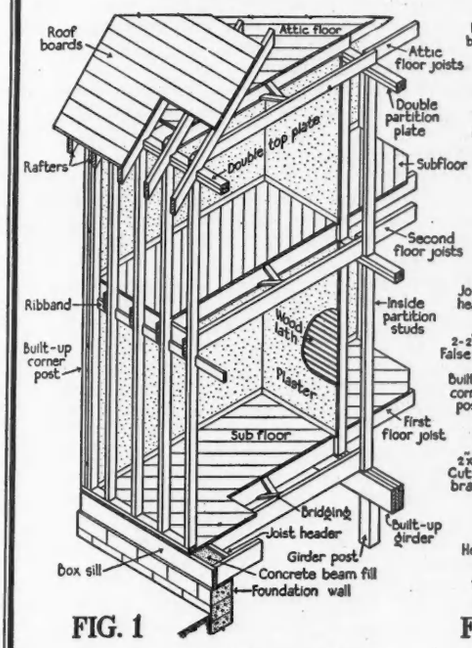


FIG. 1

THE BALLOON FRAME

This type of frame has many things to recommend it. The one piece studs, extending the full height of the wall and tied together by the ribband at the second floor line reduce to a minimum the shrinkage factor. It is strong and rigid but requires careful fire stopping.

This frame is more efficient when the interior studding is set directly on top of girders or bearing partitions.

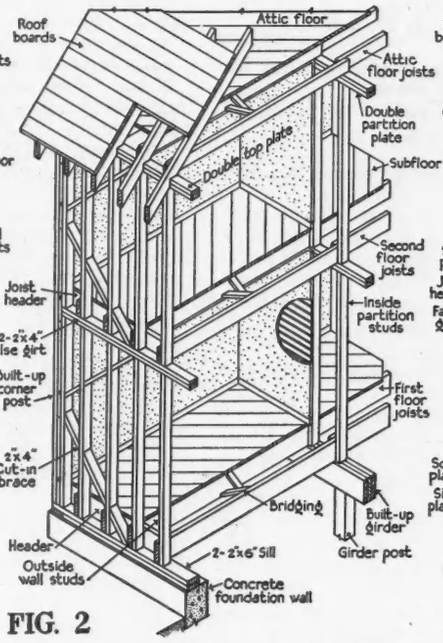


FIG. 2

THE MODERN BRACED FRAME

This type of frame is an outgrowth of New England solid timber post and girth construction. Built-up members are used today very largely and with equal satisfaction. Instead of heavy posts set eight or ten feet apart, walls are built with 2x4 in. studs set 16 in. on centers. The second floor is carried on a double 2x4 in girt. Diagonal bracing is inserted at the corners. This type has several commendable features. It is simple to build and has good provision for fire stopping both at sill and second floor line. 2x4 in. cut-in bracing, as illustrated, may also be used with other types.

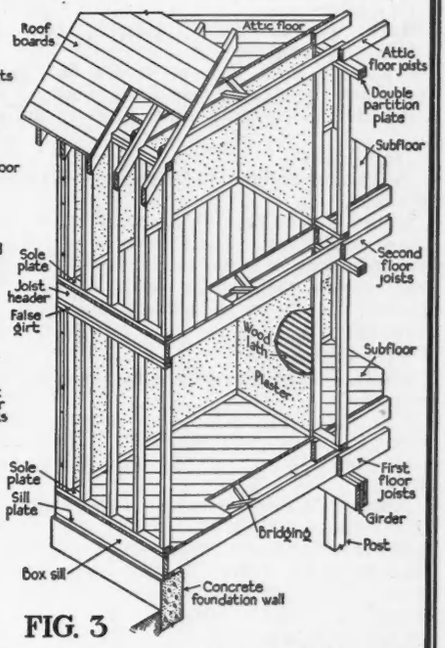


FIG. 3

THE PLATFORM FRAME

The Platform Frame is extensively used. It is similar in principle to Braced Frame but has boxed sill construction at each floor line. This makes for greater shrinkage but it is equalized on each floor when a similar type of construction is used under bearing partitions.

This frame is more efficient when the interior studding is set directly on top of girders or bearing partitions.

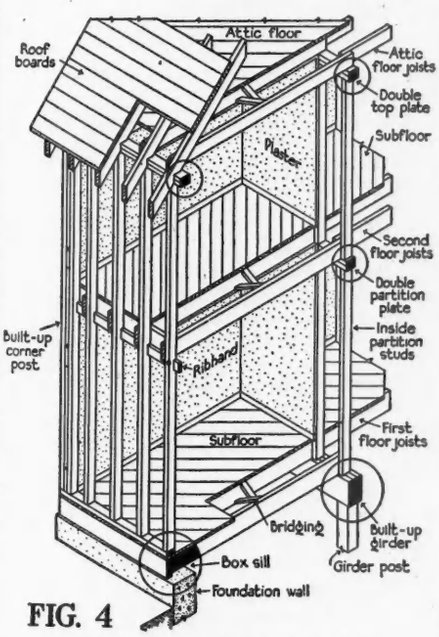


FIG. 4

DETAIL OF METHOD FOR SECURING BALANCED SHRINKAGE

THE FRAME provides the network to which the other materials are fastened and the strength and rigidity required to support the loads put upon it and preserve the materials with which it is built. Three distinct types of frames are shown by Figs. 1, 2 and 3. Numerous combinations of these types are frequently employed.

BALANCED SHRINKAGE

The total thickness of horizontal lumber in the framing of outside and inside walls on each floor should be equalized as nearly as possible to eliminate uneven shrinkage.

FIRE STOPPING

Fire safety in a dwelling is increased by preventing the circulation of air in the walls between floors or between rooms. An effective method is shown in the drawing to the right. (Fig. 5)

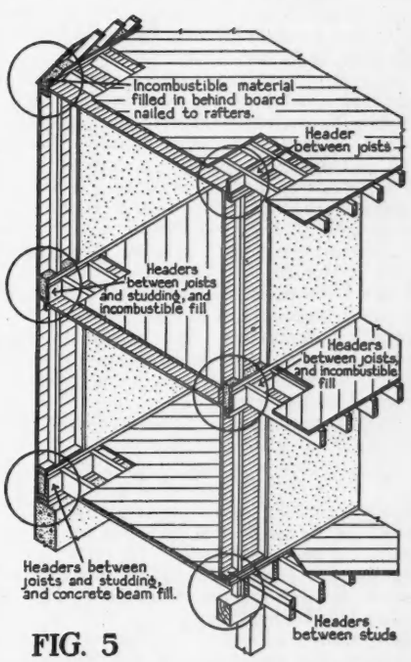


FIG. 5

FRAMING FOR FIRE STOPPING

type may be used, built-up girders are preferable because of greater strength, size for size; less shrinkage due to complete seasoning possible in thinner stock; and greater ease of installation. Members of built-up girder should be nailed together securely.

(4f) Sills—

Note: *For all types of sills, see Figs. 11, 12, and 13.*

(4f2) Dimensions—

(a) Plate Sills, 2x6 in. under 2x4 in. studding; 2x8 in. under 2x6 in. studding as designated on plans.

(b) Box Sills, same dimensions as designated on plans for joists.

(4g) Joists—

(4g2) Dimensions and Spacing—Sizes and spacing marked on plans.

Note: *Joists should be spaced normally 16 in. o. c. except where additional strength is required for some particular floor area, in which case the joists should be doubled or extra joists set between the regular joists so as not to interfere with lathing. 12 in. o. c. spacing will also conform to lathing requirements.*

(4h) Rafters—

(4h2) Dimensions and Spacing—Sizes and spacing marked on plans.

All ridge, hip and valley rafters shall be at least 2 in. wider than the regular rafters. The ridge rafter may be of 1 in. material, but the hip and valley rafters shall be 2 in. thick.

Note: *Rafters should be spaced normally 16 in. o. c., since this permits setting the rafters directly over the wall studs and permits nailing each one to the side of the ceiling joist, thus tying the frame together and prevent spreading of the wall. Also, this spacing facilitates lathing in case underside of rafters is to be plastered.*

(4i) Bridging—

(4i2) Size—*(1x3 in.) (1x4 in.) (2x2 in.)* accurately beveled at ends to fit tightly against the face of joists.

(4j) Stair Strings or Carriages—

(4j2) Dimensions—

(a) Strings shall be 2 in. thick by such width that when the rough riser and tread support is cut out the minimum dimension remaining shall not be less than *(3⅝ in.) (5⅝ in.) (specify).*

(b) Carriages shall be *(4x6 in.) (specify)* built up of 2 in. thicknesses.

(4k) Studs, Soles and Plates—

(4k2) Dimensions and Spacing—2x4 in. (other widths where so designated) studs spaced 16 in. o. c. (12 in. o. c. where so designated).

Note: *On exterior walls for one or two story houses the outside studs are customarily 2x4 in. In buildings over two stories and in cases of exceptionally high ceilings, studs should be 2x6 in. or larger.*

Basement bearing partitions should be framed with 2x4 in. studs and spaced 16 in. o. c. except where they support more than one floor, in which case they should be framed with 2x4 in. studs spaced 12 in. o. c. or 2x6 in. studs spaced 16 in. o. c.

All partitions above the basement should be framed with 2x4 in. studs spaced 16 in. o. c. (12 in. where so designated), except where thicker walls are required on the larger work for structural purposes or to conceal plumbing and heating pipes, vents, etc., or to provide for architectural effects.

(4l) Ribbands—

(4l2) Dimensions—*(1x4 in.) (1x6 in.)* S4S.

(4m) Diagonal Let-in Bracing—

(4m2) Dimensions—1x4 in. S4S.

(4n) Diagonal Cut-in Bracing—

(4n2) Dimensions—Same as exterior studding.

(4o) Sub-Flooring—

(402) Dimensions—*(Square-edged) (Shiplapped) (Dressed and matched) (Dressed and matched and end matched)* 1 in. nominal thickness surfaced to ⅝ in. or thicker and uniform width of *(4 in.) (6 in.) (8 in.) (10 in.) (12 in.)*

Note: *Square edged material may be used, although shiplapped or dressed and matched is recommended due to its greater strength, warmth and soundproofness. Select to suit local market conditions. Stock dressed and matched and end matched is not recommended in widths exceeding 8 in.*

(4p) Wall Sheathing—

(4p2) Dimensions—*(Shiplapped) (Dressed and matched) (Dressed and matched and end matched)* 1 in. nominal thickness surfaced to ⅝ in. or thicker and uniform width of *(4 in.) (6 in.) (8 in.) (10 in.) (12 in.).*

Note: *Select to suit local market conditions. Stock dressed and matched and end matched is not recommended in widths exceeding 8 in.*

(4q) Roof Boarding—

(4q2) Dimensions—*(Square edged) (Shiplapped) (Dressed and matched) (Dressed and matched and end matched)* 1 in. nominal thickness surfaced to ⅝ in. or thicker and uniform width of *(4 in.) (6 in.) (8 in.) (10 in.) (12 in.).*

Note: *Square edged material may be used, although shiplapped or dressed and matched is recommended due to its greater strength and warmth. Select to suit local market conditions. Stock dressed and matched and end matched is not recommended in widths exceeding 8 in.*

(4r) Miscellaneous Framing Items—

Note: *Here specify any miscellaneous framing items not customarily encountered but which are required on the particular work.*

(4s) Iron and Steel—

Note: *All anchors for sills, plates, etc., built into the masonry before the framing is erected should be included under the masonry specifications [see (3c)]. All anchors, plates, ties, stirrups, etc., attached to or a part of the framing should be included here.*

(4s1) Girder Plates—Provide *(where so detailed) (12x8x ½ in.) (specify size) (steel) (cast iron)* girder bearing plates.

(4s2) Post Plates—On posts 6x6 in. and under supporting spliced or butt jointed wood girders, provide full area cast iron post caps ¾ in. thick, with end clutch ribs and central rib parallel to girder to anchor ends of girders together at splice and maintain lateral contact. Provide 2 holes for spiking to girder top.

(4s3) Stirrups—*Furnish (¼x1½ in. steel stirrups to support all headers where specified and of finished width and depth equal to the joists. Top shall be provided with a turnover hook to fit the top of trimmer width, punched for horizontal spiking to the trimmer side, and at bottom for spiking to bottom of header) (specify any other type).*

(4s4) Miscellaneous Items—

Note: *Here specify any miscellaneous items not customarily encountered but which are required on the particular work.*

(4t) Nails—Nails shall be *(smooth) (cement coated) (common wire nails) (sinker nails) (non-splitting nails) (specify).*

(4u) Waterproof Building Paper—Waterproof building paper shall be *(specify brand)* as made by *(specify manufacturer).*

Note: *The building paper in frame construction not only protects the wood framing from moisture, but it prevents wind driven air infiltration and materially aids in fuel reduction. A high grade tough stock, permanently saturated with non-volatile waterproofing and preservative compounds is strongly advocated as an economy.*

(5) Wood Posts or Columns

(5a) Erect wood posts over dowel anchors with full level bearing on concrete footings. Posts shall be maintained plumb and true until supported girders and joists are secured in place.

(5b) Before erection, treat bottom of posts with hot creosote to protect against moisture *(and termites).*

Note: *This clause may be omitted if integrally waterproofed concrete is used in footings as suggested in (3b).*

(5c) On all posts 6x6 in. or smaller install *(cast iron) (specify)* caps securely attached to tops of posts.

(6) Girders

(6a) Construction of Built-up Girders—Tops and bottoms of built-up girders shall be sized where necessary to assure even bearing on supports and under joists.

A two-piece girder shall be nailed from both sides with 10 penny nails staggered and spaced 24 in. apart along both top and bottom edges. Near center of span space nails 12 in. apart.

A three-piece girder shall be nailed in same manner as above but using 20 penny nails.

A four or five-piece girder shall be assembled by nailing three members together in the same manner as above but using fewer nails and then nail the other members to this assembly.

(6b) All splices in girders shall be square cut and close fitted, centering over columns or piers.

(6c) Ends of girders bearing on masonry walls shall be cut with a 3 in. bevel.

Note: *Ends of all girders should have a bearing surface on solid concrete walls of not less than 4 in., on common brick (cement mortar) wall not less than 6 in. and when concrete block wall is used the girder should bear on wall 8 in. and be supported by a steel or cast-iron plate.*

(6d) Provide *(where so detailed) (2x4 in.) (specify)* joist ledger strips thoroughly secured to the girder with 16 penny nails staggered and spaced 12 in. apart along both top and bottom edges.

(6e) All girders shall be set with crown edge up, carefully leveled with full bearings at ends and intermediate supports.

STANDARD DETAILS FOR HOUSE FRAMING

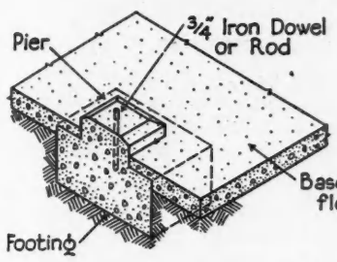


FIG. 6 FOOTING FOR COLUMN

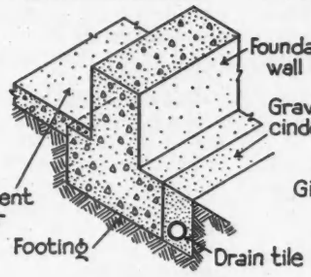


FIG. 7 FOOTING FOR FOUNDATION WALL

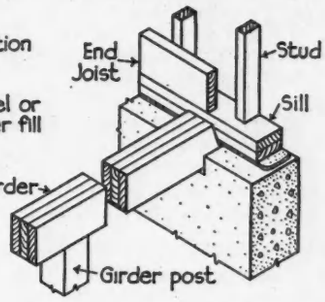
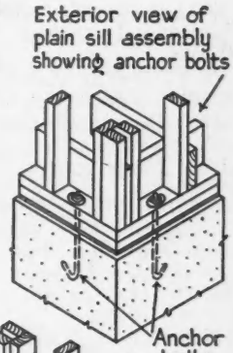


FIG. 8 BUILT-UP GIRDER—END SET IN CONCRETE WALL



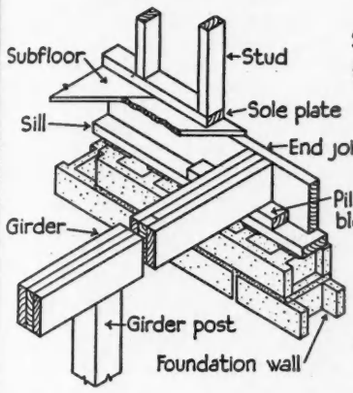


FIG. 9 BUILT-UP GIRDER END SET ON SILL PLATE

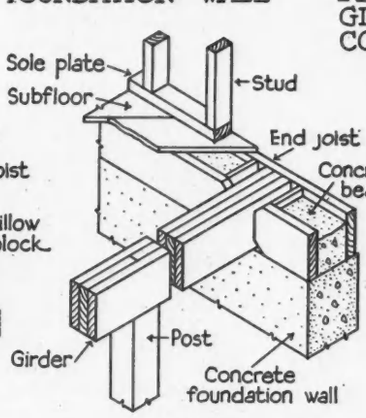


FIG. 10 BUILT-UP GIRDER END SET ON CONCRETE WALL

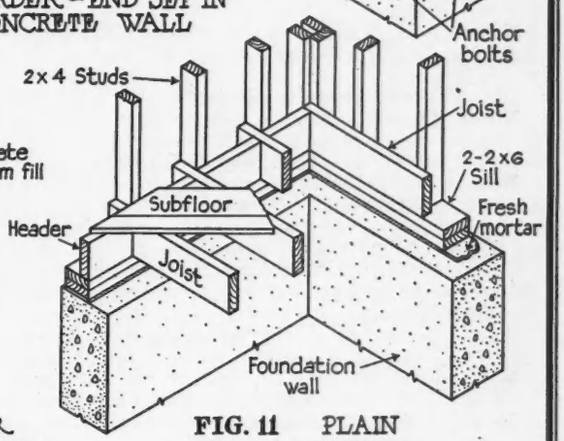


FIG. 11 PLAIN SILL ASSEMBLY

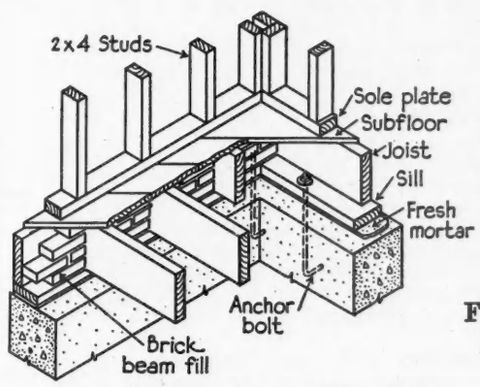


FIG. 12 BOX SILL ASSEMBLY WITH SILL PLATE

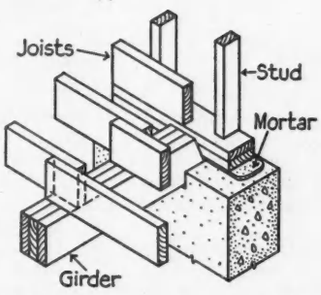


FIG. 14 FRAMING JOIST ON TOP OF GIRDER

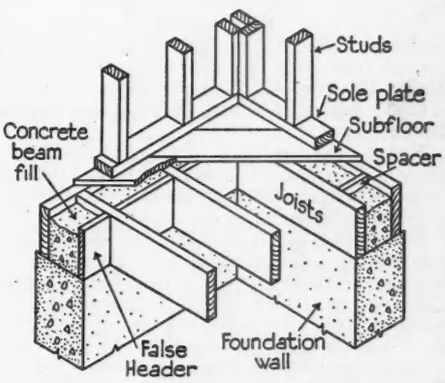


FIG. 13 BOX SILL ASSEMBLY WITHOUT SILL PLATE

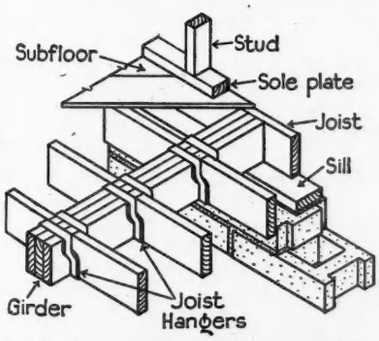


FIG. 15 FRAMING JOIST LEVEL WITH TOP OF GIRDER

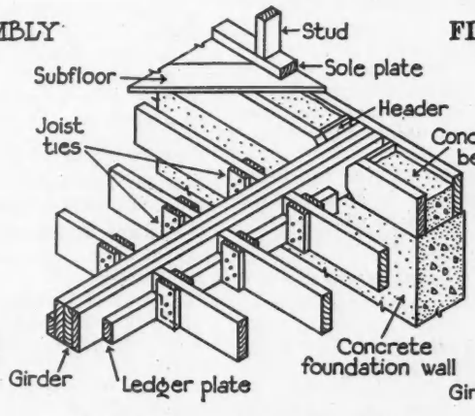


FIG. 16 FRAMING JOIST NOTCHED OVER LEDGER STRIP

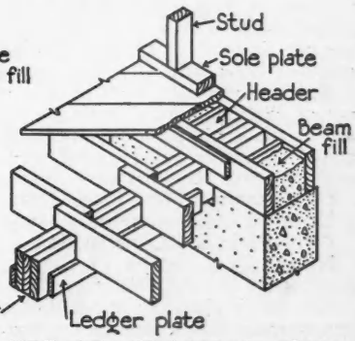


FIG 17 FRAMING JOIST NOTCHED OVER GIRDER

(6f) Ends of girders setting on masonry shall have at least 1 in. clearance on sides and ends for free circulation of air.

(6g) Where so indicated girder ends shall be provided with *(steel) (cast iron)* bearing plates accurately leveled and set in a ½ in. bed of *(waterproofed)* portland cement mortar. Allow mortar to set before erecting girder.

(6h) Accurately notch girders over stay-fins of posts provided with *(cast iron) (specify)* caps.

(7) Sills

(7a) All ends shall be square cut and closely fitted. Bore all sills accurately to take steel foundation anchors.

(7b) Double sill members shall be securely nailed together with 16 penny nails staggered and set 24 in. apart along both edges. Joints between halves and at corners shall be lapped and broken.

(7c) All sills shall be laid on a ½ in. bed of fresh (waterproofed) portland cement mortar, tapped lightly so as to assure a uniform, level bearing surface for the joists. Allow mortar to set before anchor bolts are tightened.

(7d) Treat the sills with a paint or dip coat of hot asphalt before erection.

Note: *This clause may be omitted if tops of masonry walls are dampproofed or sills are laid over a bed of waterproofed mortar.*

(8e) Framing Joists to Girders—

Note: *Choose and include the clauses which apply to the particular construction detailed.*

(8e1) Joists Bearing on Top of Girder—

Note: *This method, illustrated by Fig. 14, is the most common, simplest and best when it is not necessary to conserve head room. It does not take away from the strength of joists. Can be used in connection with either the PLAIN SILL or BOX SILL (see Figs. 11, 12 and 13). The shrinkage factor can be reduced by framing bearing partition studs to rest directly on girder.*

Joists shall lap each other at least six (6) inches uniformly over the girder and shall be nailed together securely where they lap, with two 10 penny nails driven from each side.

(8e2) Joists, Stirrup Hung, to Flush-top Girders—

Note: *This method, illustrated by Fig. 15, is recommended where it is necessary to conserve head room. Adapted for use in connection with PLAIN or BOX SILL (see Figs. 12 and 13).*

Ends of joists shall be square cut and tightly fitted against girder. Joists shall be sized to form even bearing surface over countersunk iron stirrup straps. Secure joists to stirrups with a 10 penny nail driven through bottom of stirrup.

(8e3) Joists Notched over top of Girders and Supported on Ledger—

Note: *This method, illustrated by Fig. 17, is suitable for more economical construction on small house work. Does not provide sufficient bearing surface for long joist spans. Reduces shrinkage factor to some extent.*

Notches in joist shall be cut evenly so as to secure level surface for sub-floor and with at least six (6) inch lap. Cut notches so that all load shall bear on ledger strip with ⅛ in. clearance over girder top. Joists shall be nailed together securely where they lap each other, using two 10 penny nails driven from each side.

(8e4) Joists Notched and Carried on a Ledger and Fitted Flush with Top of Girder—

Note: *This method, illustrated in Fig. 16, is not recommended. It is often met with in construction and may be used when properly reinforced at the weak point. While it provides increased head room and reduces shrinkage, the joists are apt to crack at the angle of the notch unless definite precautions are taken.*

Notches in joists shall be accurately cut to give full bearing on the ledger strip with the top joists set ¼ in. above the top of the girders. Sides and bottoms of joists shall be toenailed to girder and ledger. Securely nail a 1x4 in. cleat on each side of each joist close to the ledger.

(8f) Framing First Floor Joists at Outside Walls—

Note: *Provide for beam-filling in Masonry Specifications.*

(8f1) Plain Sill Construction—

Note: *This method of support, illustrated by Fig. 11, is adapted to the BRACED or BALLOON FRAME.*

All joists shall be toe-nailed to sill plate with three 10 penny nails and separated by spacers of the same size as the joist. Spacers shall be set back from ends of joist a distance equal to the width of studs and shall be fastened in place by two 16 penny nails driven into each end through the joists. Ends of joists shall be nailed to studs with three staggered 16 penny nails.

The starting joist shall set back from outside edges of sill plate a distance equal to the width of studs and shall be toe-nailed to the sill plate with 10 penny nails spaced 20 in. apart and to each stud with three 16 penny nails.

(8f2) Box Sill with Plate—

Note: *This method of support, illustrated by Fig. 12, is adapted to the BALLOON or PLATFORM FRAME.*

Both headers and starting joists shall be set flush with the outside of sill plate and shall be toe-nailed to it with 10 penny nails set 20 in. apart.

All joists shall be toe-nailed, each side, to sill plates with one 10 penny nail.

(8f3) Box Sill without Sill Plate—

Note: *This method of support, illustrated by Fig. 13, is used with BALLOON or PLATFORM FRAME.*

Both headers and starting joists shall be set flush with the outside of studding above.

The headers shall lap the ends of the starting joists at all corners and shall be nailed to them with three 16 penny nails for 2x8 in. joists, and four 16 penny nails for 2x10 in. and 2x12 in. joists.

All joists shall be set 16 in. o. c. (12 in. o. c. where so indicated) measured along top edge of headers. Headers shall be nailed to the joist ends with the same number and size of nails as specified above.

All joists shall set flush with top of main headers.

(a) Provide joist-size false headers along the sides and false joists across the ends set flush with inside face of foundation wall, toe-nailed in place. Along the ends, provide solid spacers the full joist depth set four feet apart o. c.

This assembly shall be leveled-up and "beam-filling" shall be tamped under all members that do not have full bearing on foundation walls. "Beam-filling" shall be added sufficient to fill all boxes flush with top of joists. Allow fill to set, before putting on the sub-floor.

Note: *Omit this clause (a) if brick beam-filling is used as in (b). Provide for furnishing and installing of beam-filling in Masonry Specifications for 1-3-6 concrete mixture with a limited amount of water to prevent as far as possible the swelling of joists and subsequent shrinkage. Brick beam-filling is often preferred since less moisture is contained in the mortar necessary to lay the dry brick. See Fig. 13.*

(b) This assembly shall be leveled-up and the bed of mortar for brick beam-filling shall be thoroughly tamped under all members that do not have full bearing on foundation walls. Brick beam-filling shall be added using as little mortar as possibe to fill from the top of wall flush with tops of joists and inner face of wall. Allow fill to set before putting on sub-floor.

Note: *Omit this clause (b) if concrete beam-filling is used as in (a) above. See note above. See Fig. 12.*

(11) Fire Stopping

Note: *The function of fire stopping is to increase fire safety by stopping the circulation of air and fire within the walls, partitions and floors. See Fig. 5.*

Fire stopping shall be provided at each floor level, both in the outside walls and bearing partitions by placing tightly fitted headers between the ends of the joists at these points. The boxes formed by these headers shall be filled with incombustible materials *(crushed mortar) (gypsum) (mineral wool) (specify)* so as to shut off more effectively the circulation of air.

(12) Construction to Balance Shrinkage

Note: *Lengthwise shrinkage of timber is practically negligible, but all lumber tends to shrink and swell across the grain with changes in atmospheric conditions. It is advisable from this standpoint to limit horizontal members as much as possible but, as it cannot be avoided entirely, it is necessary to balance the thickness or depth of the horizontal lumber in exterior and interior bearing walls. See Fig. 4.*

(12a) The thickness of horizontal framing members in exterior and interior walls shall be balanced on each floor level as nearly as possible.

(17) Roof Boarding

(17a) All roof boarding shall be laid at right angles to the rafters.

(17b) All boards shall be fitted tightly together and nailed to each bearing with 8 penny nails, two (2) to each board 4 or 6 in. wide, three (3) to each board 8 in. wide and four (4) to each board 10 or 12 in. wide.

(17c) All joints shall be broken and made directly over the center of a rafter, unless end matched material is used, when the joint may occur between the rafters provided that the joints in two adjacent boards do not occur between the same two rafters.

(17d) All boards supporting the end rafters or barge boards shall be long enough to extend over at least two of the regular rafters.

The second half of these Specifications will be presented next month.—Editor.

Practical Job Pointers

A Readers' Exchange of Tested Ideas and Methods, Taken from Their Own Building Experience. Two Dollars Will Be Paid for Each Contribution Published in This Department

A Daylight Workbench

THERE is no light as good as daylight for fine work at the bench. For such work, the bench illustrated will be found extremely handy. It can be moved about easily so that the light will strike the work at just the right angle.

The vise, or other tool, is attached to the top of a 36-inch, 4 by 4 post, with two small shelves just below for holding the hand tools. The post is mounted on a 3 by 3-foot platform, the central plank of which is 2 inches thick, and projects beyond the others about 18 inches. Angle braces for the post are nailed to this plank, and to the corners of the platform.

This Handy Bench Can Be Pushed Into Any Position to Take Full Advantage of the Daylight.

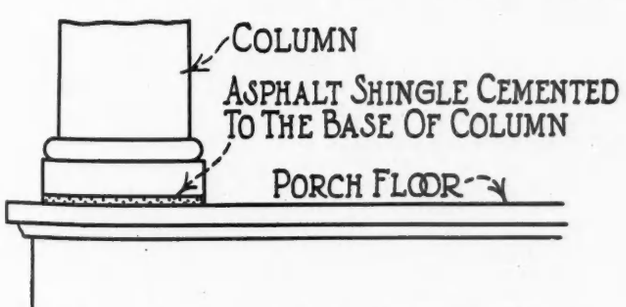
The end of the plank, and the four corners of the platform have small casters on which the bench is moved about. A padded seat s placed on the platform for the workman.

JOSEPH C. COYLE, Drawer B, Englewood, Colo.

Prevent Rotted Columns

MANY people seem to have trouble with porch columns rotting out at the bottom. In replacing such columns I always cement an asphalt shingle to the base of the column, as shown in the sketch, with the slate surface down. This has worked well in preventing rotting where the column rests on a masonry floor.

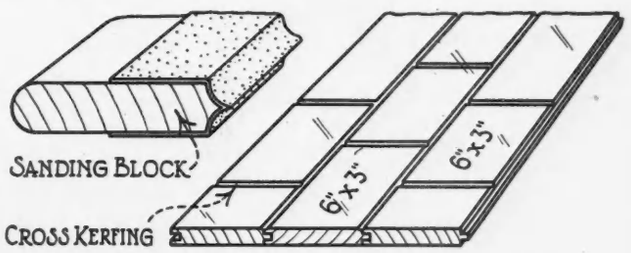
A. H. OLSON, North East, Pa.



An Asphalt Shingle, Slate Surface Down, Placed Under a Porch Column Will Prevent Rotting of the Column Base.

A Tile Reproduction

THE accompanying sketch shows how I recently reconditioned a bathroom wainscoting to represent tile. I used ⅜-inch white wood, 3 inches wide, run and matched on an ordinary matcher. It was then kerfed across the grain on an ordinary power saw and the edges of the kerfs were rounded with a sanding block made as shown in the sketch.



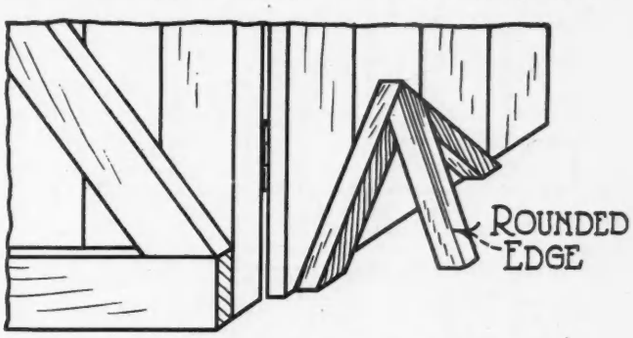
An Excellent Reproduction of Tile Wainscoting Made from Kerfed and Enameled Wood.

These strips were applied to the wall and finished with suitable cap, base and neck moulds. Two coats of flat white, and two coats of white enamel were applied and the result was an excellent reproduction of high class tile. This kind of a job, which is quite economical, can also be used to good effect in kitchens.

FRED W. WESLEY, Burks Falls, Ont., Canada.

A Simple Door Protector

LARGE doorways used for heavy trucking are protected by means of iron corners but nothing of the sort is available for private garages though the need is often just as great. Both the corner of the door frame and the edge of the door can be protected by means of a simple guard.



A Simple and Inexpensive Guard for Garage Door Frames Can Be Made from Three Pieces of Two by Four.

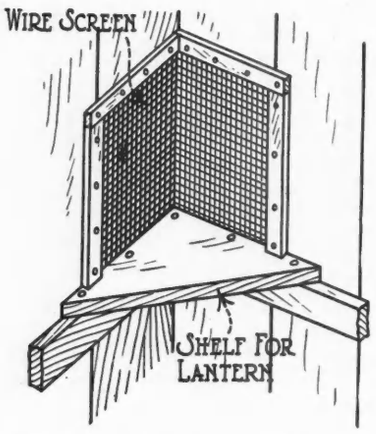
Two pieces of two by four are fitted together to form a right angle and a third piece is fitted to these at the apex, as shown in the sketch. The edge of the third piece is rounded off and the form is nailed to the door frame at the point to be protected. The third member of the form rests on the ground and projects enough to act as a guard.

Because the edge is rounded, it will not cut or bruise the tires even though they strike it a hard blow. The smaller the angle of the third leg, the stiffer and stronger the guard but, even if it should get broken, it is easily and inexpensively replaced.

MORRIS A. HALL, White Plains, N. Y.

Lantern Protection

FREQUENTLY, during the construction work, it is necessary to obstruct a public walk with a fence. In such a case red lanterns must be provided to give pedestrians warning of the obstruction, and avoid legal liability. If lanterns are placed as shown in the sketch, they will be protected against being blown down, overturned or stolen.



The Red Lantern Is Placed on the Shelf Where It Is Protected by the Screen.

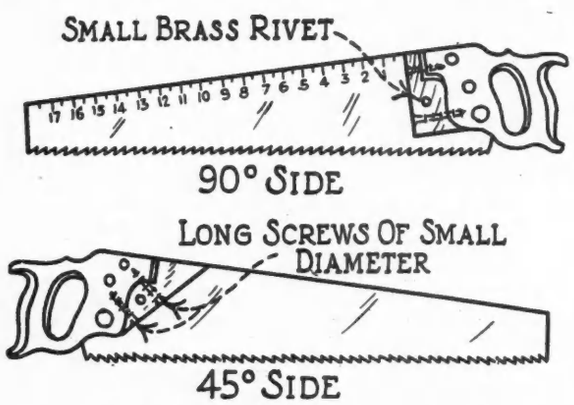
This plan was followed by an eastern contractor with good results. A portion of the fence corner was cut away, making an opening about 15 inches high. The opening was covered, on the inside, with a piece of heavy screen wire and a shelf was placed in the corner, large enough to hold the lantern.

The lantern was, of course, placed from the inside but, when lighted, gave plenty of light through the screen. The whole job can be done by a carpenter in a few minutes.

MORRIS A. HALL, White Plains, N. Y.

Make the Saw More Useful

THE utility of the ordinary hand saw may be greatly increased by adding to it a 45-degree angle, a 90-degree angle and a rule. Select a straight-backed saw and fit a small,



A Small Block Attached to Each Side of a Saw to Measure Angles and a Rule Etched Along the Back Are Useful.

hardwood block to each side as shown in the sketch. These blocks are so shaped that when placed against the edge of a board, the back of the saw marks an angle of 45 degrees, in one case and 90 degrees in the other case, with the edge of the board.

These blocks are fastened to the handle of the saw by means of long screws of small diameter and, when in position, at least one brass rivet through the saw blade.

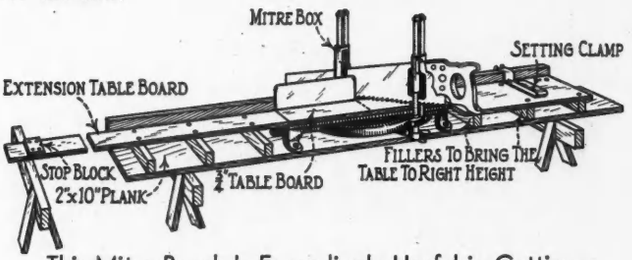
From the edge of one of these blocks, preferably right angle one, graduations, in inches and fractions, should be laid off and etched into the blade.

MORRIS A. HALL, White Plains, N. Y.

Convenient Mitre Bench

I BUILT a mitre bench for my own use and have found it so handy that I believe others might be interested in it, too. The sketch shows just how this bench is built. I made it 10 feet long over-all. The long table makes it possible to cut any amount of short studs to perfect length by setting the "setting clamp" for the length wanted.

With this bench I use an ordinary hand saw for cutting base blocks, casing, moulding and similar material. The clamp can be used on either side of the mitre box. Having the ¾-inch table board on the mitre box gives extra clearance for the saw.



This Mitre Bench Is Exceedingly Useful in Cutting Mouldings, Casings and Similar Material.

For cutting long stock, such as full length studs, I take off the short table board and put on an "extension table board" of any length needed. I nail a "stop block" on the end of this and measure from it to the mitre box for length. Even the poorest helper can cut to perfect length and perfectly square with this bench.

KENNETH DEMCHUK, Camp Lister, B. C., Canada.

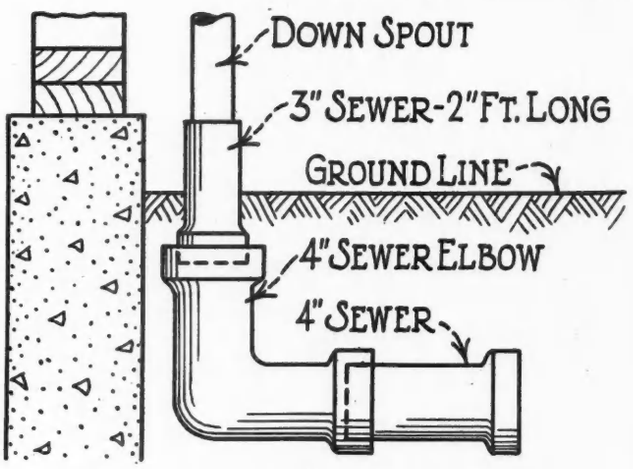
Down Spout Drain Connection

IN connecting down spouts and drain tile to carry away roof water, I find many are puzzled as to how to make a connection that will be both neat and effective. The sketch shows a method which I have used and found highly satisfactory.

I run a four-inch tile to within a foot of the building. Here I run it into a four-inch sewer ell with the collar turned up. In the upper end of this ell, I place a two-foot length of three-inch sewer pipe, with the collar turned down. This fits snugly into the collar of the four-inch ell.

The small end of the three-inch pipe which is turned up just accommodates the three-inch down spout and there is no danger of foreign matter getting into and clogging the sewer.

WM. H. HARTZLER, Marshallville, Ohio.



Here Is a Neat and Effective Method of Connecting the Down Spout with the Sewer Pipe, Which Avoids Clogging

For Comfort and Convenience

Many New Products Can Be Utilized by the Builder Who Keeps in Touch with New Developments in the Building Field

A Neat Metal Box, Placed on the Window Sill Furnishes an Ample Supply of Filtered, Fresh Air and Excludes Outside Noises.

For further information on any of the products mentioned on these pages write American Builder and Building Age, Information Exchange, 105 W. Adams St., Chicago.

GREATER comfort and convenience in the home seem to be the constant aim of manufacturers who produce equipment for buildings. New and improved items, which contribute to this end are continually being announced and many, if not all of them, can be utilized to good purpose by the builder who is turning out desirable, up-to-date homes. It is interesting to observe how the modern point of view on this subject of comfort and convenience will produce "essentials" which were unheard of only a few years ago.

Within the memory of many still living, windows were nailed shut in winter and ventilation was given little if any consideration at any time. Even in the mildest seasons "night air" was thought to be quite dangerous. How different the present day attitude. And with the change have come new products to assure not only plenty of fresh air but also to exclude noise which was formerly endured with little protest.

Filtered Fresh Air Without Noise

In hotels and apartment buildings, offices, hospitals and even homes, street noises which disturb and irritate the nerves, and foul air which saps vitality and destroys health, have become a serious problem. For any of these, the problem may be solved by means of an appliance which can be installed in any window and which reduces noise to the quietness of closed windows while providing an ample volume of fresh air from which dust has been removed.

This unit, in the form of a metal box 10 inches high by 12 inches deep and as long as the width of the windows, is installed on the window sill. After it is installed the window need never be opened except for washing as a stream of fresh outside air is drawn into the room at a rate of 300 cubic feet a minute and directed toward the floor, setting up circulation within the room.

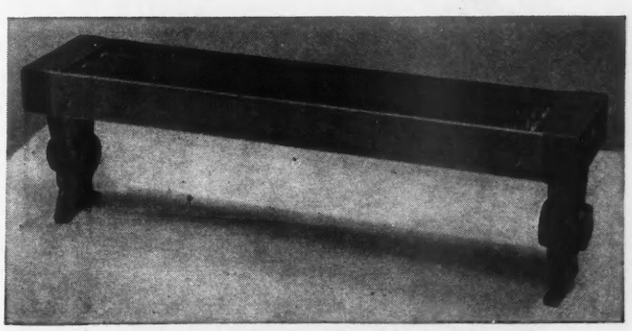
This stream of air is passed through a filter which removes 97 per cent of the dust and dirt. About 55 per cent of the noise is eliminated due to the fact that the windows are kept closed at all times. In cases where still greater noise reduction is desired, interior windows may be installed, which will reduce the noise level 95 per cent.

The original installation of this device, including the connection to a base plug, is not expensive and the cost of operation amounts to only about 1-3 of a cent an hour.

Another Concealed Heating Unit

Ventilation and heating are, in general considered together; so it is a quite natural thing to turn next to a new concealed radiation unit that has been perfected by one of the companies which has done a great deal of work in the development of this new type of heating equipment. This new unit employs copper exclusively for the heating element, the heating medium being contained in seamless copper tubing and the extended surface consisting of reinforced copper.

The headers, cast from special, high test iron, are assembled to the heating element by means of standard compression screws, and are constructed with built-in dirt pockets. Both the primary and secondary surfaces are me-



An All Copper Heating Element Is Used in This New Type of Concealed Radiation Unit Designed to Meet All Standard Conditions.

tallicly bonded to insure permanently effective heat transfer. This unit is offered in a range of sizes designed to meet all standard building conditions.

Low Priced Lighted Cabinets

Within the last few years a new line of bathroom cabinets has been introduced which incorporates sliding lights at each side of the mirror, providing for a shaving mirror without shadows. This line has won a well deserved popularity and the manufacturer has recently announced the addition of a low priced unit to the line.

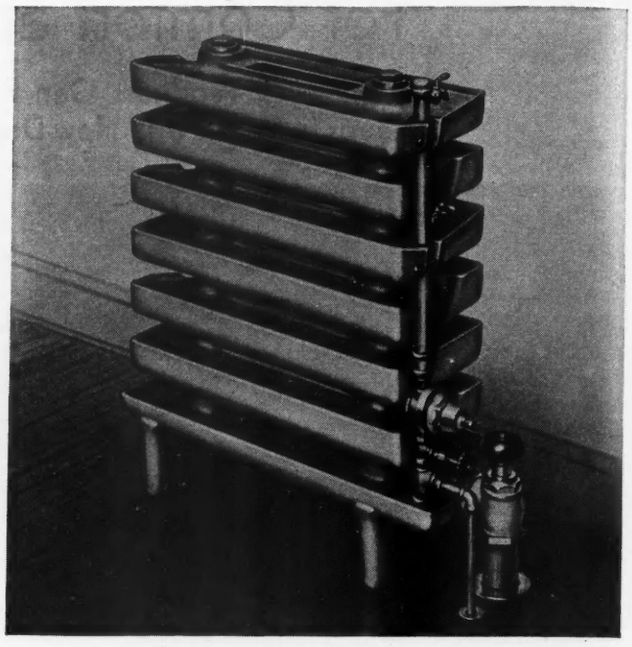
The advantages of this type of cabinet have been recognized by hotel and apartment owners and builders, as well as by home owners; but, because of the necessity of keeping investment costs within definite limits in such investment building, they have not in many cases been able to make use of these units. The new low priced unit has a die-cast white brass frame, an attractive lacquer finish and a quality mirror; and is wired for two sliding lights, as are the other models. It sells at a price which compares with that of cabinets with unlighted mirrors.

Now Humidifying Radiators

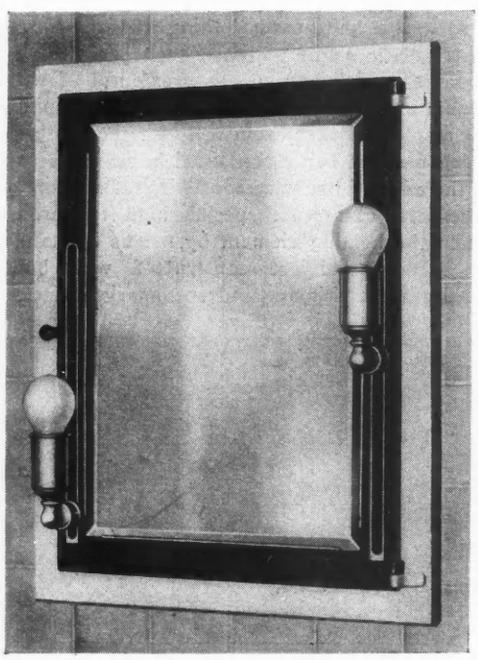
Home comfort is dependent not only on proper warmth but also upon proper humidification of the air. In the average home the air is so dry that it is necessary to maintain excessively high temperatures and the dryness is injurious to health. This difficulty can be overcome through the use of a new humidifying radiator, suitable for use with steam, vapor or hot water systems.

This radiator resembles ordinary radiators except that the sections run horizontally instead of vertically. Each of these sections has a flange around the edge which forms a water evaporating trough on its upper surface. Water from the city line is supplied to the upper trough, passing through a shut-off valve, a pressure reducing valve, and a pet cock directly above the trough.

Each trough has an over-flow incline at one end and after the surface is covered the surplus flows into the trough next below. From the lowest trough the surplus passes into the sewer. The heat in the radiator evaporates the water in an amount proportionate to the amount of heat used. Since the need for humidification is also in proportion to the amount of heat used, the action is automatically regulated. One of these units, it is stated, is sufficient to maintain the correct humidity of the air in a dwelling of average size under the ordinary heating conditions.



Each Section of This Radiator Is a Trough from Which Water Is Evaporated in the Correct Amount for Humidification.



A New Low Priced Unit Makes This Sliding Light Type of Cabinet Available for Investment Building.

Adjustable Mirror Cabinets

The primary purpose of the mirror on a bathroom cabinet is to reflect, but proper vision is not possible without proper lighting. With the cabinet with adjustable mirror, proper lighting, from either artificial or natural light, can always be secured, as the mirror can be placed in any position to pick up the light rays.

The Mirror of This Bath Cabinet Can Be Adjusted to Get Proper Lighting.

With the door closed this cabinet looks like any other high grade bathroom cabinet. The door can be swung open in the usual manner, but it can also be pivoted to a position almost at right angles to the cabinet. This is accomplished by means of an extended hinge which is entirely concealed when the cabinet is closed. It is sturdily built so that it will not get out of order or out of alignment.

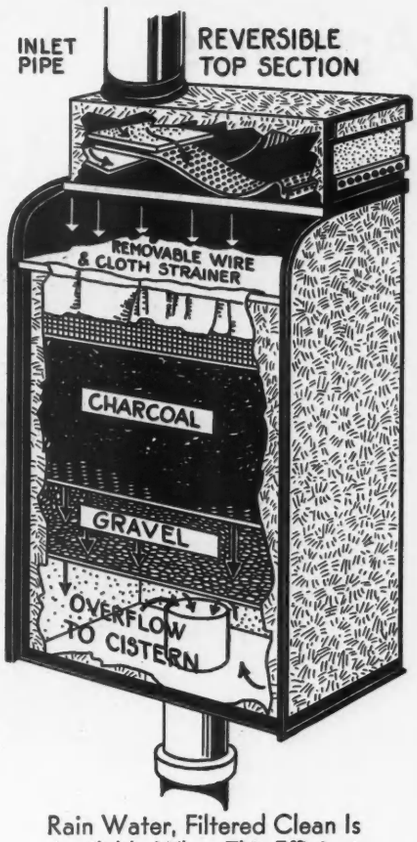
Another advantage of this type of cabinet is that the contents of the cabinet are readily accessible even when the mirror is in use. The additional cost of these cabinets, as compared with the ordinary type of the same quality, is small in proportion to the added convenience they provide.

Clean Cistern Water

Rain water is greatly appreciated by many housewives but, with the ordinary cistern equipment, rain water can not be kept as clean as it should be. A cistern filter is necessary in order to obtain sanitary conditions in connection with the cistern. Such a filter, which has been thoroughly tested in use, is available.

This filter is installed on the outside of the building, in the down spout, at a height which will be convenient for cleaning. It is high grade galvanized metal, and is neat in appearance. There is a hinged cover by means of which all parts may be removed for cleaning and replaced. The top section is detachable and reversible so that either a right or left hand installation may be made.

In the top section there is a perforated metal strainer which removes the large objects such as leaves twigs, worms and so on from the water. Thus no matter which may decay enters the cistern. Below this there is a cloth covered wire strainer which removes sand, dirt and soot. Next the water passes through charcoal and gravel for a final filtering and then into a bottom chamber from which it overflows into the cistern.



Rain Water, Filtered Clean Is Available When This Efficient Cistern Filter Is Used.

An Upward Acting Garage Door

Recognizing the popularity of the upward acting type of door for private garages and service stations, one of the largest manufacturers of door equipment has recently brought out a door of this type. It is adapted to doors with various size openings and either the hardware only or the complete door is furnished.

No special type of jamb construction is required for this door. It is operated by means of two helical springs which counterbalance the weight of the door and allow it to be opened without effort. The door is closed by a slight pull on a drop cord attached to the lower section. The springs are so placed as to eliminate noise in operation and the rollers are ball bearing equipped.

All of the operating mechanism is attached to the inside of the door and to the ceiling where it is completely out of the way and protected from the weather. The doors may be locked from both the outside and inside by means of a cylinder lock which may be equipped to operate with the house key. When the doors are closed they are held tightly against the jambs and floor making them completely weathertight and rattleproof, regardless of shrinking or swelling, for which allowance has been made in the design.

Another Upward Acting Door

Another of the more recently perfected, upward acting garage doors, is of the two section folding type. This door operates without tracks or lifting springs. Counterweights are used to balance the weight of the door for easy operation. The lift of these weights raises the door the moment the latch is turned. When closed the door is weathertight and does not rattle. It is equipped with an adjustable weatherstrip which takes care of all shrinkage and swelling of the wood.

As a further insurance against troubles due to shrinkage and swelling, the wood of these doors is chemically treated and they are furnished primed with a coat of aluminum paint. They are guaranteed against decay for twenty years.

The door is shipped in two sections, fitted to exact size, with all hardware mounted ready for use. The weights and jamb hardware are shipped loose except when the jambs are ordered with the door. It is simple to install, the installation costing no more than a regular frame and door, it is stated. No adjustments are required and there is nothing to get out of order.

In designing these doors, due attention has been given to architectural effect to harmonize with the home.

Here Is a Spring Balanced, Upward Acting Door Which Has Been Designed for Private Garages and Service Stations.

When the Latch Is Turned Counterweights Immediately Raise This Door, Which Is of the Folding Upward Acting Type.

Building Activities

The Month's News of the Industry

Initiate Campaign to Relieve Unemployment in Building Industry

GOV. EMMERSON of Illinois is to be asked to call a mass meeting of statewide representation for the purpose of starting a permanent movement toward unemployment relief in the building industries. In presenting this proposal, the greatest stress will be laid upon the home modernizing programs on which the building industries in several states are now at work.

Illinois will be asked to follow the example of Indiana, which has organized a statewide building trades section of its state commission for unemployment relief. Steps toward that end have already been taken by the Allied Construction Council and it is planned to ask the co-operation of Edward L. Ryerson, Jr., president of the Joint Emergency Relief Fund, in this new method of approach to the unemployment problem.

Prior to the organization of the state wide movement, Muncie, Ind., through the work of the building trades section of its chamber of commerce, found whole or part time work for 1,000 men during a period of nine months. Governor Leslie, however, considered the time ripe for a state movement along the same line and this is now being pushed forward.

Similar action is also being considered by Governor Roosevelt, of New York, and, with such outstanding leadership, the movement gives promise of becoming nation-wide in scope.

In Illinois, a number of cities have already started work on home building and modernizing campaigns and, it is pointed out by C. G. Ferris, executive vice president of the Illinois Chamber of Commerce, that the record of these cities may equal that of Rochester, New York, where the "Rochester Plan," employing pledge cards, has been notably successful. Decatur, Ill., is one of conspicuous examples of progress made in that state.

Whether the Rochester pledge card system would be well adapted to Illinois at this time, the extension of the creation of employment to other lines, and the method of organizing and campaigning would all be left to the meeting which the governor is to be asked to call, and out of which, it is expected, a committee of strength will emerge.

According to O. W. Rosenthal, president of the National Association of Building Trades Employers who originally suggested the Illinois movement, the Construction Investment Trust, which he has recently organized, is ready to stand back of the new program.

"This movement, if undertaken on a national scale," said Mr. Rosenthal, "would overcome the economic unbalance and pave the way toward putting business on its feet. The building industry is the barometer of business. There are twenty-one million buildings in this country. If $200 was spent in improving each one it would start the biggest building program this country has ever known. The release of the immense purchasing power of the building laborers would react upon general business in a permanent way.

"We do not need new office buildings or large apartment buildings at once. These may have to wait for some time. But we do need today thousands of small apartments and small homes. Men are neglecting their properties. The expenditure of a few dollars will bring property back to beauty and usefulness. Every dollar spent in alteration or repair means the saving of several dollars in depreciation. Every dollar spent in modernizing will produce several dollars in added values.

"Eighty to ninety per cent of every dollar spent in modernizing and construction is immediately translated into wages—wages on the job, in the office, in the field and in transportation."

Coming Events

Jan. 9-15, 1932—American Road Builders Association, Annual Convention and Road Show, Statler and Book - Cadillac Hotels, Detroit, Mich.

Jan. 13-14, 1932 — Retail Lumber Dealer's Association of Indiana, Annual, Claypool Hotel, Indianapolis.

Jan. 14-16, 1932 — Mountain States Lumber Dealers Association, Annual, Cosmopolitan Hotel, Denver, Colo.

Jan. 15, 1932—New Hampshire Lumbermen's Association, Annual, Hotel Carpenter, Manchester.

Jan. 18, 1932—Associated General Contractors, Hotel Schroeder, Milwaukee, Wis.

Jan. 18, 1932—National Association of Real Estate Boards, Annual Mid-Winter Meeting, Jefferson Hotel, St. Louis, Mo.

Jan. 19-21, 1932—Northwestern Lumbermen's Association, Annual, Minneapolis Auditorium, Minneapolis, Minn.

Jan. 20-22, 1932—Pennsylvania Lumbermen's Association, Annual, Bellevue-Stratford Hotel, Philadelphia.

Jan. 25, 1932—United Roofing Contractors Association, Annual, Louisville, Ky.

Jan. 25, 1932—National Association of Sheet Metal Contractors, Annual, Louisville, Ky.

Jan. 25, 1932—Roofing Contractors Division of the National Slate Association, Annual, Louisville, Ky.

Jan. 25-29, 1932—International Heating and Ventilating Exposition, Cleveland, Ohio.

Jan. 25-29, 1932—American Society of Heating and Ventilating Engineers, Annual, Cleveland, Ohio.

Jan. 25-29, 1932—American Society of Refrigerating Engineers, Annual, Cleveland, Ohio.

Jan. 26-28, 1932—Northeastern Retail Lumbermen's Association, Annual, Hotel Pennsylvania, New York City.

Jan. 26-28, 1932—American Wood Preservers Association, Annual, Jefferson Hotel, St. Louis, Mo.

Jan. 27-29, 1932—Tennessee Retail Lumber, Millwork and Supply Association, Annual, Noel Hotel, Nashville.

Jan. 27-29, 1932—Southwestern Lumbermen's Association, Annual, Ararat Shrine Temple, Kansas City, Mo.

Feb. 2-4, 1932—Iowa Lumber & Material Dealers Association, Annual, Coliseum, Des Moines.

Feb. 2-5, 1932—Ohio Association of Retail Lumber Dealers, Annual, Columbus.

Feb. 2-5, 1932—Michigan Retail Lumber Dealers Association, Annual, Pantlind Hotel, Grand Rapids.

Feb. 9-11, 1932—Illinois Lumber and Material Dealers Association, Annual, Stevens Hotel, Chicago.

Feb. 10-12, 1932—Retail Lumber Dealers Association of Western Pennsylvania, Annual, Wm. Penn Hotel, Pittsburgh.

Feb. 12-13, 1932—Virginia Lumber & Builders Supply Dealers Association, Annual, John Marshall Hotel, Richmond.

Permanent Dodge Exhibit

DODGE BROTHERS CORPORATION has established at its Detroit plant, a permanent exhibit of trucks, which is described as one of the largest and most complete exhibits of its kind in the world. It covers an area of 54,890 square feet.

DRAMATIC PROOF of the extraordinary reliability of the Ford Truck

ON A ROAD improvement project in the mountains of Kentucky, sand and gravel are taken from the river bed, and loaded into dump trucks. The trucks have to run in the river for some distance before reaching a 14% grade, up which they must pull, loaded, to the highway.

When the work started there was but one Ford in the contractor's fleet. That performed in such an extraordinary manner that more were ordered, and today out of twelve trucks in this service, nine are Fords. One of them at the end of six months had a repair bill of only fifteen cents.

Such conditions of service are most unusual, and the fact that the Ford truck can stand them triumphantly, and win the preference of the operator, is significant to every truck owner, in the cities as well as in the country. Let your Ford dealer demonstrate the Ford truck that will lower your hauling costs. In most principal cities there are centralized exhibits of these units.

Ford

CURRENT CONSTRUCTION FIGURES

Heavy Losses in November Continue to Pile up Building Deficiency

BUILDING contract figures for November were disappointing in view of the improved tone in general business which was felt during October. The only encouragement which can be derived from such small figures is in the knowledge that a building deficiency is being created from month to month which will, when the turn does come, assure a high rate of activity in the industry.

Total contracts for November amounted to $209,557,517, the loss from October being greater in the non-residential groups than in the residential. This total was distributed being the various classes of building as follows:

Residential Buildings.....	$93,061,467
Commercial Buildings.....	16,163,730
Factories	4,646,840
Educational Buildings.....	12,985,610
Hospitals and Institutions.	6,593,290
Public Buildings.....	17,281,660
Religious and Memorial...	2,339,810
Social and Recreational...	4,334,440
Public Works and Utilities	52,150,670
Total	$209,557,517

These figures cover the volume of contracts awarded for the entire United States, as estimated by AMERICAN BUILDER AND BUILDING AGE. This estimate is based on the figures for contracts awarded in 37 eastern states as reported by the F. W. Dodge Corporation, to which factors have been added to account for contracts awarded in the 11 Rocky Mountain and Pacific Coast States, and for the smaller, unreported work not covered by the Dodge reports.

Normally, the construction volume for the 11 western states amounts to about 10 per cent of the volume for the balance of the country, with slight variations from month to month. During November the ratio was normal, so the 10 per cent factor has been used.

Only a portion of the new building, modernizing and repair work of less than $5,000 is covered by the Dodge reports. A large proportion of this work is carried on in the rural districts and small towns. It normally amounts to about 25 per cent of the reported volume, the actual figure varying with the season and varying conditions.

Rural building has been relatively active during the fall months, following the harvest season, and has been stimulated by the movement to provide grain storage on individual farms. The peak of this rural building was reached in October when the unreported work of the country amounted to 27 per cent of that reported.

Because of favorable weather conditions, however, a considerable volume of rural work was carried over into November bringing the unreported work up to a total of 26 per cent of that reported. Practically all this work is residential or farm building and has, therefore, been classified under the heading Residential Building in the tabulation.

Masonite Enters Century of Progress Exhibit

ANNOUNCEMENT is made by James P. Gillies, vice president and general manager, that Masonite Corporation has signed for space in the Housing exhibit of A Century of Progress exposition to be held in Chicago in 1933. A five-room house, with garage, built entirely of the company's grainless fibre board products, will be erected. The exhibit will be built according to the winning plan selected in a competition to be conducted under the competition rules of the American Institute of Architects.

This is the third dwelling for which arrangements have been made in the Housing Exhibit. The Associated Tile Manufacturers have already signed an application for the erection of a home built of tile and the Chicago Lumber Institute have made similar arrangements for the construction of a house built entirely of lumber. Five acres of ground on the World's Fair site have been set aside for the Housing Exhibit. This exhibit will comprise eight residences, an apartment building, an exhibit hall and garages.

Truscon Expands

THE Truscon Steel Company has taken over the Berger Manufacturing Company Building Products Division at Canton, Ohio, and will continue to operate it as Berger Building Products Division of the Truscon Steel Company, continuing with present Berger policies and retaining on its staff the present selling organization.

The Berger Products Division has enjoyed a wide field of operation throughout the entire United States and in export fields. It manufactures a line of products similar to those of the Truscon Steel Company which have met with favorable reception.

Electrical Industry Plans Unemployment Relief

AN unemployment relief program for the electrical construction industry, which was originated by The Electrical Guild of North America, has been enthusiastically accepted by labor. This program is designed to organize some 25,000 to 35,000 unemployed electrical mechanics in a house to house canvass for modernizing and improvement work.

It is expected that journeymen, now unemployed will work in the interest of unemployment relief, as canvassers, on a small commission to be arranged by the contractor for such actual business as results from their efforts. Their real incentive will be employment at their trade when the contractor gets new business requiring the services of additional journeymen.

It is expected that the house to house canvass can be vitalized and differentiated from an ordinary canvass by news items in local papers and by advertising matter furnished by contractors, dealers, and utilities. Property owners will buy electrical improvements more willingly than they will contribute money for doles or impersonal unemployment relief.

The co-operation of all electrical contractors, as well as all organizations of the electrical industry, is hoped for and expected. A handbook outlining the plan has been prepared for distribution by the International Brotherhood of Electrical Workers, 1200 Fifteenth St., N. W., Washington, D. C.

Compete for Fellowship

THE Government Committee of the James Harrison Steedman Memorial Fellowship in Architecture announces the seventh competition for this Fellowship, to be held in the spring of the year 1932.

The value of this Fellowship is represented by an annual award of fifteen hundred dollars, to assist well qualified architectural graduates to benefit by a year in travel and the study of architecture in foreign countries.

This Fellowship is open on equal terms to all graduates in architecture of recognized architectural schools of the United States. Application blanks for registration can be obtained at any time upon written request addressed to the head of the School of Architecture of Washington University, St. Louis, Mo., to whom application blanks properly filled out must be returned not later than January 21, 1932. Any requests for supplementary information relative to the rules and regulations governing the competition shall be made at the same time.

NO VACANCIES HERE

MONTICELLO APARTMENTS 100% RENTED

Read how Frigidaire enabled this apartment owner to reduce operating expense nearly $5000 a year

How to keep apartments fully rented! That's what every owner and builder wants to know. Read the experience of this St. Louis Investment Company.

Recently the Monticello Apartments replaced their old refrigeration system with Frigidaire. Here's what happened.

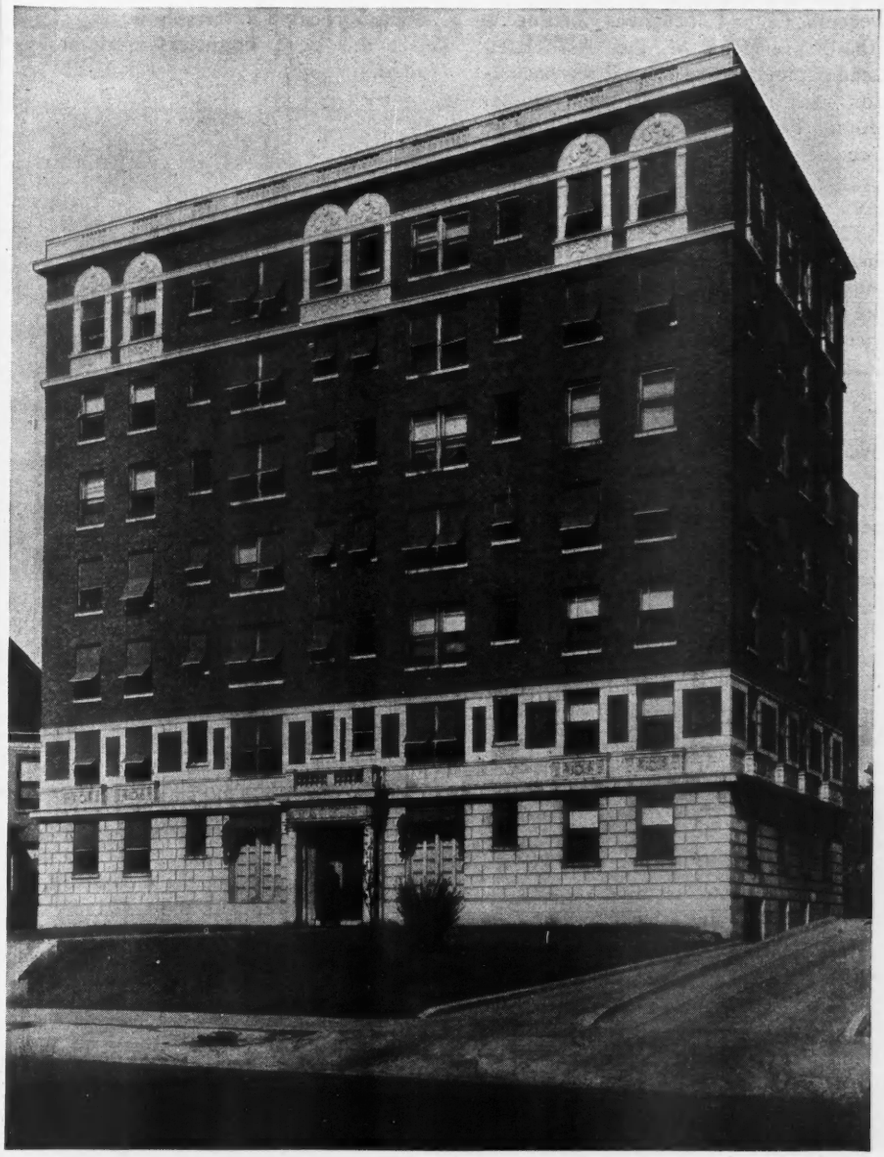
Vacant apartments became occupied. New leases were signed. New tenants moved in. Rentals began to increase. And operating costs were reduced 75 per cent.

"We have found," states Mr. Smith, director of the Monticello Investment Co., "that tenants prefer Frigidaire, and always feel more kindly toward an apartment when they see Frigidaire installed. This is an important thing in the apartment house business, since it often means the difference between keeping apartments rented, and having them empty. This past year has been a most successful one for us, with apartments filled, and I do not hesitate to give a portion of the credit to Frigidaire, and its fine service to tenants."

Where could you find more convincing proof that tenants *do* have a definite preference in the matter of refrigeration? That it's Frigidaire they want!

There is good reason for this. Compare the Frigidaire cabinet, the mechanism, all the features point by point with any other make. You'll find that some refrigerators give you some of the advantages . . . but only Frigidaire offers the combination of so many outstanding improvements and refinements . . . *all* the advantages of "Advanced Refrigeration."

Frigidaire offers a cabinet model for every purpose. Let us give you all the details. Frigidaire Corporation, Dayton, Ohio. (Subsidiary of General Motors Corporation)



NO VACANCIES! That's the wish of every apartment builder or owner. The Monticello is one of St. Louis' most popular apartments . . . it's 100 per cent rented. Frigidaire is given part of the credit for bringing about this condition.

FRIGIDAIRE

A GENERAL MOTORS VALUE

Associated Leaders Hold Annual Convention

THE fifth annual convention of the Associated Leaders of Lumber and Fuel Dealers, and the first annual stockholders meeting of the National Homes Finance Corporation, were held at the Congress Hotel, Chicago, December 7 to 9 inclusive. Arthur A. Hood, president of the Associated Leaders, announced that, in co-ordination with the policy of the National Homes Finance Corporation, effective December 7, 1931, the Associated Leaders system will be sold on a selective instead of an exclusive basis.

The same qualifications of merchandising and financial strength will be required of incoming members as in the past but, in communities where there is not already a member, any dealer who meets these requirements may become a member. Present exclusive members will, however, be fully protected in their exclusive franchises if they so desire.

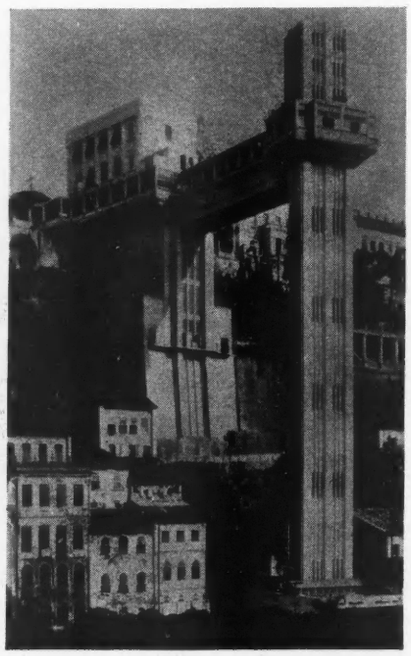
A. J. Hager, Lansing, Mich., president of the National Homes Finance Corporation, announced that fifteen manufacturers have now signed up to participate in that organization and that several more are about ready to come in.

The companies which have already signed up are: E. L. Bruce Co., Memphis, Tenn.; Lehon Co., Chicago; Kirby Lumber Co., Houston, Tex.; Weatherbest Stained Shingle Co., North Tonawanda, N. Y.; Arkansas Oak Flooring Co., Pine Bluff, Ark.; Masonite Corporation, Laurel, Miss.; The Edham Co., Inc., Vancouver, B. C.; Peavy-Wilson Co., Shreveport, La.; Louisiana Longleaf Lumber Co., Fisher, La.; Louisiana Central Lumber Co., Clarks, La.; Southern Pine Lumber Co., Texarkana, Ark.; Marietta Paint & Color Co., Marietta, Ohio; DeVoe & Reynolds Co., New York; Hinde & Dauch Paper Co., Sandusky, Ohio.

Following the opening of the convention by Mr. Hood, the first speaker was Samuel O. Dunn, president of the American Builder Publishing Corp., Chicago, who discussed the "new economics" which brought about the period of inflation and resulted in the present business depression. He also discussed the home building outlook and emphasized the opinion that home building had not been overdone.

Elevators Solve Problem

A TRANSPORTATION problem involving moving the greater part of a city's population between an upper and a lower level, has recently been solved by the engineers of the Otis Elevator Company. In Bahia, Brazil, with its business center bordering on the bay, and its residential district on the top of a steep incline 195 feet above, the question of transportation was always a perplexing one to residents. Within recent years, as a result of the rapid growth of the city, the need for modern transportation facilities became extremely acute. To meet this need, engineers were consulted.



Elevators Transport the Residents of Bahia, Brazil, from One Street Level to Another.

At their suggestion, the monumental La Cerda Tower was built. Made of reinforced concrete 240 feet high, this tower is connected with an older and smaller structure by a bridge. In it are housed two large Otis express elevators, comparable with those in the largest skyscrapers.

On the opening of the tower recently, a holiday was called by Bahians. Practically the entire city tried to ride on the new elevators that night. On the second day the elevators transported more than 24,000 people.

Purchase Electric Business

VICTOR Electric Products, Inc., has purchased the assets, tools, designs, patents, trademarks, merchandise and accounts receivable of The Cincinnati Victor Company, 712-720 Reading Road, Cincinnati, Ohio. The new organizaton, which will be located at the same address, will continue to manufacture and distribute synchronous electric clocks and clock movements, domestic ventilators, luminaries, and fractional horse-power motors. The general policies will remain the same as those of the old organization.

C. H. & E. and Insley Resume Independence

TWO units of the National Equipment corporation, of which the late Philip A. Koehring was president up to the time of his death, withdrew from the holding company recently.

One of these was the C. H. & E. Manufacturing Company of Milwaukee. The other was the Insley Company of Indianapolis. In both cases dissolution of the merger, as it applied to the National Equipment Corporation and the two companies, was approved by the directors and the stockholders.

As a result of the action taken by the stockholders, Frank F. Hase, organizer of the C. H. & E. Company and now its president and general manager, is again in full control of the concern.

Mueller Reports Gain

MUELLER BRASS CO., Port Huron, Michigan, reports an increase of 296 per cent in its sales of streamline copper pipe and fittings for the fiscal year ending November 28, 1931, as compared with the preceding year. This, in spite of the fact that the building market has shown a decline over this same period and that copper prices are down.

This product is an entirely new departure which brings the price of a non-rusting copper installation for plumbing, heating, etc., within the reach of the ordinary investor and in fact in some cases almost closes the price gap between iron and copper for this purpose.

Vita Glass Announces Changes

MILTON T. CLARK, former Vice President of Truscon Steel Company and more recently President of the Campbell Industrial Window Company, has become President and a Director of the Vita Glass Corporation. Percy H. Jennings, former President, has been elected Chairman of the Board of Directors and Treasurer, and will continue actively in the affairs of the corporation.

Announcement of these elections is accompanied by announcement of the recent inauguration of American production of Vita Glass at Clarksburg, West Virginia; new prices made possible by American production which are approximately one-fifth the prices originally charged for the imported product; and important changes in distribution policy which make it possible to obtain Vita Glass through any retail glass outlet.

Hoover Home Conference

(Continued from page 26)

Modern Equipment for Homes

On the theory that the heating, plumbing, lighting and refrigerating equipment are among the principal mechanical factors in transforming a house into a comfortable home, the Committee on Fundamental Equipment presented an inclusive body of data on types and costs of such equipment suitable for small homes.

The cost of one-pipe steam systems range from 15 per cent for $2,000 homes to 10 per cent for $9,000 homes. Costs of other systems in percentage of cost of one-pipe steam systems are as follows:

Two-pipe vapor	125%
Two-pipe hot-water	130%
Piped furnace	65%
Pipeless furnace	35%
Convection heaters or stoves	15%
Air conditioning gas or oil fired furnaces	150%
Air conditioning furnaces with summer cooling	250%

The value of good insulating was emphasized by figures showing that it will save about 30 per cent of the cost of the heating system and from 20 to 30 per cent of the cost of the fuel in colder climates. In an average six-room house, the added cost of insulation for walls and roof will amount to about $450, the saving in cost of the heating system will be about $225, and the yearly saving in fuel will be about $45.

There has been an awakening to the importance of proper light and the conservation of vision, the committee said. Economically it is difficult to produce the condition of too much light, the report declared. Great improvements can be made merely by increasing the amount of light used, and by placing the lighting equipment in proper position with respect to the work areas.

Need for Better-Planned Interiors

Storage space for clothes and possessions is the greatest need in the home of families with modest incomes to make the home a more attractive place for the child, declared the Committee on Homemaking, Housing and Family Life. This committee conducted a survey of nearly 2,000 families in 48 states to find out what features of houses families are finding helpful and what detrimental to their normal development.

As centers of rest and relaxation the committee found many houses inadequate because the need for repairs and renovation leads to worry and disagreement in the family group.

The committee's study revealed that many dwellings interfere with efficient home-making and good family relationships through causing unnecessary fatigue and irritation. These undesirable results were brought about by such housing features as the following:

"By awkward arrangement of rooms, halls, entrances to cellars, or stairways.

"By inefficient kitchens—too large or too small for the particular family, often inadequately lighted, and badly arranged.

"By crowding the kitchen with activities which do not belong there, especially in the rural homes where men wash in the kitchen when they come in from work.

"By lack of provision for a place where meals may be served in an orderly manner, when there is no dining room.

"By inadequate laundry facilities, especially in the farm homes.

"By lack of closets for wraps, cupboards, and other storage space.

"By no, or too few bathrooms—an appalling need in the country, where it is closely related to lack of sewage and water supply.

"By neglecting to provide space for such common household activities as sewing and keeping household accounts.

"By lack of labor-saving devices."

Better Kitchens Needed

Plans for nine types of kitchens, drafted as a result of laboratory experiments were submitted by the Committee on Kitchens and Other Work Centers. Studies seem to show that kitchens are usually too large or that equipment is

inadequate or poorly arranged. The standard of free working space in kitchens should allow at least 30 inches in the center of the room between working areas on either side, the committee said.

The following nine types of kitchen should cover most family situations, the committee believes:

I. Wall kitchen—Planned to occupy one end or an alcove off the living room.
II. Small separate kitchen—For apartment of two rooms, planned without or with an adjoining alcove.
III. Kitchens for apartments of three to five rooms or for small one-family houses—Planned for women doing all own work without any paid service.
IV. Kitchens for larger one-family houses—Without any paid service.
V. Rural Kitchens—Planned for women without paid service.
VI. Workroom to supplement rural kitchen.
VII. Rural kitchen—With outside help.
VIII. Apartment kitchen—For maid service.
IX. Kitchen for detached house—One full-time maid.

Types three, four, and five are intended for families of small means. If necessary equipment is to be provided in the lower-priced homes, designs for such equipment must be standardized, the committee held. A survey of over 2,500 rural kitchens in eighteen states revealed that only about 50 per cent have sinks and less than 35 per cent of those are supplied with running water.

Poor Taste in Interior Decoration

Present standards of taste are low and furniture of good design at prices within the reach of the great bulk of Americans is lacking, according to the Committee on Home Furnishing and Decoration. Education is the only remedy, this committee declares. But accurate and disinterested advice is not generally available, the committee contends, and misinformation is proving costly, both to the public and to the industries. It recommends establishment of a central school for training leaders, the establishment of a series of institutes and of local decorative service bureaus. Ordinarily an expenditure for furnishing of 20 to 33 per cent of the cost of the land and the house, would be a fair outlay, but for lower-priced homes a smaller percentage is usually found, the committee stated.

Landscaping of Homes

Property rises in value when it is well landscaped, was one of the points brought out by the Committee on Landscape Planning and Planting which cited one example in which a modest planting cost $30 and added $100 to the price. Three divisions are to be considered, this committee said,—the approach, the service area, and the part of the grounds reserved for pleasure. Simplicity of design is essential and simplicity in the use of trees, shrubs and plants. The best effect is attained by confining the planting to shade trees native to the region, fruit trees and dwarf fruits, and to hardy shrubs and flowers, the committee declared.

The buying policies of the household, rather than the income, are often the determining factor in the ability of a family to provide adequately for its house, whether it be by buying or renting, the Committee on Household Management reported. Chief among the buying policies were listed: (1) the method of financing purchases; (2) the selection of what to buy; and (3) the amounts purchased. Estimates show that home buying accounts for about 25 per cent of the grand total of installment credit in the country and household goods for 18 per cent, this committee stated.

Many Families Can't Afford Homes

The existing distribution of income throughout the American population renders impossible under present conditions the purchase of homes for a large number of American families, the Committee on Relationship of Income and the

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(Continued from page 67)

Home reported. This committee concluded that families with incomes below $1,500 cannot afford new houses representing acceptable standards. In paying for homes, families will cut down their expenditures for clothes, entertainment, reading and vacations but will continue to spend as much for automobiles, life insurance and education, the committee found. Expenditures are increased for household furnishing and household equipment.

The committee also found out that mortgage financing of small homes is often left to private individuals and to relatively unregulated and irresponsible agencies and that the short-term mortgage and the resultant frequent demand for bonuses and renewals constitute a heavy drain upon the resources of the home buyer.

Large Scale Operations

Mass production was proposed by some experts as the solution of adequate housing for the low-income group. Large scale operation is said to mean "the application of the best technical experience and business practice to the production, ownership, and operation on a sound income-producing basis of low-cost dwellings of desirable standards, planned so as to provide socially integrated communities." It can be applied successfully to the construction of single-family and multiple dwellings, as well as combinations of these, according to the Committee on Large Scale Operations.

"But such companies will not create themselves," it was pointed out. "A definite plan for their creation, and for financing the operation must be laid down. Individual investors must be convinced of the need, must be assured of government co-operation, and satisfied that the company in which they are to invest can be and will be conducted on a sound business basis."

Rebuilding Our Slums

Slums exist in practically all American cities, the Committee on Blighted Areas and Slums declared, but progress in eliminating them is practically negligible. Where buildings are structurally sound, this committee recommended reconditioning; for the rest, complete demolition and large scale operations are necessary in combination with district replanning. This would involve the adoption of the neighborhood unit as the basis of reconstruction, the provision of public improvements, transportation, schools and other community services by the municipality, and then actual reconstruction work by private enterprise. Adequate solution of financing problems lies in devising suitable means of supplementing the available resources of private enterprise with some form of municipal or state aid, the committee believes.

Take the Whole Neighborhood as a Unit

The best way to reclaim slum areas and to build new housing in urban districts is to take a whole neighborhood as a unit for planning and building, according to the Committee on Planning and Zoning. This is the only way to insure adequate light, air, open space, and comparative peace from the noise and dust of heavy through-traffic, this committee declared. The best size for such a unit was said to be from 150 to 300 acres, supporting from 750 to 1,500 families in one-family houses. Land coverage in residential areas should not exceed 40 per cent, the committee stated, and 25 per cent is much more desirable. To prevent overcrowding, the committee reported that zoning regulations should permit not more than eight families to the acre in one and two-family house neighborhoods. Multiple dwellings should not be allowed to cover more than 30 to 50 per cent of the lot, depending on the value of the land.

The tendency still strongly persists to think of the detached single-family house as the ideal home, the Committee on Home Ownership and Leasing reported.

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The natural movement toward home ownership is illustrated, this committee said, by the increase of thousands of homes within the price range of $4,000 to $9,000 especially in communities built up as a unit.

In seeking an answer to the question as to whether it is cheaper to buy or rent, the committee found that it is doubtful whether, in the long run, the differences are great enough to be effective as arguments for either one side or the other. The committee urged the greater stabilization of home values and wider dissemination of economic information.

The fact that the single-family house is still the ideal of home ownership of the average American was also brought out by the Committee on Housing and the Community. This committee's findings in connection with hazards of the home are of interest. Of the 99,000 accidental deaths annually in the United States about 30,000 occur in the home, the committee found. Falls cause most deaths and one-third of these occur on stairways or steps and a great number on slippery floors and rugs. About 60 per cent of all fires occur in dwellings. "Fire hazards," says the Committee, "suggest non-combustible materials, fire-stopping and adequate insulation of chimneys. Accident hazards direct attention to stairways and various mechanical features. In equipping the home, stoves, furnaces, gas equipment and electrical equipment need especial attention. A fire extinguisher should always be provided."

Farm Housing Lags Behind City Housing

A picture of farm homes in America reveals conditions of neglect and backwardness equalling, if not exceeding, such conditions in city housing, according to a report submitted by the Committee on Farm and Village Housing. Only one million farm houses out of six million are said to have a piped water supply. The proportion of houses lighted by electricity is somewhat smaller; modern plumbing is found in only a very small proportion; most farm families carry water considerable distances for household use and carry out waste water in pails; most are dependent on wood, coal or oil stoves for cooking, and on stoves or fireplaces for heating.

The average value of all farm houses is $1,207, representing roughly replacement cost minus depreciation. Low standards of farm and village housing, this committee reports, are due to low incomes and neglect. Land that cannot support families at decent standards of living must be turned back to the forest and to grazing, the committee maintains and there must be education of the farmer preceded by more research as to the varying needs of farmers in different sections of the country .

Serious Conditions in Negro Housing

That a large majority of the Negro population is living under conditions that are inimical to health, morality and contentment was the contention of the Committee on Negro Housing. Recommendations included among other things the establishment of a national housing commission to carry on research and encourage the passing and enforcement of adequate housing laws; the stimulation of Negroes to move into subdivisions in which modern homes can be built; adequate financing agencies at reasonable interest for people of low incomes; and researches on subjects such as changes in land values incident to Negro invasion of an area.

Decentralizing Our Industries

A decentralizing of population, to which industry through its location holds the key, was looked upon as desirable by the Committee on Industrial Decentralization and Housing. Movement of offices as well as factories will have to be encouraged if population is to be decentralized, this committee maintained. Industrial village communities should be provided where possible, it was said. Changes in the railroad

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rate structure might help to bring about a desirable decentralization of industry and population, the committee thought.

The burden imposed by the property tax upon real estate is nearly everywhere heavy and in many communities destructive, according to the report of the Committee on Taxation. In millions of cases the assessed value equals or exceeds the actual market value. Inequality of assessments adds to the burden on real estate and on small homes particularly, this committee declared. If the maxim: "It is cheaper to rent than to own" is true, then this is largely because of the property tax, the committee contended. The committee recommended the following steps to improve the situation: (1) Improve the administration of present tax laws (2) Impose state taxes on stocks, bonds and similar intangible personal property (3) Impose a progressive personal income tax (4) Create other revenues.

In a house costing about $5,700, the cost to the home builder for utilities comprises about 20 per cent of the total cost, the Committee of Utilities for Houses reported. Of this 20 per cent, sanitation and storm sewers, and house connections represent about 4.7 per cent; water, gas and electricity about 6.6 per cent; and the surfacing of the street about 8.2 per cent of the total cost of lot and improvements. As means of reducing costs, this committee recommended the joint use of trenches where practicable. Thus gas and water mains might occupy one trench, electricity and telephone conduits another, and sewers a third. Such a three-trench combination would probably save 15 to 20 per cent in labor costs, the committee said.

If the home builder, contractor, and architect would consult with utility agencies on the needs of a particular house, economies could be effected, the committee contended. The committee recommended the dual main system, that is, mains on both sides of the street, for residential streets 80 feet or more in width if covered by pavement of the hard type.

On the subdivider rests most of the responsibility of providing good economical sites for homes, the Committee on Subdivision layout reported. The gridiron pattern of street layout is more expensive in average cost of development per dwelling than any other pattern of the various types considered, according to this committee's findings. Spaciousness is a controlling principle in good land development, the committee emphasized, declaring that no subdivision operation is complete until the subdivider has provided, or arranged for, adequate park and play areas within, or accessible to, the lots which he is selling.

In order to aid purchasers in avoiding serious mistakes, the committee advised investigation of three points (1) The position of the subdivision in the plan of the city, (2) the character and design of the subdvison, and (3) the stablity of the investment. It is hazardous to acquire home sites in subdivisions where all utility services are not already installed, the committee pointed out.

Legislation Not the Only Answer

That law is not the only effective method for meeting the housing problem was brought out by the Correlating Committee on Legislation and Administration. "The most interesting and hopeful type of control frequently recommended is that which may be called extra-legal, such as a co-ordination and agreement between utilities and municipalities on a work-plan and program; deed convenants; the purchase of sites by business men and the erection of structures as a business propostion; credit bureaus and so on.

It is far better to have a building code written by the combined efforts of the most expert men in the industry than by

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a consultant alone, declared this committee, which held that a building code should not be too strict, because a single carelessly drastic sentence might add thousands of dollars of unnecessary expense to many buildings for many years. Condemning obsolete provisions in many building codes, the committee recommended the adoption of state codes to cover fundamentals. Legislation should not be introduced unless other forms of control cannot be set up, the committee said.

Encouraging evidences of increasing interest in and responsibility for good housing and the promotion of home ownership on the part of business men was reported by the Committee on Business and Housing. "The degree to which living conditions in a community are made satisfactory is in direct ratio to the degree of interest shown by business men or citizen groups," this committee found. It recommended the following specific steps by which business can more effectively promote good housing: Action to promote adequate state enabling legislation and local ordinances as they relate to city planning and zoning; the subdivision of land; building; housing and sanitary codes and the equitable assessment of property both for general taxation and special assessment.

Laying particular stress on the fact that information should be made available to contractors, especially those who build two or three homes at a time as a speculative investment, the Committee on Home Information Services recommended that means be taken to distribute data on design, house planning, latest methods of construction, and cost estimating which would enable builders to produce better homes at less cost. This committee recommended that steps be taken to have accurate and reliable information prepared in convenient form on all the important phases of home building and home ownership; particularly on small house design and on the fundamental principles of construction, remodeling, landscape design, and city planning, adapted to various regions of the country.

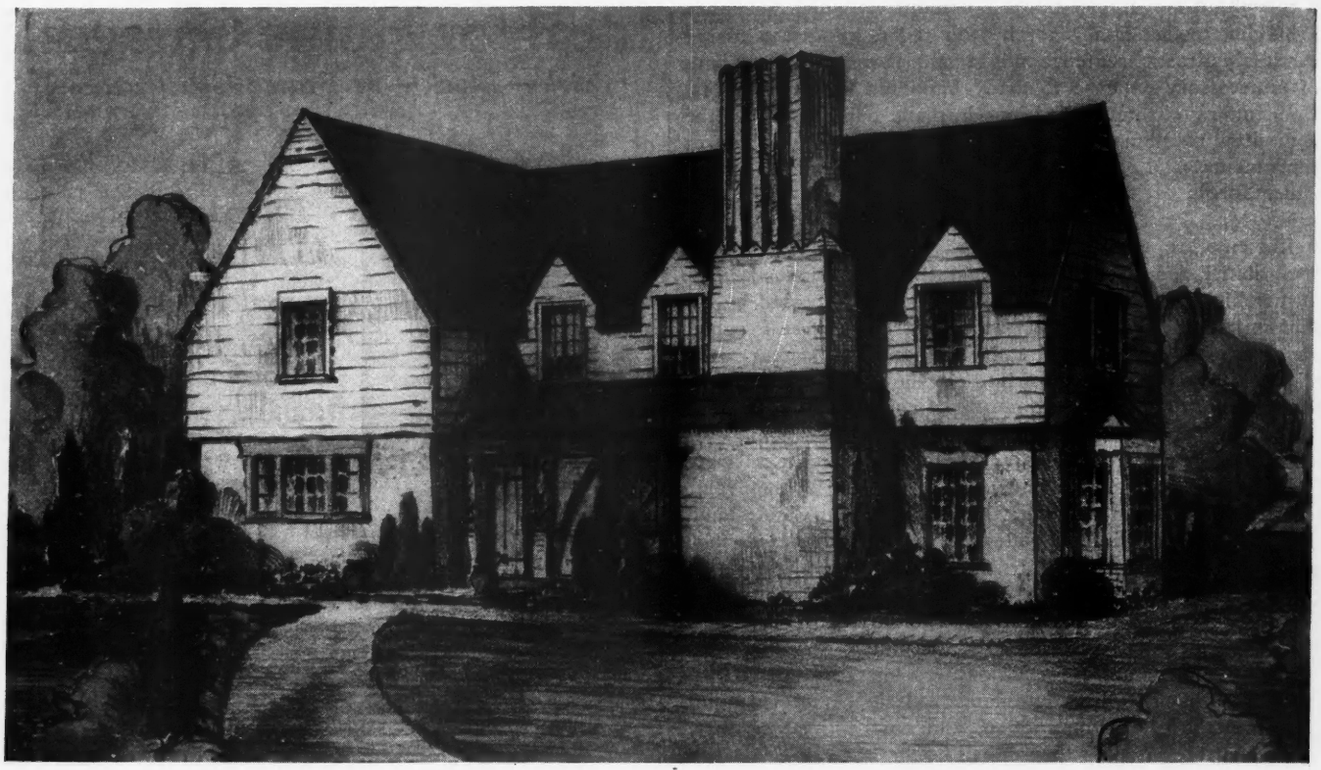
The committee further recommended the creation of a national central clearing house for home information.

A similar proposal was made by the Committee on Organization Programs which called for the establishment of a National Institute in order to translate the conclusions reached by the specialists into actual plans, construction methods, business practices and local government administration. The functions of such an institute, this committee said, should include the following:

"1. To stimulate, guide and supplement research.
2. To stimulate promotion and education, making the maximum use of existing agencies.
3. To serve as a clearing house for dissemination of information.
4. To continue and expand demonstration work for home improvement such as that now being carried on by Better Homes in America.
5. To set up an exhibit service.
6. To provide for national and regional conferences at intervals.
7. To stimulate activity of existing groups and local programs, including the establishment of responsible local groups to promote local interest in home and community planning."

This recommendation was also made by the Committee on Education and Service, which contended that adult education was most necessary for immediate results.

This committee expressed a belief that all cities of 25,000 or over should have at least one citizens' organization representing all classes in the community which will give constructive study and exert constant pressure to bring about the adoption of a program as deep and as broad as that proposed by the President's Conference. "It is impossible today, to accomplish a great deal in subjects as technical as those of planning housing and home-making unless some of the leaders devote a great deal of time to study of the subject matter and unless surveys of local conditions are made to determine the particular application of the subject matter to the situation," the committee pointed out.



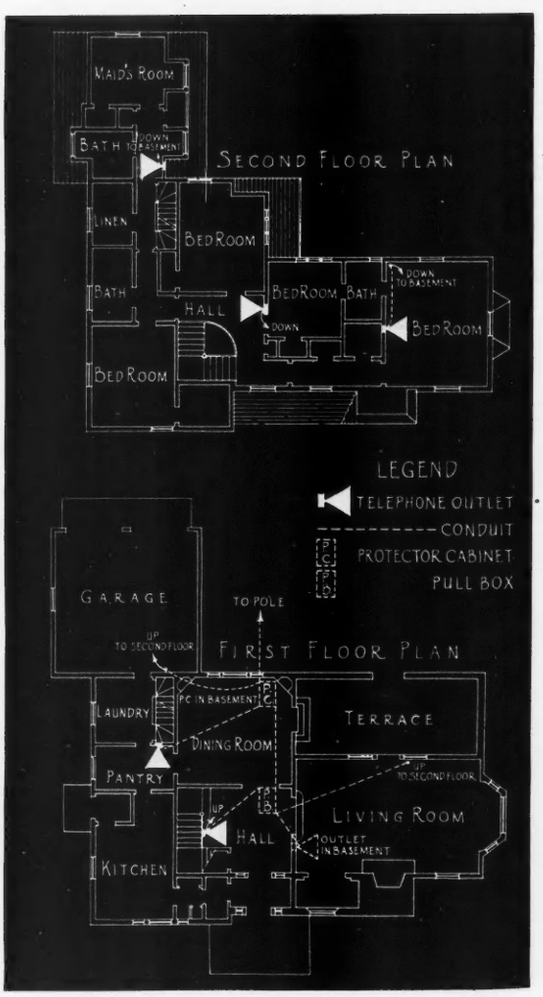
Proper telephone convenience has been provided for in this residence at 1041 *Ridge Road, Hamden, Connecticut;* ROBERT H. S. BOOTH, Architect; Y. H. *and* V F. LARSEN, Builders, *New Haven.*

"BUILT-IN CONDUITS CONNECT SIX TELEPHONE OUTLETS"

SUCH a brief description speaks well for the thoughtful care that has gone into the planning and equipping of this attractive residence. Provision for adequate telephone facilities invariably makes an impression of convenience on any prospective purchaser—and offers one more way of convincing a client that you have his interests and comforts at heart.

Installation of built-in telephone conduits and outlets during construction is easy and economical. It provides for expanded telephone service at any future time, protects against service interruptions, eliminates additional construction work and conceals all wiring.

For a residence of any size—modest home or imposing mansion — indicate the most desirable telephone arrangements on the blue-prints. Provide thus for extensions in bed room, guest room, sun porch, pantry, garage —at all important locations. In planning for these, or for any other kind of telephone arrangements, a representative of the local telephone company will be glad to assist you. This service is offered without charge. Just call the Business Office.



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