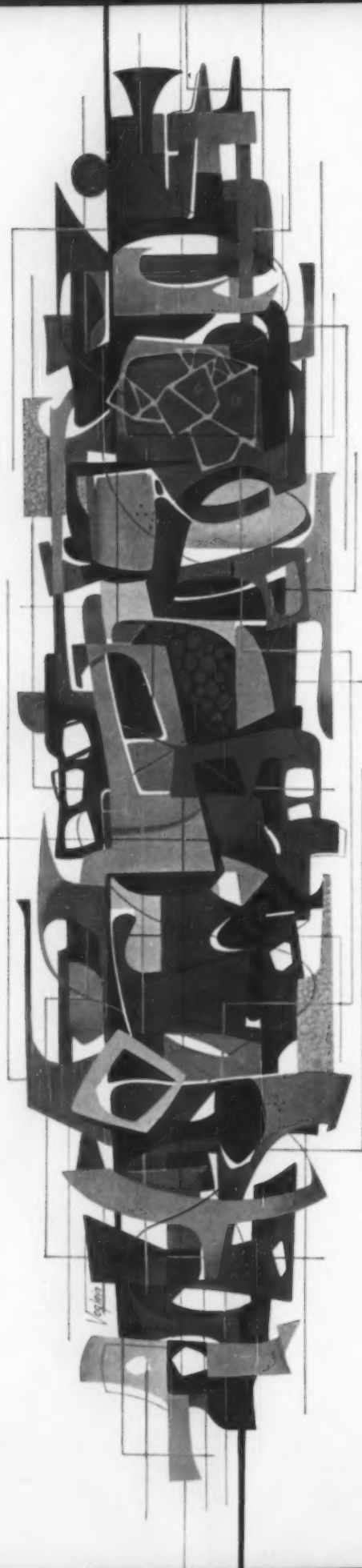

INDUSTRIAL DESIGN

December 1960 \$1.50 per copy

12

ANNUAL DESIGN REVIEW 1960



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Imagination takes shape, color—and *reality*—in the myriad forms, finishes and textures Monarch imparts to durable cast aluminum. With porcelain enamel, for instance, great vistas of color and new product possibilities spread before the designer. Monarch research and development engineers are creating unique uses for versatile cast aluminum... for industry, for products for the home, for unmatched lifetime beauty and performance. They'd be glad to work with you on new ideas for manufacturing products of *your* dreams.

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ID

As this reaches you 1960 will have been pretty much history.

--- A time to score, and more important, to plan ahead.

INDUSTRIAL DESIGN has completed seven years of service to industrial designers (independent and company) and other executives in industry and government particularly concerned with design. The score: 10,000 subscribers at \$10 yearly A.B.C. -- largest circulation to date.

More advertisers placed more advertising in 1960 than in any year to date. The score -- a 40% gain in advertising pages over 1959.

We plan to serve the industrial design market increasingly well in recognition of the increasing importance of industrial designers in the world of marketing.

Their primary function is to design or redesign products that will compete successfully in the market place -- this involves appearance, usefulness, durability and price - and the packaging of these products - particularly in the supermarket area.

Industrial designers therefore must be much concerned with what goes into the products they design; and they have a mighty voice in seeing to it that the products and processes they specify to ensure the end result - find their way into the products and packages they design.

We suggest your consideration of an advertising program directed to industrial designers in their favorite professional publication including our Annual Design Review, December 1961 issue.

"The influence of industrial design on United States Plywood Corporation has been significant. In addition to helping us find new applications for existing products, industrial designers have spurred us to the development and distribution of new products which have taken us into the fields of plastic, porcelain, enamel and metal laminates, as well as broadening the base of our wood and wood by-products operations. We are currently devoting a great deal of effort to research and development, much of which has been inspired by recent industrial design trends."

-- Gene C. Brewer, President
United States Plywood Corporation

12

INDUSTRIAL DESIGN

Copyright, 1960, Whitney Publications, Inc.

A monthly review of form and technique in designing for industry. Published for active industrial designers and the executives throughout industry who are concerned with product planning, design development and marketing.

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Coming

IN JANUARY—AEC project, complets design of major travelling exhibit; the how of short-run production techniques.

COVER: Photographer Maude Dorr's inside-out view through the front window of the Mayo Housewares store in New York suggests the variety and abundance in ID's 7th Annual Design Review.

FRONTISPIECE: If a travel agent were a machine, this one—designed by Stanley Glaubach—is the machine he would be, according to an advertisement art-directed by Doyle, Dane, Bernbach's William Taubin for El Al Israel Airlines.

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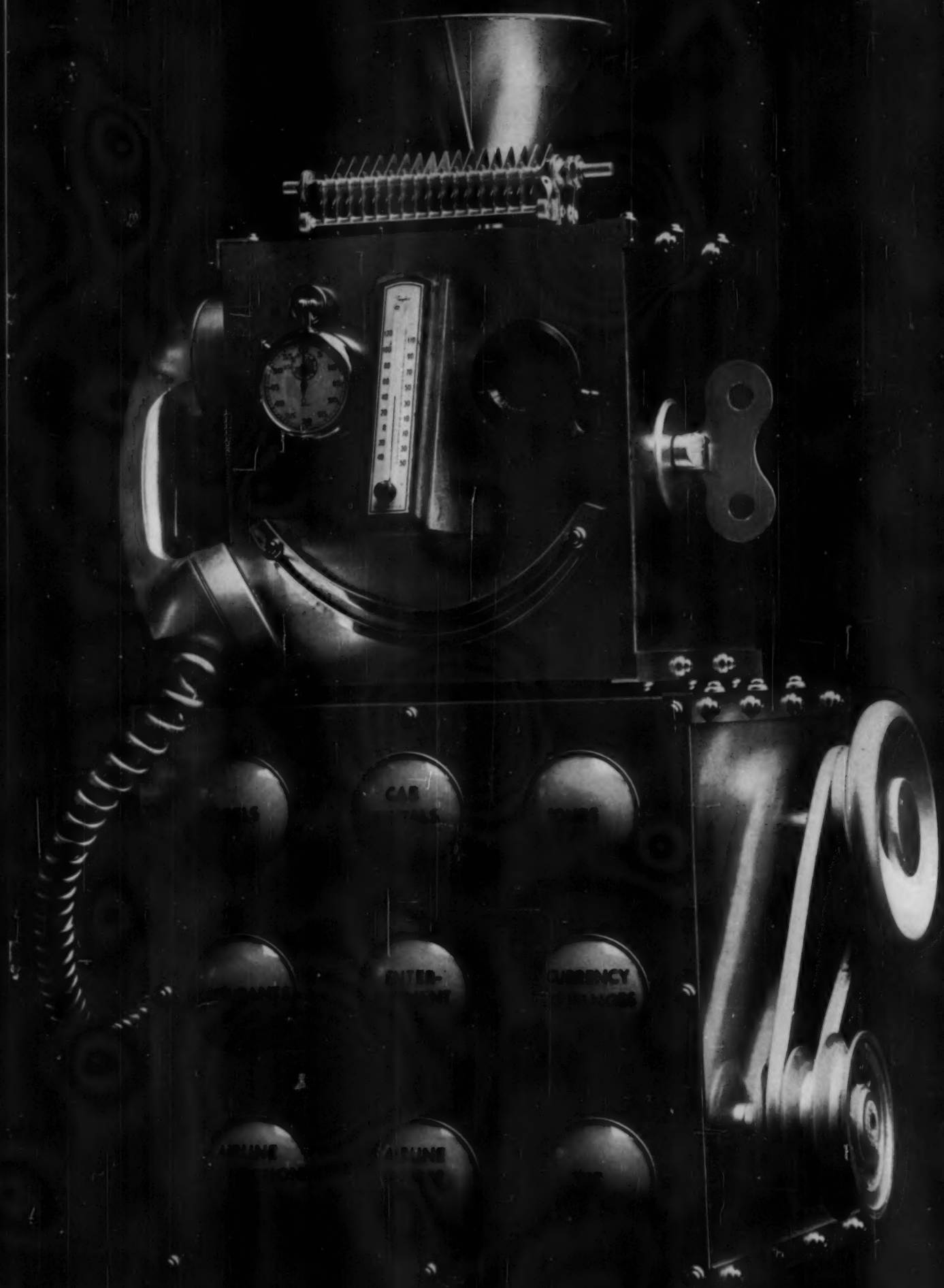
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Member of the Associated Business Publications





In an age when the "breakthrough" is almost an everyday occurrence . . . when the unique and unusual have become the commonplace, probably no design material in the world approaches plastics for numbers and kinds of applications or for versatility in the properties which industrial designers seek. The examples shown here prove once again that "In plastics, Application is limited only by Imagination."

BUILT-IN PROPERTIES OF THESE DOW PLASTICS GIVE STYLISTS NEW FREEDOM IN DESIGN

Each member of the Dow family of thermoplastic products has its own special design characteristics. Built-in color, high impact strength, resistance to weathering, excellent dimensional stability, precise moldability — all of these features will be found

in the Dow thermoplastic products discussed here.

To achieve a unified effect, the designer of this portable transistor radio carried the lattice-like speaker grille across the entire front of the case. By molding the panel of Styron® 369, it is possible to reproduce every corner and fillet to exact specifications in a single operation.

Along with excellent moldability, Styron 369 polystyrene provides other built-in benefits. Whether it goes on picnics or just to the patio, this rugged case takes the bumps and bruises of travel in stride. The glossy finish is permanent, the rich color molded in. Water won't affect Styron 369, nor will the salt spray of an ocean beach. It will not fade or discolor in bright sunlight.



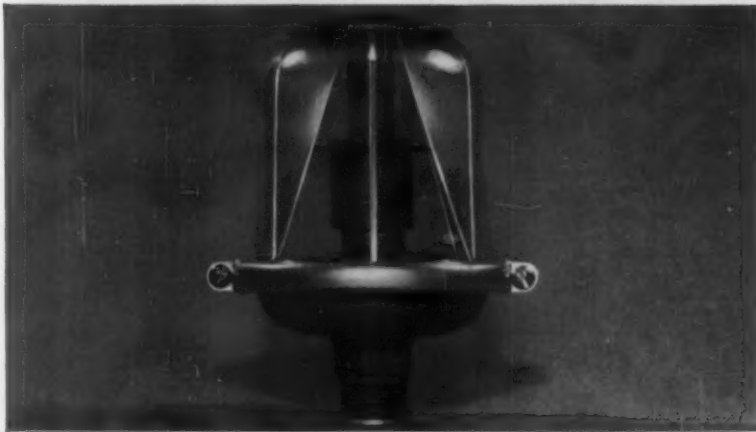
EXCEPTIONAL MOLDABILITY

Tyrl®[®], a Dow copolymer of styrene and acrylonitrile, not only gives these pen and pencil barrels an attractive, smooth, glossy appearance, but it enables the manufacturer to achieve a tight plastic-to-metal bond. Molded with finely detailed screw threads, the barrels hold the metal parts with exceptional strength, and can be screwed on and off again and again without losing their firm grip on the metal.



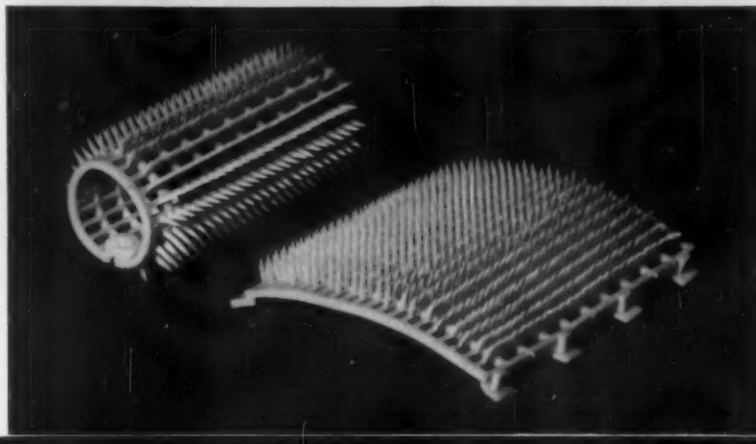
DIMENSIONAL RELIABILITY MAINTAINS EXACT PRESSURE

Precise, automatic air control on water storage tanks is the job of the air charger. Used for commercial, farm, and home applications, the air charger is responsible for maintaining an air space in storage tanks to assure a compressible condition. Tyrl 767 is ideal for this assignment. Operating completely by pressure, the air charger depends on the high dimensional stability of Tyrl, on its strength, and on its complete imperviousness to water.



MOLDABILITY SIMPLIFIES OPERATION

No more bent curlers or missing bristles with these hair curlers made of Dow polyethylene. The entire item, including a special closing device, bristles, and body, is molded in one operation and in one piece. Dow's complete line of polyethylene—in low, medium and high densities—offers the designer an almost unlimited combination of physical properties plus a palette of colors to give products maximum sales appeal.



HAVE YOU A DESIGN PROBLEM that might be solved by one of the versatile Dow thermoplastic materials? If so, drop us a line. We'll be glad to help you with specialized technical service—from choosing the best formulation to assisting in color styling. Write **THE DOW CHEMICAL COMPANY**, Midland, Michigan, Plastics Sales Department 1728BR12.

THE DOW CHEMICAL COMPANY

Midland, Michigan



LETTERS

Pen-pal wanted

Sirs:

I am interested in industrial design, but here in Yugoslavia we have not some great experience about that. Also we have not especial school for this kind of art. Because of that I am working alone. Something about industrial design I learn from your journal and from books which I found in the American and English libraries. Otherwise I draw, design, and imagine forms . . . it is only my instinct which guides me. I wish to correspond with one student who studies industrial design. I shall be very grateful for any help or advice. I beg you, announce my letter in your journal and my address for those who want to write me.

Dragoljub Andjelkovic
Belgrade
Marsala Tita 15
Yugoslavia

Saturday Review called "arty"

Sirs:

The writing in INDUSTRIAL DESIGN is becoming so arty that I suspect ID and *The Saturday Review* will soon merge.

Robert Ferrando
Hempstead, New York

Friend comes forth

Sirs:

In going through the October issue of your fine publication, I read on page 100 your comments on my friend, Mr. Charles Butler. This write-up seemed to be generally very complimentary, but I was wondering if Mr. Butler was ashamed to mention the name of his former business associate who is referred to in this article as another Raymond Leewy employee, but who in actuality was his superior at Loewy's and still is one of his better friends.

H. P. Zimmermann
Chief, Styling Research
Chrysler Corporation
Detroit, Michigan

About "Design in New York"

Sirs:

The October ID is a most excellent issue, and I enjoyed your treatment of New York very much.

Gay Talese
The New York Times
New York

Sirs:

I have in my hand the October issue of INDUSTRIAL DESIGN, having just fin-

ished a most interesting feature on New York City. I still maintain that in Englewood we enjoy all the advantages of New York and avoid all the discomforts.

Ted Eron
Eron & Eron
Englewood, New Jersey

Sirs:

I was impressed with the scope of the Design in New York issue. You deserve particular credit for the attention given to the work of young unknowns.

Donald Holden
Associate Supervisor, Publicity
Metropolitan Museum of Art
New York, New York

Sirs:

Terrific cover! Photos on New York City great. Nice to have such a fine publication in visually sensitive hands. Keep up the fine work.

Arthur W. Hopkins
The Flintkote Company
East Rutherford, New Jersey

Sirs:

Congratulations on a particularly outstanding issue. The Caplan-McHugh "yellow journalese" delighted the natives of this outpost, and that sidewalk-Olivetti bit is worthy of the lead in the *New Yorker*.

Maurice Sands
Design & Color Consultant
San Francisco, California

Sirs:

Congratulations for an unusually interesting and attractive New York issue. It is a perfect example of editorial energy and imagination turning a standard editorial suggestion—"Let's do a New York issue"—into something different. It is an example of how a professional magazine can come up with a superb treatment of a subject handled many times in the mass circulation field.

John Peter
New York

Disciple of Katavolos

Sirs:

On page 81 of the November 1960 issue of INDUSTRIAL DESIGN are some quotes from statements made by William Katavolos at the IDI Conference at Westport in October.

I have been a student of Katavolos for two years and I remain impressed with his ideas. He is interested in efficiency—in this instance, the efficiency of the design-

er today in a world where technology may soon replace him with a computer capable of juggling the elements of design and coming up with a new standard for a product. This too is another part of Katavolos' awareness of the need for a common vocabulary to unite designers, engineers, architects and scientists in the science of design. Man will not necessarily remain a "form-giver", as Christ-Janer called him, if he ever was one.

It is not immediately important whether we can form chairs instantaneously, but rather that we can conceive ideas of this nature as possibilities of our expanding technological knowledge.

An article by Katavolos, the educator, might be more easily acceptable to your 10,319 monthly readers, to perhaps reintroduce designers to what they started out to do way back when . . .

RitaSue Bernstein Siegel
Industrial Design Forum
Pratt Institute
Brooklyn, New York

Mr. Katavolos is, as a matter of fact, preparing such an article.—Ed.

Where has my little girl gone?

Sirs:

Was delighted to read, in your News write-up of the Public Relations Seminar held by the Package Designers Council last month, that Alice Shelley was previously associated with four different designers at different times.

Sound like (as if) she was kept busy in past years.

Is she still keeping busy these days?

Mrs. Gertrude Shelley
Mother of Girl by the same name
Hollis, New York

Miss Shelley is keeping busy these days at the Philip Lesly Co., where she is Director of Radio and Television.—Ed.

Erratum

Photographs of John Montgomery and Mort L. Rothenberg (below, left and right) were mistakenly transposed and therefore incorrectly captioned on page 24 of the November issue of ID. They should appear as follows:



Montgomery



Rothenberg



stainless steel

No other metal has the strength, beauty and versatile qualities that serve you so well today and promise so much for tomorrow.

There is nothing like
stainless steel for HOMES
AND HOME PRODUCTS

McLouth Steel Corporation,
Detroit 17, Michigan

*Manufacturers of high quality
Stainless and Carbon Steels*

Look for the **STEELMARK**
on the products you buy.



McLOUTH STAINLESS STEEL

BOOKS

Bah Bah Bauhaus

Theory and Design in the First Machine Age. By *Reyner Banham*. 5 1/4" by 9", 338 pages, 64 pages of photographs and drawings. Frederick A. Praeger, Inc., New York, 1960 (published in Great Britain by Robert MacLehose & Co. Ltd., Glasgow). Library of Congress Card Catalog No. 60-8831. \$12.50.

This is a formidable book — awesome in its scholarship, laborious to read. So much material is packed into it that even before one reaches the end of Chapter Two, one begins to feel as stuffed as a Strasbourg goose. But along with the feeling of too much runs a counter feeling of much too little: Mr. Banham sketches in the background of his collected theorists so briskly that their excerpted ideas, lifted from context, tend to lose identity and fail to advance either their own arguments or Mr. Banham's. The book will probably not get the readership it deserves, and many who start will not finish. This is a shame since, for all its exasperations, it is important.

Mr. Banham thinks we have reached a convenient (in fact, critical) point in the development of modern design (by which, as an architectural historian, he chiefly means architectural design) to



Einstein tower by Eric Mendelsohn

stop and look back reflectively. In Banham's view, the various artistic movements and schools of the first 30 years of this century have culminated in a single expression: the International Style. Like other contemporary critics, he thinks this style is a cul-de-sac. And he hopes, with this slightly biased account of the evolution of that style, to throw light on past fallacies and thus deter us from making the same mistakes in what he refers to as the "Second Machine Age."

This seems an unfortunate projection.

For one thing, it becomes increasingly clear, as Mr. Banham progresses through the essays, pronouncements and manifestoes (it was a marvelously polemical era) of Cubists, Futurists, Expressionists, Elementarists, Suprematists, Constructivists, Functionalists and adherents of de Stijl, the Werkbund and the Bauhaus, that the machine *per se* had almost nothing to do with the architecture and design actually produced by these movements. The machine was simply a symbol; the work expressed an *attitude* toward machinery—as Mr. Banham himself says in his closing pages. If the designation "Machine Age" confused the issue then, how much more will "Second Machine Age" confuse the issue now? For most intents and purposes, the machine as a symbol is *passé*; it has been routed by the exploding atom, and it does not seem likely that the symbolism will be transferable. The machine stood for a kind of visible, harnessed power over which man was master; the atomic reactor raises no such exultant images.

Mr. Banham's sermonizing, however, seems so much an after-thought (his writing does not take on a homiletic cast until the last few chapters) that it is fairly easy to put aside his ostensible purpose and read him instead for his examination of all the conflicting currents of artistic thought that developed in the wake of the industrial revolution. Like society in general, the artistic community saw this revolution as the dawn of a new age in which man would finally extricate himself from the world of nature to exist on some elevated plane of pure feeling and thought. The prospect was so enticing that they tumbled all over themselves to break the old molds and form new ones, and to gather disciples and announce new bodies of theory. Most of these theories were not theories at all in the rational, scientific sense; they were impassioned credos served up in private semantics in which the meanings of words like *style*, *composition*, *function* and *space* could have diametrically opposed meanings, depending upon which "ism" the spokesman belonged to.

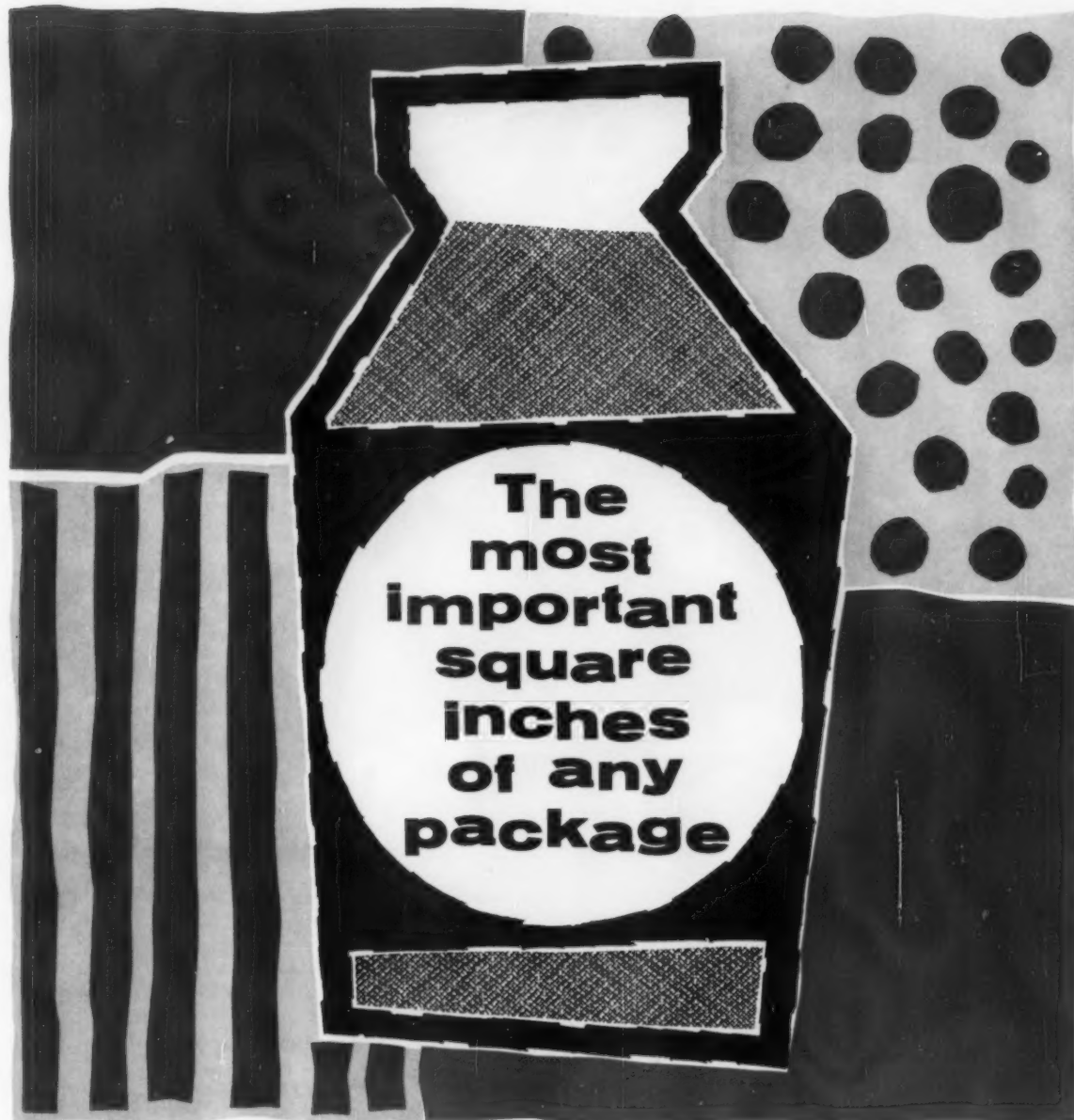
Mr. Banham's book—which is very nearly as much direct quote as it is interpretation—leaves no doubt about how varied and contradictory their ideas could be, how closely related in meaning though divergent in statement, how wildly and wonderfully naive and, occasionally, how profoundly sensible. Here, in their own words, are the Futurists writing lyrics to power-stations, the bicycity, airships, speed, and illuminated advertising; the Cubists expounding the



Schroeder house by Gerrit Rietveld

notion that all objects could be reduced to a few basic forms and, from this, postulating a "machine-made painting" (which Moholy-Nagy later carried out by telephoning a graphed painting to a shop steward in an enameling plant); Adolf Loos claiming that decoration was barbaric, that lack of decoration was the ultimate in civilized design—on the grounds that the tattooed tribes in the South Pacific were all cannibals; Lissitzky writing metaphysically of *Prouns* and issuing manifestoes (the Futurists issued manifestoes, too, always on the 11th of the month), and at the same time advocating a kind of architecture in which the parts of a building were independent elements of its design—but including as parts those "accessories," such as "clocks, loudspeakers and illustrations," which a metropolitan street imposes on a building. And finally, there is Le Corbusier's symbol for the whole age, his comparison of the Parthenon to a motor car, a comparison which has since been questioned esthetically, but is nevertheless an appropriate symbol in another sense: the Parthenon had a goddess under its roof; the motor car, a god under its bonnet.

"Theory and Design" begins with Gaudet and Choisy, the two French academicians whose writings inspired the first of the Moderns, Auguste Perret and Tony Garnier. It ends with the first and second periods of the Bauhaus. Its main divisions are by nations: Italy, Holland, France, Germany. The chapters on the Bauhaus are particularly good, and so are those on Le Corbusier. Generally, the fewer schismatic movements Mr. Banham tries to juggle, the clearer he comes through. But aside from the density of style, which frequently makes the going rough, the book suffers from two other flaws. It is inadequately indexed, especially for a reference work. And its typography, which could have relieved some of the density, does just the opposite. But for those who stay the course, there are rich rewards. —B. D.



THE LABEL . . . the face of your product's packaging. A few square inches of space that could make the difference between your product being labeled Plain Jane . . . or Belle Of The Store. *The Label . . .* a challenge for packaging pros who know materials, printing, color and sealing techniques . . . pros who produce labels with a flair for flirting their way off crowded store shelves. *For Your Labels . . .* speak to the pro from Rotogravure. He can help put a selling smile on your product's packaging face.

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Coming in the January issue of
INDUSTRIAL DESIGN

Short-run production techniques

Industrial designers are sometimes called upon to design products that will be produced in limited quantities. In January, ID will discuss the problems of short-run production, and some ways of avoiding the costly tooling investments that are generally necessary. The article will be illustrated with short-run production case studies and tooling techniques.

Management and the ASID

When members of the American Society of Industrial Designers held their annual meeting in Chicago this year, they were not alone. Their guests included management brass, both domestic and imported — men like Frank L. Magee, Chairman of the Board of the Aluminum Company of America and Chief Executive Officer; George W. Romney, President of American Motors; Ricardo Musatti, Advertising Manager, and Paolo N. Rogers, Director of Foreign Relations, of the Olivetti Corporation. ID's report will discuss why these men were there, and what they said about marketing and design.

Designing for atomic energy

The United States Atomic Energy Exhibit now on tour in South America is a large, transportable scientific laboratory whose purpose is to illustrate the peaceful uses of the atom. As part of the "Atoms for Peace" program, the exhibit, which opened on November 17, is designed to appeal simultaneously to three levels of audience sophistication: the general public, student groups, and scientists and engineers. Next month designer Albert H. Woods will describe what the design problem was, how the design team met it, and the sort of response it has had thus far.

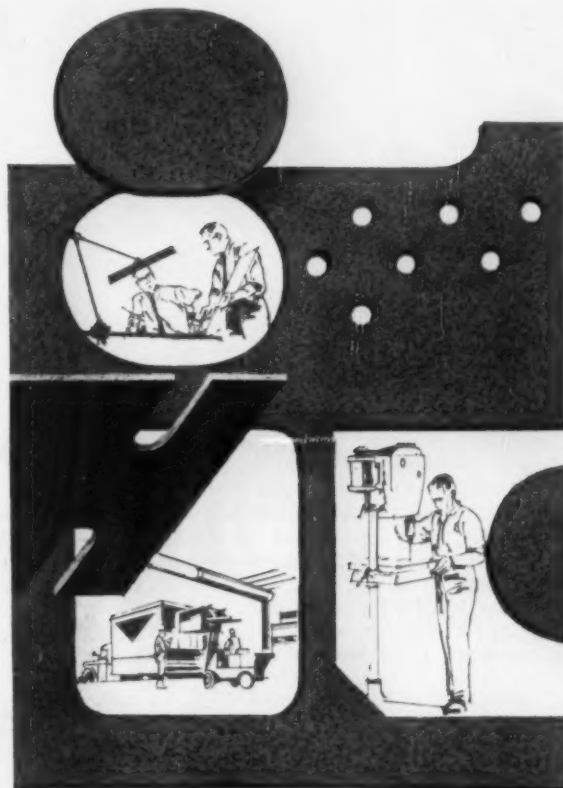
Each issue of **INDUSTRIAL DESIGN** delivers to the desks of designers and executives a definitive review of contemporary design ideas and techniques.

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- 600 Progress Street, Elizabeth, New Jersey
- 1577 Rio Vista Avenue, Los Angeles, California
- 500 Carolina Avenue, Thomasville, North Carolina

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Charles and Ray Eames, Metropolitan Museum Director Rorimer

Charles and Ray Eames receive first Kaufmann Int'l Design Award

Charles and Ray Eames received the first Kaufmann International Design Award—a check for \$20,000 and a device in the form of a crystal lens designed by Finn Juhl—at a presentation luncheon held November 16th at the New York headquarters of the Institute of International Education, which administers the Award. Frank J. Rorimer, director of the Metropolitan Museum of Art, made the presentation. Jane Fiske McCullough, former editor of *INDUSTRIAL DESIGN*, was the principal speaker. Excerpts from her address appear below.

In presenting the Award to the Eameses (for their "significant contribution to the character of present-day design"), the jury hoped "to emphasize the importance of an approach to the problems of design that seeks an uncompromising directness in the treatment of materials, that expresses an inherent logic of structure and form, that takes into account the necessary condition that a creative intelligence must function within the framework of modern industry and technology."

Established as a yearly event, the Kaufmann Award was set up earlier this year by design critic Edgar J. Kaufmann Jr., former director of industrial design for the Museum of Modern Art and now a member of IIE's advisory committee for the arts, in honor of his parents, Edgar J. and Liliane Kaufmann. Defining design as "the forming of useful, meaningful and expressive products, delightful beyond the satisfaction of needs or the provision solely of entertainment," the Award was presented this year for the *practice* of design. In

future years it will consider such categories as design education or philosophy, history of design, and industrial design.

Jury for this year's Award included U. S. designers Arthur N. BecVar and George Nelson, British critic Sir Herbert Read, Danish design professor Erik Herlow, and American Olivetti president Dino Olivetti.

Excerpts from Mrs. McCullough's speech:

"... Besides honoring one design leader and making his life uncomfortably more affluent, is there any benefit to other designers, collectively or individually, in all this? Or to the public's estimate of the field of design in general?"

"The professional designer, like any creative person, basically needs no external praise or rewards to make his work meaningful. So I suspect his first response to this program will be something like this:

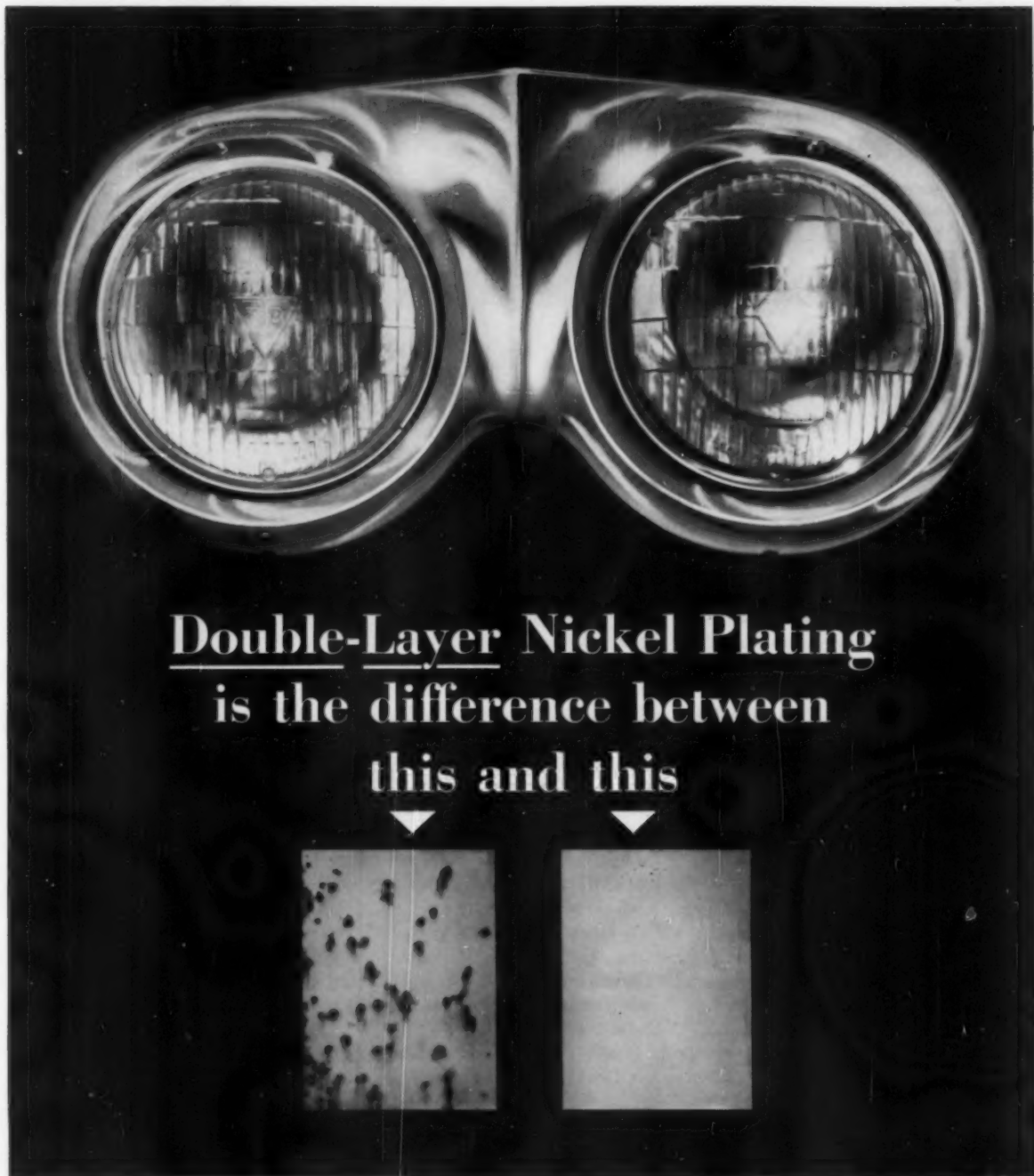
"It is a fine thing to have design publicly recognized, for prestige makes it easier for each of us to go about his work. It is nice for one of our group to receive the honor and the check—but beyond that, the award will not affect me a great deal." (There is a modest assumption here, of course.) Except for students, I am sure few designers will find the annual choices coming as great news to them. They will know in their bones who has done things of value, as well as any representative jury knows. Of course, if the award promises to improve standards—that would be just fine with him. Lots of people should be

doing better work, and it would be infinitely easier for them (and him) to do it if it could make clients more demanding, make the public more receptive.

"What, then, about the public? Can the award say something to its general audience on behalf of the designer? Yes, I believe so, particularly because in our society the designer and the designed-for have become so far separated. The simple statement that design is a purposeful act, that it is done by real men called designers, performs the important service of giving some identity to a now shadowy figure. This is perhaps least needed in countries of least technological advancement—in countries where the average man still knows how to make and build things, where every citizen is enough of an artisan to have some intuitive grasp of what a designer does and some experiential sense of his problems with materials, construction and function. In industrialized nations such as ours—such as the nations of Europe soon will be—the buying public more and more lacks any sound basis for evaluating and appreciating design. And the designer is more and more driven back into the rarified realm of his fellow artists with whom he can at least partially communicate. The tragedy is that this same frustrated, retreating figure is the one who, a century ago, began to move in and assume responsibility for the public's sensibilities in this dismembered modern world. As men began to lose touch with materials, to lose the craftsman's experience of designing-making-enjoying, the designer asserted himself as the new-style craftsman still qualified to feel, discern, create and care about things, for the multitudes who no longer could. He assumed the rights of the official standard-setter. He became the bearer of standards proclaiming 'functionalism,' 'simplicity,' 'truth to materials,' or whatever values seemed to him essential in a machine-made world.

"Remembering this, we can see that the award might tell the public more than the simple professional syllogism: I exist, therefore I design. It can try to call attention to his larger influence on all our lives and environment—his influence on the economic scene, where he creates needed goods for underdeveloped and overdeveloped nations alike, and on the social and cultural scene, where he solves problems of creature comforts, dignifies our lives and at times enriches them. In the long run, it might succeed in getting across the abstract idea that a designer can be more than a tech-

(Continued on Page 18)



Double-Layer Nickel Plating
 is the difference between
 this and this

Both of these plated panels were exposed in a corrosive marine atmosphere for 18 months!

You can see how the panel on the left — plated with a Nickel-Chromium coating that is perfectly suitable for less rugged use — fared in this severe outdoor test.

But the panel on the right — coated to the same 2.0 mil thickness — retained its rich original luster!


Why? *Double-Layer* Nickel Plating — a good thick layer of sulfur-free, semi-bright Nickel beneath the lustrous bright

Nickel layer and the thin chromium overlay.

Remarkably durable, this combination provides outstanding resistance to corrosion, abrasion and wear . . . helps assure the mirror-bright, *lasting* eye appeal that satisfies today's quality-conscious customers.

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you can find plastics
to shape a new world of products



**Ideally suited to modern high-speed vacuum-forming techniques,
Tenite plastics are cutting costs sharply for many manufacturers**

Vacuum forming—one of the oldest techniques of fabricating plastics, but only in recent years adapted to speedy modern methods—is now in the foreground of interest as an important method of shaping plastics products for today's market.

Starting material for a vacuum-forming operation is an extruded thermoplastic sheet. In simplest terms, vacuum forming involves only two steps, both performed on the same machine. The first step consists of clamping the flat sheet of plastic in a frame above the waiting mold and heating it (with built-in heaters) to the required forming temperature. In the second step, the heated sheet is brought down into close contact with the mold, suction is applied, and atmospheric pressure then forces the heat-softened sheet over and into the contours of the mold.

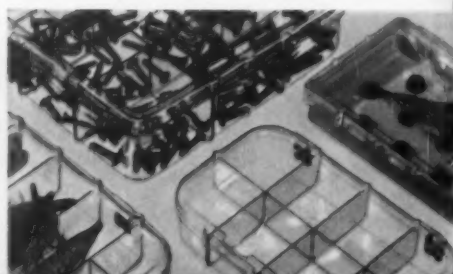
Sheet extruded from any of the Tenite plastics is well-suited to vacuum forming. Typical commercial products made of these plastics are shown on these pages. They illustrate the diverse shapes and uses to which vacuum forming can be adapted. An outstanding advantage of the Tenite celluloseics—Tenite Butyrate, Tenite Propionate and Tenite Acetate—is their low specific heat which speeds both heating and cooling. Sheet of these plastics can be formed quickly and economically into tough, lightweight, highly impact-resistant products of enduring luster.

For products that are to be used outdoors, special formulations of Tenite Butyrate are available which provide excellent weather resistance and dimensional stability.

Tenite Polyethylene and Tenite Polypropylene are other Eastman plastics use-

ful in vacuum forming. While slower to heat and cool than sheet of the celluloseics, these can be more satisfactorily formed in molds with sharp angles and offer many physical and chemical properties useful in housewares, industrial products, toys and packaging.

All Tenite plastics are available in a virtually unlimited range of colors. Over the years, the Tenite Color Laboratory has developed formulations in almost 43,000 different colors and color effects. For many applications, colored sheet can be used to yield an integrally colored product, eliminating the need for a separate decorating or painting operation. In other applica-





tions, such as signs, clear-transparent sheet may be used, with the decoration being applied either before forming (by use of distortion printing) or after forming. It should be noted that even shapes which at first appear impossible to vacuum form can be produced by this method. For example, by using a "plug-assist" (to permit a deep draw), wastebaskets 8½" in diameter and 11½" deep have been vacuum formed from sheet of Tenite Butyrate. Similarly,

spherical globes for toys and outdoor lanterns have been produced at low cost by vacuum forming two hemispheres and then solvent-cementing them together.

An important advantage of vacuum forming is the low cost of the necessary molds...often only 1/20th to 1/10th as much as those for injection molding. As a matter of fact, very inexpensive molds can be cast from plaster or tooled from hardwood or pressed wood to use on test runs, developmental designs, or single or short-run production.

The obvious economies inherent in vacuum forming have helped the technique win quick favor in many fields. In the manufacture of outdoor signs, displays, toys, housewares, decorative and

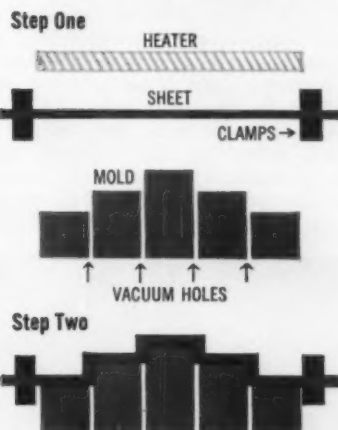
lighting panels, vacuum forming is now a leading production method.

Vacuum forming also makes possible the rapid packaging of merchandise in bubble, blister or skin packs. Here, short heating and cooling cycles are particularly important because of the high speeds at which the packaging machines operate.

Perhaps vacuum forming with Tenite plastics could help you cut costs or speed production of some item you are now making or planning to make in the future. We'll be glad to help you explore its advantages and evaluate its merit.

The comprehensive story of how Tenite plastics are being used in this new manufacturing process is told in a 20-page booklet, "VACUUM FORMING." For your free copy, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSFORT, TENN.

HOW VACUUM FORMING WORKS



NOTE: The above diagrams depict a simple vacuum-forming operation. There are many variations of this method, including some in which air pressure or mechanical pressure replaces the use of a vacuum.



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nician: he is an artist of the physical realm whose highest contribution, as George Nelson has put it, is to seek out the essential truths of our artifacts, and communicate them to others.

"It would seem, then, that this yearly award, backed by good publicity and accompanied by a good financial reward, can help project on the public screen a clear and positive image of this hypo-



Mrs. McCullough

thetic designer. The money in itself is probably of secondary interest to professionals, but the act of giving away a large sum will say something about our values to other people in terms of values they understand. Ultimately, the importance of the dollars will grow less though the sum may grow even larger. The Kaufmann International Design Award, or the Kaufmann prize, or K.I.D.A., or whatever it will be called, will convey not dollars but names of men and of their collective achievements. Will this do what the designer wants done? Will it advance public tastes in his direction? Certainly up to now there has been no great debate over this public platform: Agreed, something needs to be done about our visible world. Millions of men in this country alone are engaged in the wholesale production of ugliness, and such is our influence that others are beginning to emulate the worst of what we are. Millions of buyers, here and there, are apparently happily consuming all this. Be it asphalt stonework and polyethylene lacework, or low style Picassowork and wrong style Wrightwork, they vacillate like seismographs from bad to good, from fake to real, blotting out those standards the designer thinks are best but also those he knows are horrendous. There are many easy explanations, and you have all heard them. Perhaps you have noticed that they all revolve around the idea of faulty leadership: either the designer is afraid to lead and only follows the public; or the public doesn't follow because it's not educated; or the design can't lead because he lacks talent and integrity. In all of these premises we find the 'fallacy of leadership,' as I would call it, that is as much a part of the modernist doctrines as functionalism itself. It is like an old piece of cheese in the icebox that you never find

use for, but it keeps so you never quite dare to throw it away. It is the claim that society requires an elite of 'good designers' leading a well-indoctrinated flock into a promised purist's land. It grants the designer eternal power over the passions of ordinary people, at least until they prove themselves capable of controlling their own unruly passions with the firm rein of acceptable esthetics. Now, the early functionalists did ardently believe it their duty to dictate standards to the unknowing masses. Yet, re-examining the proposition eighteen rounds later, it is clear that industrial democracy has exposed the fallacy: artistic *noblesse oblige* has merely prolonged artistic immaturity which, in less esthetic circumstances, might have proved self-correcting. Today the real goal might seem to be the reverse: to restore mass initiative, so that people may again successfully participate in shaping their own world. They will give it shape not so much with their own hands as with their judgment in choosing what to live with. Though this is a different level of creative act, it does contain many of the same possibilities of self-education and expression. Choosing requires that an individual first locate his own responses, then use them to make judgments. If the judgments are tested by experience and modified by reason, he gradually gains experience enough to recognize intrinsic value, to dispose of whatever sham and deception does not give him a lift or a belly-laugh. With the residue he has latitude to decide what is "good" on a personal level. I say it "requires" rhetorically, for obviously this very process is going on even today, though we wring our hands at some of its manifestations. This is because our burgeoning production system offers the public choice—indeed, insists upon it—on a scale unprecedented in history. In every purchase from breadloaves to Buicks (choosing among 17 Buick models can be a pretty choosy business), there is chance and need to care. The fact that people do it shows that they do care. Choosing, as I said, does not perforce make a man as sensitive to intrinsic values as does making things, but as a *process* (irrespective of outcome) we must admit that it is educational—indeed, essential.

"And the designer must admit that the process throws some weird new light on his role as an educator (. . . educate them for what?)—and as a leader (. . . lead them to what?) True, developing mass-taste may oust the designer from a position of power that he believes he needs to be effective. I believe, quite to the contrary, that a designer's first step toward real leadership is to abandon his own absolutism, to recognize that the more involved and at times passionately opinionated people are free to become, the better they will receive and appreciate and be swayed by the de-

signer's deeper messages and insights. The second step to leadership is to examine not what the public is doing to him but what he is already doing to his public, which is sharpening its senses on the whetstone of products that are more often shoddy than fine. The quality of all his design, careless and careful, is affecting the quality of his public's education, and 'quality,' like all the other fine design superlatives, does not hinge on any single style that is eternal or beyond dispute. The designer will have to recognize that the satisfaction given by true quality comes not only through the eye, but through all the senses and the emotions that grow with time and experience. Satisfaction may be given, or lost, in the joining of two materials, in the cornering of a piece of steel, in the connection of a knob or button. For the expression of quality rests not on hollow formality but on craftsmanship: this is the ideal that means skill in making and expressing something, but more important, means doing good work for its own sake and satisfaction. If the designer can again be swept up in communicating his own passion for craftsmanship, if he can care less about bending people his way, then by the usual twist of justice he may find people bending as they never bent before.

"We started by asking how this award can influence the public and help the designer. By now it must be clear that I feel it cannot 'improve public standards' toward any fixed goal; neither should it provide human models for men to ape, nor endorsed design examples for machines to duplicate. What it

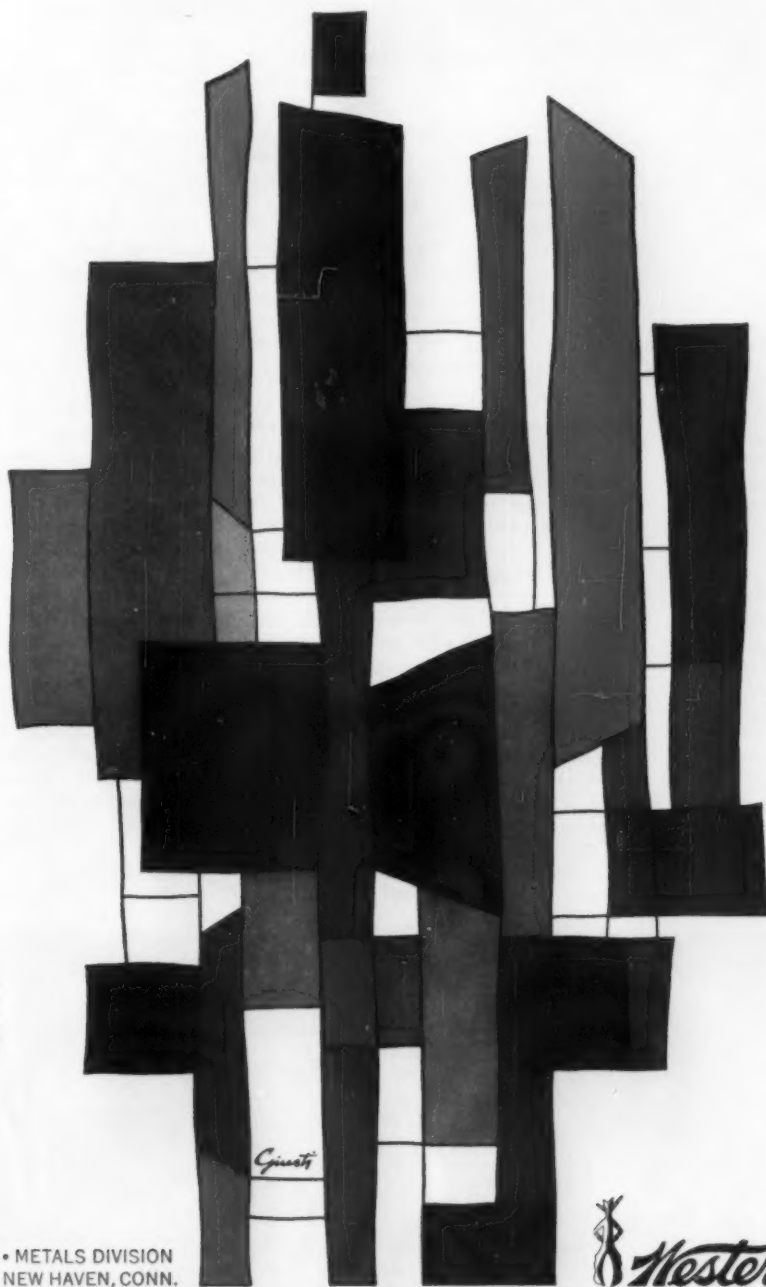



Kaufmann

can contribute is a de-standardizing of standards; a broadening perspective on excellence in design that extends back where we came from as well as where we are going, a perspective that is forever shifting and enlarging with each new figure spotlighted on the horizon by this award. It can proclaim to the world the highest ideals of design and the man who does it—but the man alone can prove the image true. There is a great deal to be done to wiggle into that image. Edgar Kaufmann has given the whole profession the opportunity that is the responsibility of all of us, and should leave no designer unaffected. . . ."

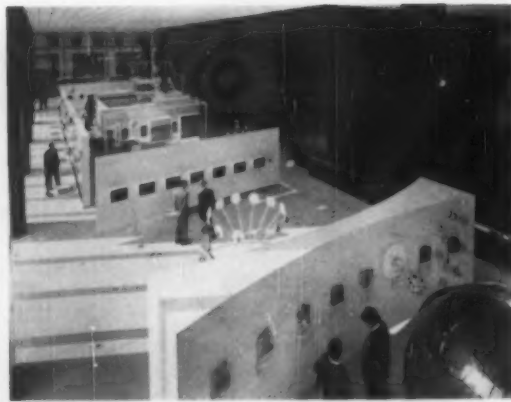
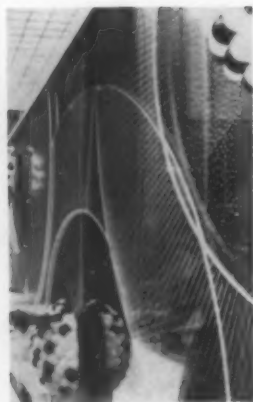
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You'll get modern styling, ageless appeal, with Western Brass... for the enduring glow of solid brass adds a classic note to contemporary design... keeps any design forever young and beautiful. That glow is kindled at Western Brass by meticulous finishing and packing methods, unexcelled in the industry. Moreover, this precision finishing, customers say, actually gives more parts per pound of sheet or strip. You'll make it better with beauty-rich brass. You'll make it best with "tailor-made" Western Brass.



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 *Western* BRASS



Will Burtin's "Atomic Energy in Action" exhibit for Union Carbide.

Atomic energy exhibit

Scientific exhibit designer Will Burtin's most recent translation of the wonders of science into the language of laymen is Union Carbide Corporation's new atomic energy exhibit installed in the Park Avenue lobby of the company's new headquarters building in New York. The 160-foot-long exhibit (above, right) was opened to the public on October 17th.

It features a scale model, two-thirds the size of the original, of the atomic reactor located at Carbide's Nuclear Research Center in Sterling Forest, New York. The reactor model is backed up by a 60-foot long mural (above, left) that uses patterns of flashing lights of different colors to depict a chain reaction of splitting atoms. Viewed from the street (where its effect, owing to its scale and position, is best appreciated), the mural provides a note of action and color among the austere facades along Park Avenue. Entitled "Atomic Energy in Action," the exhibit begins with a model of the uranium atom magnified something like 10 million trillion trillion times.

After reviewing the history of atomic concepts since Democritus first defined the notion 2500 years ago, the exhibit goes on with models, words, and panoramic pictures to describe the various

uranium ores, how the element is extracted from the ores, how radioisotopes are made and used, and what atomic energy holds forth for the future.

The immense scope of the design and construction of the exhibit is less apparent in the finished installation than in some of the official figures: the display uses five million feet of electric wiring, ten tons of steel, and about eight tons of structural aluminum.

Designers convene in Poughkeepsie

A group of young designers, mostly Syracuse University alumni, who have been meeting informally over the past six years, got together October 28 and 29 for their Seventh Annual Design Conference in Poughkeepsie, N. Y. Mixing a bit of pleasure with their business, the group began with an "orientation session," and later toured local IBM facilities. In the evening, IBM staff designer David Wassertheil, chairman of the conference, held an open house.

The day of October 29th was devoted to papers and presentations. Philip H. Stevens and David O. Chase, of Stevens-Chase Design Associates, presented a history of fire-fighting equipment design illustrated by some excellent slides.

Ann Ferebee, associate editor of ID followed with comments on industrial de-

signers and, after lunch, continued a discussion which touched on design education, the recent Triennale in Milan, and professionalism. Robert H. Eytel, designer at Remington Rand Univac, explained how his design group conducts field investigations of computer performance. Frederick Kuhn, designer at Raytheon, described new developments in chemical milling. *Patterns and Textures*, an experimental film by Roderick F. Bunyea and Roger A. Schindler, of Stevens-Chase concluded the program.

Prize packages

Top award in this year's 24th annual packaging competition sponsored by the magazine *Variety Store Merchandiser* went to a line of Christmas decoration packages designed by Harry and Marion Zelenko for the Paper Novelty Manufacturing Company. The company received the award for its "Double-Glo" packages (below) at an awards dinner held last month in New York. Individually designed for different types of Christmas tree decorations, the packages were cited for consistency of theme, provided by an unusual color scheme and the stylized Santa Claus logo.

Other prizes included ten Gold Awards in categories running from cosmetics to toys to hardware. Four of these prize packages were products of consultant offices: Butler Brothers' "Thistle" stationery (below), by Morton Goldsholl Design Associates; "Q-Tips," by Robert Zeidman Associates; Rubbermaid products, by Ketchum, MacLeod & Grove, Inc., and Singer Sewing Aids, by Raymond Loewy Associates.

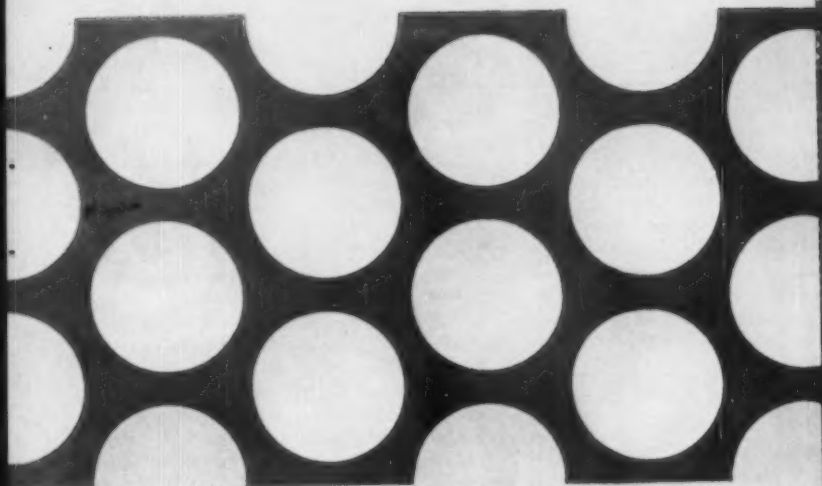
Silver Awards were given to 32 other package designs, of which 18 were staff designed and 14 were produced by consultant designers Lippincott & Margulies, Gilbert Snyder, Paul Rand, Riedl & Freede, S. Jay Kent, Richard J. Thompson Associates, Creamer-Trowbridge & Case, Charles H. Magers, Koodin-Lapow Associates, Alan Berni & Associates, Eron & Eron, James J. Doherty Associates, and Robert G. Neubauer.

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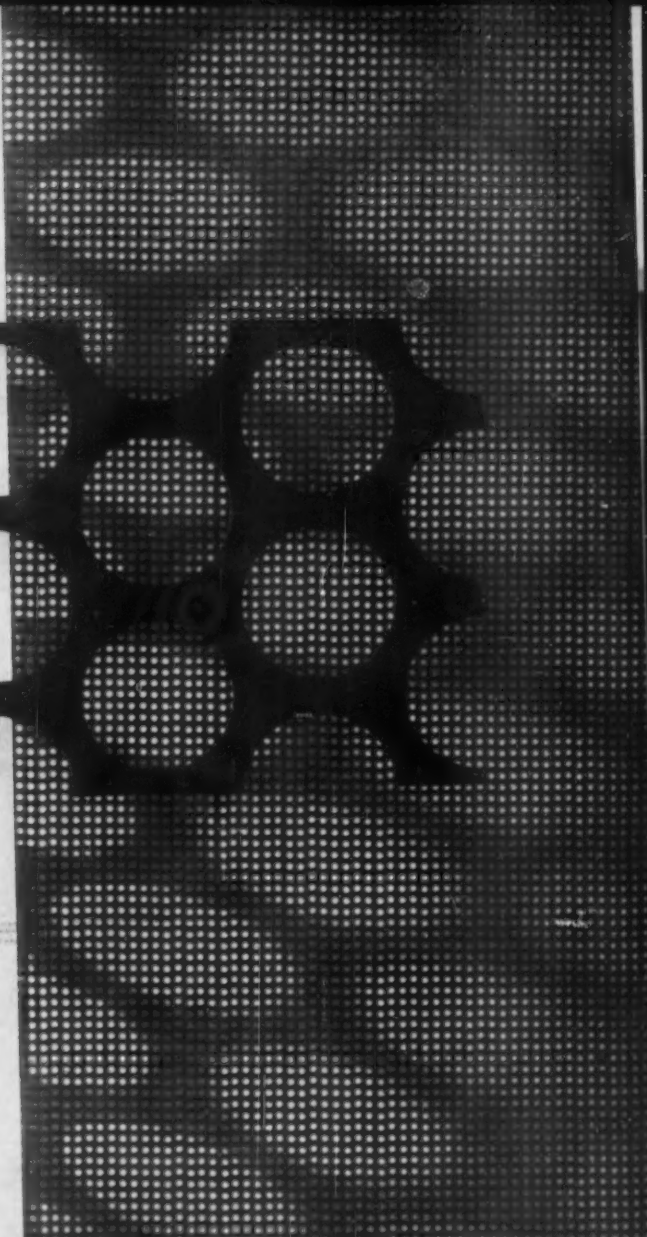
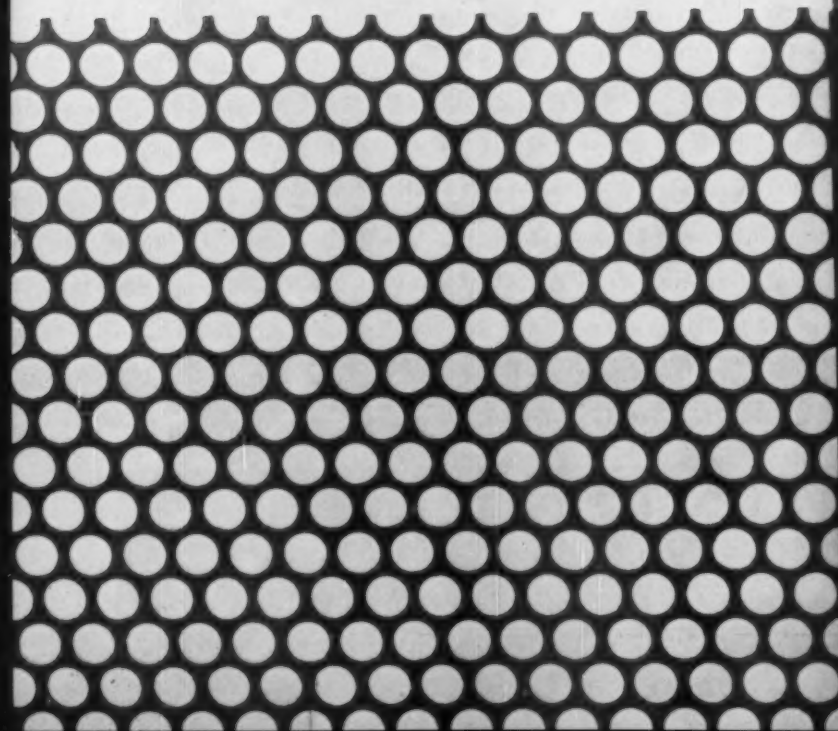


Prize packages: Zelenko's (left), Goldsholl's (right).

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Hampton's paper sculpture

People

APPOINTED: Michael Cridland (below), previously with Scherr & McDermott, Akron, Ohio, as a senior designer on the staff of Van Dyck Associates, Westport, Connecticut. . . . Raymond Grosso (below), as an associate of Harley Earl Associates, Warren, Michigan. . . . Morton Gerard (below), formerly with Neal Goldman Associates, New York, to the staff of the industrial design department at Remington Rand Univac Military Division. . . . G. Mallet-Prevost, Jr., previously with New Product Development at E. I. du Pont de Nemours, Wilmington, Delaware, as a design specialist in du Pont's Packaging Market Development department. . . . Raymond Minichiello as manager of mobile communications product planning for General Electric's Communication Products Department, Lynchburg, Virginia.

Company News

RETAINED: D'Elia, Stolarz, Nishanian, Inc., New York, by American Accordion-Fold Doors, Inc., and Vakassian, Inc. . . . Zierhut/Vedder/Shimano, Van Nuys, California, by the Benson/Lehner Corp. . . . Felix S. Gula, by the U.S. Office of International Trade Fairs, to design the International Agricultural Fair in Cairo, Egypt. . . . Raymond Loewy Associates, New York, by the Studebaker-Packard Corp. as consultants in advance styling. . . . DesignComm, Chicago, to develop corporate identity programs for Blomquist, Reeves & Co., William J. Howell, and Heiferman's Paints, the last to include new brandmark and a packaging program.

ESTABLISHED: Affiliated Industrial Design, at 561 Clay Street, San Francisco. Jo Sinel (below) and Norman Steuer will head the new organization, and James R. Pendergraft will serve as marketing director. . . . Richardson-Smith Associates, Inc., design office in Columbus, O.

EXPANDING: Scharfenberg & Polivka, Hopkins, Minnesota, to Scharfenberg, Polivka and Gale, with the addition of John Gale (right) as a partner. He previously had his own firm in Minneapolis. . . . Institute for Design Analysis, San Francisco, associated with Walter Landor & Associates, with the opening

of its design evaluation study facilities to firms other than Landor and its clients. Hugh Schwartz (below), formerly Account Research Supervisor at the Package Research Institute of Lippincott & Margulies, New York, is executive director of the service. . . .

SOLD: The Watertown Manufacturing Co., Watertown, Connecticut, has sold its melamine dinnerware operations to Northern Industrial Chemical Co. in order to concentrate all its efforts on industrial custom molding of all plastic materials.

Events

The central area of Washington, D. C., as it might look by the year 2000, depicted in a series of 30 multi-colored drawings, was exhibited last month in the Avery Hall Exhibition Room at Columbia University's School of Architecture. The display represents an eight-month redevelopment study of that city conducted by members of a graduate class in Urban Renewal at the school and was under the direction of Dr. Harry A. Anthony, associate professor of Urban Planning at Columbia. Previous to the New York showing, it was exhibited in the Department of the Interior.

Meeting the threat of foreign competition is the theme of a forum to be held by the American Management Association December 5-7 at the AMA Academy, Saranac Lake, New York. Several case studies of successful selling programs will be featured, and speakers will cover such topics as the impact of imports on American markets, areas of advantage and disadvantage of foreign competition, how American industry can defend itself, and opportunities for mutual protection between U. S. and foreign business. After the formal presentations, workshop groups will be formed for discussion and to work out solutions. George Haback is chairman of the meet-

ing. He will be assisted by Gerald Fisch. Experts on international business as well as representatives of both government and industry will speak.

The National Housewares Manufacturers Association's 34th National Housewares Exhibit will take place January 16-20, 1961, at McCormick Place, Chicago's new lakefront exposition center. More than 900 exhibitors, a record number, will participate in the show.

Designs from Paper, an exhibition of paper sculpture featuring both original pieces and their end uses in commercial illustrations, will be on display at the Mead Paper Company, Room 1101, 230 Park Avenue, New York, December 12-30. Included in the exhibition will be work by Giuseppe Baggi, Jerome Kuhl, Blake Hampton (see photo above, left), Erica Goreka-Egan, Thadeus Lipski, Marion Grainger and Burt Groedel. The exhibition, sponsored by Mead's Library of Ideas, is one of a series on graphic arts. Last month's was devoted to annual reports, and next month's will feature pharmaceutical direct mail.

Swedish designer Carl-Arne Breger has won this year's Swedish Plastics Federation prize for the best-designed everyday ware made of a thermoplastic. He won the award, which is judged by members of the Swedish S.I.D. and the State Institute for the Consumers' Information,



Breger

for the square-shaped pails he is shown with (above). They are manufactured by Aktiebolaget Gustavsbergs Fabriker, for whom Breger used to be staff designer. The pails are made of injection-molded high-density polyethylene; the handles are of nylon. The prize was \$600. END



Grosso

Gerard

Sinel

Gridland

Gale

Schwartz

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IN THE GAME ROOM



IN MOST ANY ROOM



IN THE KITCHEN



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Quality plating produces metals so durable they can be fabricated, even quite severely drawn or bent. Rejects minimized. For severe stamping, we offer Mar-Nat protective coating that is easily peeled off after its job is done.

These handsome articles of daily use are striking indeed! Not a little of this is achieved by the functional use of bright plated Nickeloid Metals in Chrome, Brass or Copper finishes. But look again! These pictures carry a deeper, even more dramatic story . . . the story of a *new concept* of manufacture. Not always do artisans work with raw steel sheet. Not always is the final finish applied by the extra step of painting or plating. With Nickeloid Metals this finish is built-in, and it's done by a company which has dedicated itself to electroplating of sheets and coils for industry for over 60 years! The use of Nickeloid Metals as a pre-finished-raw material proves the theorem that a straight line is the shortest distance between two points. Write for free Introductory Kit that unfolds the entire story and provides you with metal samples. Or, phone a Nickeloid sales office in one of the principal cities.

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Joe Foster, President, indicates possible new applications for Nylon-6.

“Your competitors may be switching to Nylon-6 right now,” says Joe Foster

Could be. It's worth thinking about.

For one thing's sure—Nylon-6 is one of the great molding resins, one that's bound to be popping up before long in exciting new applications. In portable electric mixers, maybe. Or transistor radios. Or electric shavers. Or even power tools.

But Nylon-6 should be part of your thinking for *several* reasons. Not just because of what your competition may or may not be planning, but because of what this remarkable fabricating material itself has to offer—a *unique combination* of advantages. Colorability. Non-flammability. Ease of molding and extrusion. Strength. Toughness. Abrasion-resistance. Impact-resistance. Flexibility. Heat stability. Self-lubrication. *And* the extra merchandisability of “Nylon” adds magic sales-power to all types of products.

As the world's largest manufacturer of sunglasses (with Nylon-6 frames) and a leading resin producer, we have great confidence in Nylon-6. That's why we recently acted to speed new applications, by reducing the price of Fosta® Nylon—our Nylon-6—to 98 cents a pound in quantity.

Like to find out more about Nylon-6? We'll be glad to send you current literature on Fosta Nylon. Just call us at KEystone 4-6511 or write Foster Grant Company, Inc., Leominster, Mass.

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Agents in principal cities



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Aluminum Company of America*

"I bet with you," the Japanese doctor told the prisoner. "You do what you claim you can do — build entire hospital, without money, in one year. You fail, you be sorry."

When the year was up, the island POW camp had not only a complete hospital, but a laboratory and 320 surgical instruments—all created from junk. The man who directed this miracle, rallying fellow-captives and drawing on his boundless ingenuity, was an industrial designer named Tor Petterson.

Today, the range of materials at Tor Petterson's command is infinite and the supply virtually limitless. But the multiple forces that bear on any design problem—not the least of which is his deeply ingrained personal integrity—make demands on his skills that may be different from those he encountered in 1943, but are surely no less pressing.

There is the issue of quality, rooted in concern for the buying public, along with the requirement for a profitable selling price. There is the temptation to court sales with what he knows people will accept, opposed to his principle of giving them what he is convinced is best for them. Sometimes, there is a conflict between his personal taste and that of his client, but that one can readily be resolved by market testing.

In his design of a high-precision portable wattmeter for Voltron Products, Pasadena, California, Petterson's extensive use of aluminum proved to be a major aid in the attainment of his multiple aims. You can read the story of this assignment on the following pages.



THE ALCOA INDUSTRIAL DESIGN AWARD presented to Tor Petterson Associates in recognition of notable achievements in design incorporating imaginative and effective use of aluminum. Lester Beall, Robert Kolli, Just Lunning, Nanci Lyman and Jane McCullough comprise the distinguished jury of critics, editors and educators in the design field which chooses recipients of the award from the Alcoa collection of industrial design.

how to
design for
profit



industrial designer: engineer, aesthete, psychologist, salesman, accountant

When Tor Petterson approached the assignment to design Voltron Products' new portable wattmeter, he faced not one problem, but many. Each solution called for a particular set of the multiple skills that manufacturers reap from their industrial designers.

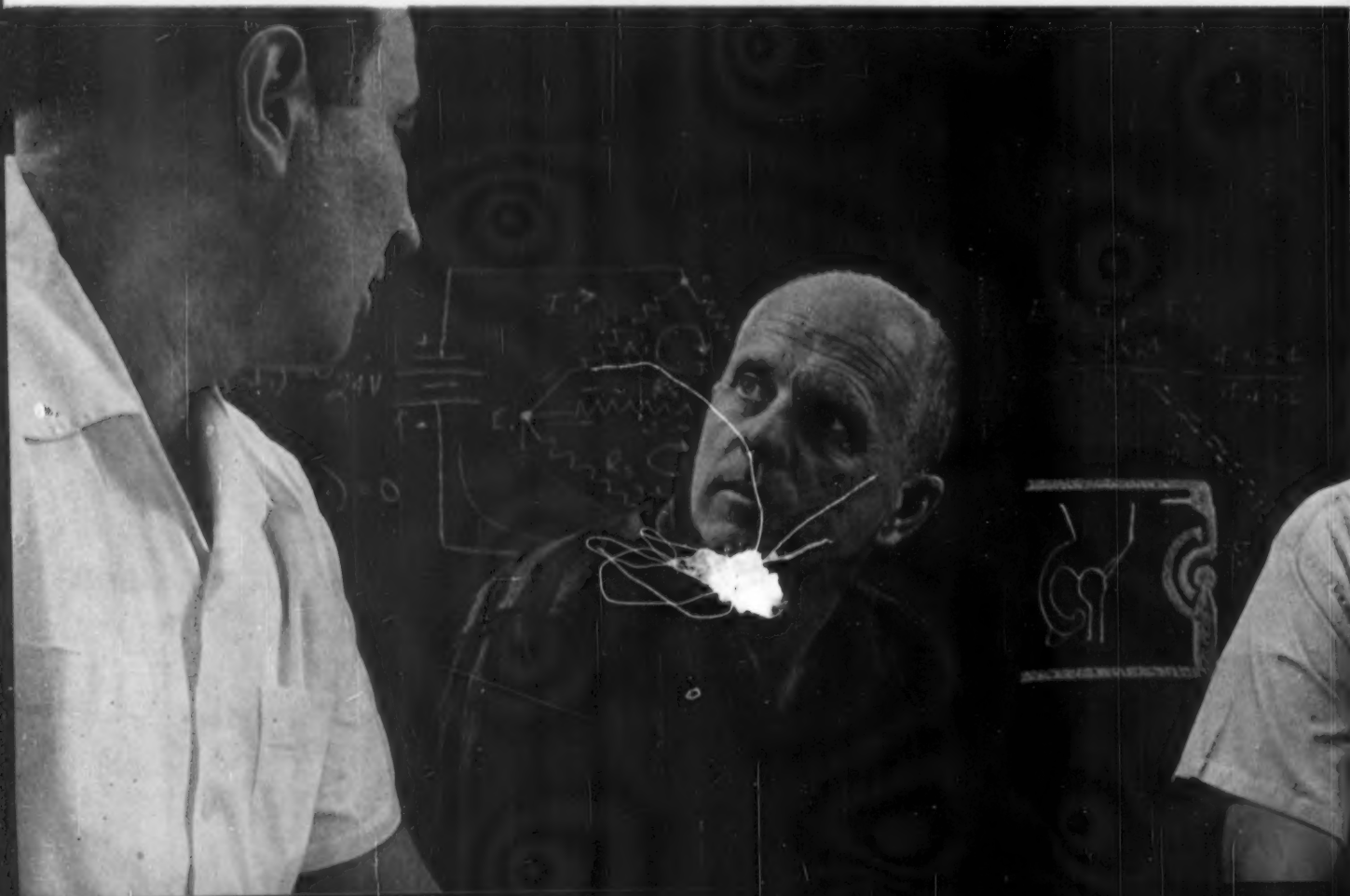
To begin with, lab technicians are traditionalists who associate precision with fine hardwood boxes, but Arnold Raines, Voltron Products' president, believed his customers would respond convincingly to "human engineering" that replaced old-fashioned, cumbersome packaging with a look of modernity. So Petterson practiced both psychology and aesthetics in a design that combines traditional wood with contemporary aluminum. But functionalism is equally important to sales, so Petterson simplified the control panel, arranged it for convenient use by both left-handed and right-handed operators, tilted it to provide new ease of reading.

Simultaneously, he was both production engineer and cost accountant. By designing integral grooves in the extruded aluminum shapes, he provided a nesting for the bottom plate of the instrument, support for a glass panel to shut out dust and moisture, accommodation for removable instruction sheets. Simulating production runs in his own shop, Petterson proved these features afford major savings in assembly time and labor.

Final manufacturing cost, significantly lower than they expected, surprised Voltron executives, but not Petterson; the same resourcefulness and astute choice of materials had previously helped him to cut production costs from \$72 to \$38 on another product.

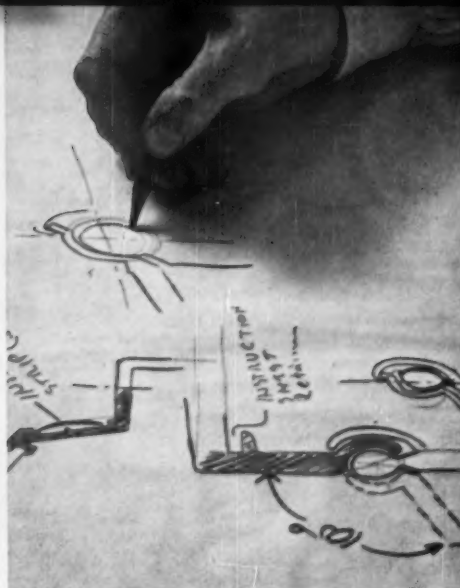


Before Tor Petterson sat down to put his thoughts on a sketch pad, he had absorbed five weeks of knowledge about Voltron's requirements for its new portable wattmeter: the debt to traditional design, insistence on easy use and maintenance, limits on cost of tooling and manufacturing to ensure a margin of profit.

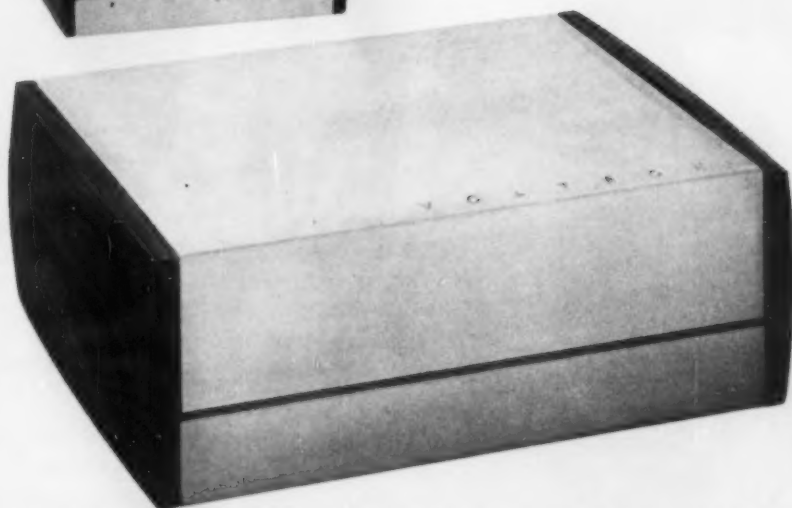
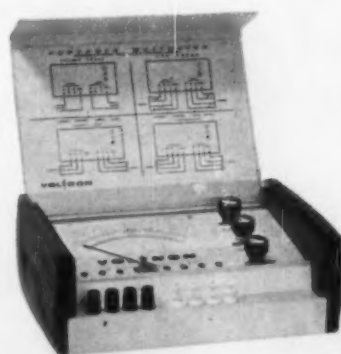




Choice of aluminum was no mere accident. Petterson had already exploited its advantages in such earlier designs as a microbalance, a radioactivity alarm, a supersensitive meter, a television camera and a magnetic grinder. Light weight, appearance, resistance to corrosion, and workability leading to lower tooling and assembly costs all commended it for this high-precision electrical instrument.

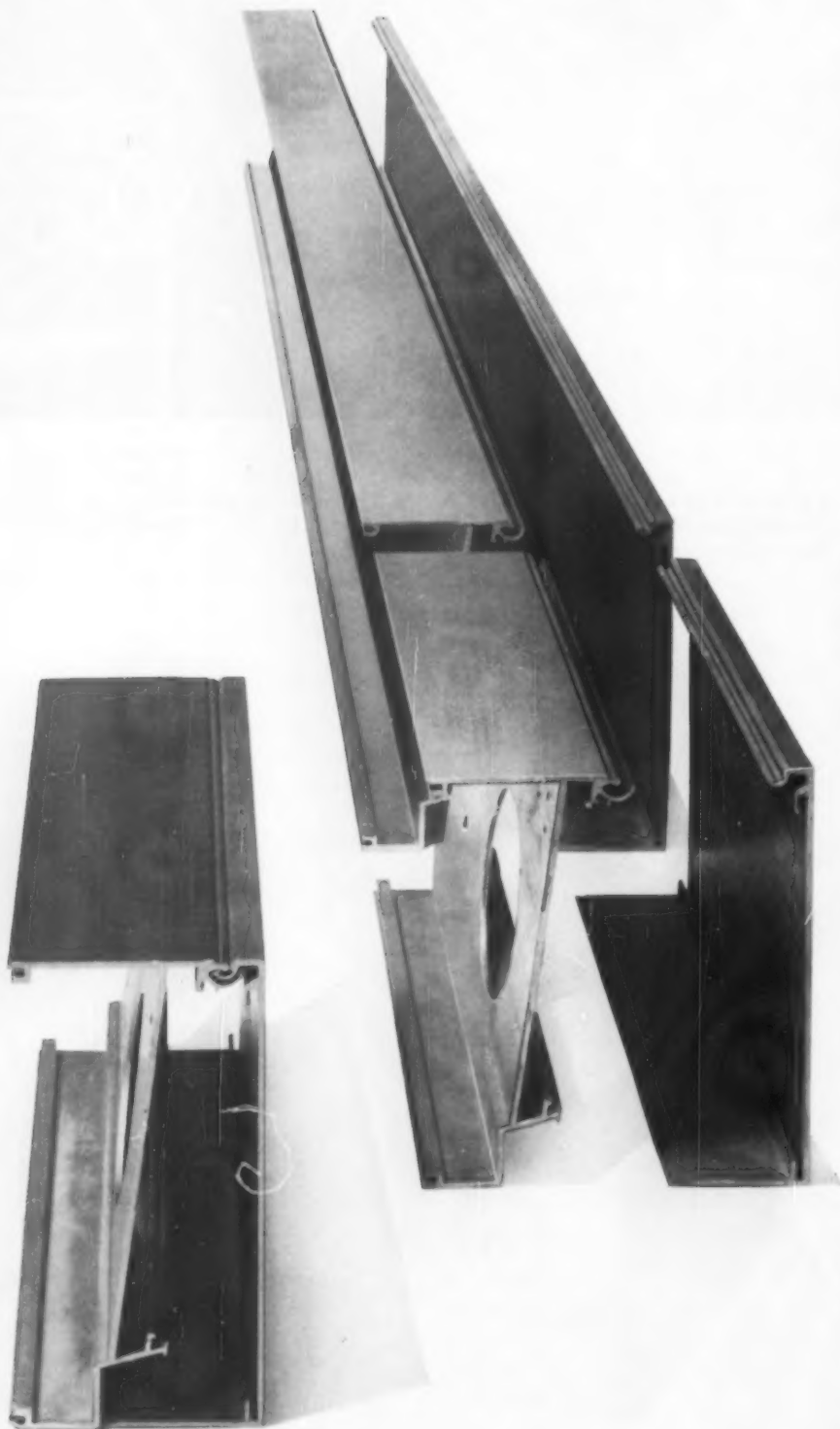


Striking example of the gains Petterson achieved through use of aluminum extrusions is the continuous hinge, both elements of which were provided as integral parts of the top and bottom sections. At the same time, the bottom section also incorporates the instrument chassis and both front and rear segments of the case, while the top section includes the cover and part of the front.



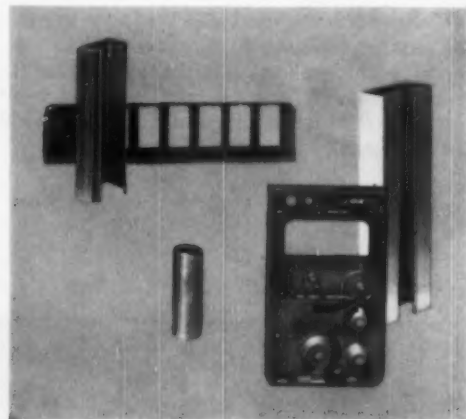
Here is vivid proof of the successful way Petterson dealt with "survival form"—deliberate inclusion of a familiar element from the past—in the new Voltron Portable Wattmeter. Richly grained wood, once the material for the entire case, is still in evidence in the walnut end caps. The rest is all aluminum, brushed to satin texture and then clear anodized for a sapphire-hard surface finish. The clean, rectangular lines say, "Here is the ultimate in quality and precision," both to the man who uses the instrument and the one who only sees it used.





Aluminum is the designer's metal . . .

Tor Petterson's designs for scientific instruments regularly employ aluminum because of its workability, strength, light weight, corrosion resistance and receptivity to a variety of finishing techniques. Extrusions permit welcome reductions in tooling and assembly costs and make important contributions in structural dependability. Supplied by Alcoa in 11-ft lengths, they are readily cut to size for standard models or for special designs, permitting packaging on short notice with no added tooling charge.



Petterson-designed instruments utilize not only extruded but fabricated, sand-cast and die-cast aluminum parts.

Alcoa is the designer's ally . . .

When the industrial designer approaches your product, he has an invaluable ally in Alcoa® Aluminum and in the technical resources Alcoa provides. No metal can be formed, joined, fabricated and finished by so many methods. No other metal matches its ratio of strength to weight. No other metal affords, in every pound, access to such authoritative counsel on problems of application. This assistance is offered without obligation to you, your staff designers or the independent designer you retain. Call your local Alcoa sales office or write to: Aluminum Company of America, 1971-M Alcoa Building, Pittsburgh 19, Pa.

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ALUMINUM COMPANY OF AMERICA

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this cab will still look like new

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FIBER
GLASS**

It won't be rusted or corroded—MOLDED FIBER GLASS is unaffected by weather, salt and most chemicals.

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10 years from now this MOLDED FIBER GLASS cab will have been one of its fleet's biggest money-makers. It will have hauled considerably more payload than metal cabs of comparable size, because its MOLDED FIBER GLASS parts weight up to 40% less than metal . . . and are contour-molded to shorter dimensions.

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THE MEASURE OF MAN (AND WOMAN) (AND CHILD)

Human Factors in Design by Henry Dreyfuss

Imagine being able to find every important measurement of the human body on 16 handy charts. Thanks to Henry Dreyfuss this is now possible. These charts are included in the portfolio *The Measure of Man* along with 2 full sized 6 ft. x 2 ft. male and female figures, a concise reference text on the charts, and an explanatory text by Henry Dreyfuss.

The full sized figures are suitable for mounting. They are reverse printed white on a handsome gray-blue ground so they may be used decoratively. The dimensions are large enough in size, however, so they may be read from 15 feet or more away for those who wish to mount them on the drafting room wall for ready reference.

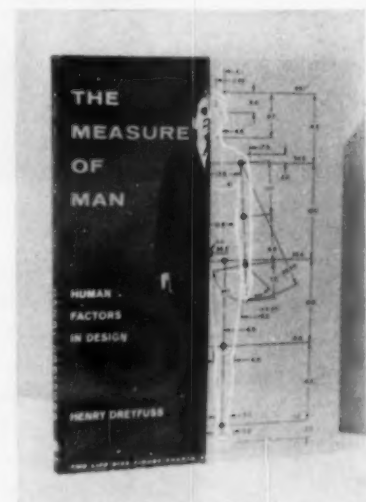
The charts were developed (over a period of years) by the Dreyfuss office from widely scattered sources; the bibliography not only lists the sources but includes sources from which additional data may be had. The check list which accompanies the diagrams includes supplementary information on the following important subjects:

Manual Controls	Anthropometric Conformity
Pedals	Safety
Visual Displays	Illumination
Auditory Signals	Environment
Sensory Signals	Maintenance

As an example of the kind of information contained in the check list, consider the heading *Safety*. Here are reminders about safeguards for moving parts, electrical equipment, corners and edges, dangerous chemical solutions, etc., location of emergency controls, color coding for stairway and platform edges, aisles, fire protection, traffic control, etc.

The cover of the booklet containing the explanation, check list, bibliography, etc. is a seventeenth chart giving thresholds of environmental comfort, discomfort, damage, etc. for light, noise, ultra-violet, atomic radiation, and other phenomena which affect the functioning of the human body or the comfort of the human being.

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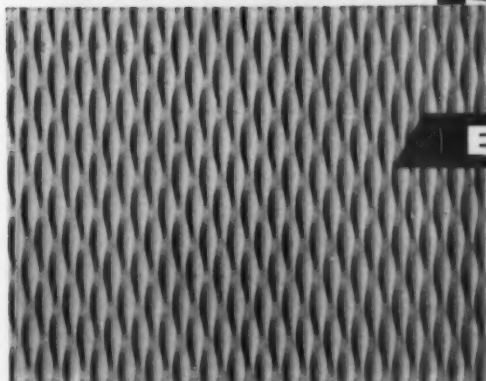
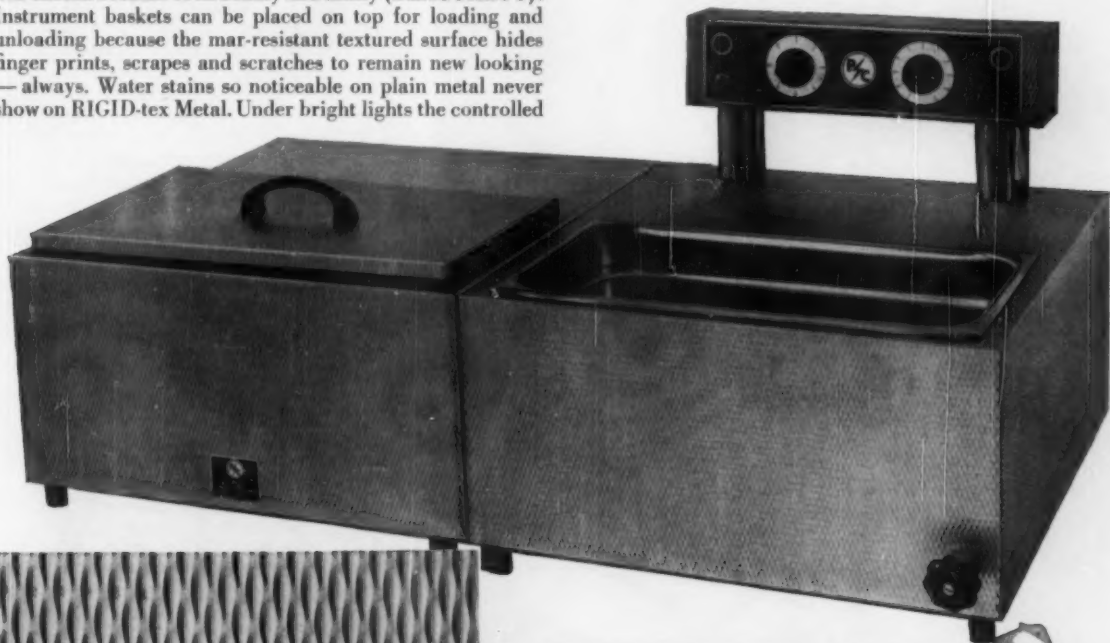
combines **GOOD DESIGN**
and **RIGID-tex[®] METAL**

Surgical instruments prior to sterilization, must be hand scrubbed. This is a slow, hazardous job, in which a competent scrubber can clean only about two instruments a minute. Compare this with the Pel-Sonic washer illustrated that cleans a basket load of up to 100 instruments by ultrasonic energy in five minutes—an 80 to 90% saving in labor costs.

Stainless RIGID-tex Metal in pattern 5-WL covers the entire outside surface of this high speed washer and dryer. It was chosen because of its beauty and utility (BEAUTILITY). Instrument baskets can be placed on top for loading and unloading because the mar-resistant textured surface hides finger prints, scrapes and scratches to remain new looking—always. Water stains so noticeable on plain metal never show on RIGID-tex Metal. Under bright lights the controlled

reflectivity of RIGID-tex Metal eliminates harsh glare and mirroring. The textured surface breaks up the light into an eye-pleasing, geometric pattern.

Perhaps you, too, could add these plus features to *your product* to increase its sales appeal. RIGID-tex Metal is available in all metals, solid or perforated—in all finishes, all colors. From the more than 45 different patterns, there is sure to be one to suit your product requirements.



BEAUTILITY[®]

RIGID-tex Metal Pattern 5-WL (full size) has extreme rigidity, great buckling strength and high impact resistance.

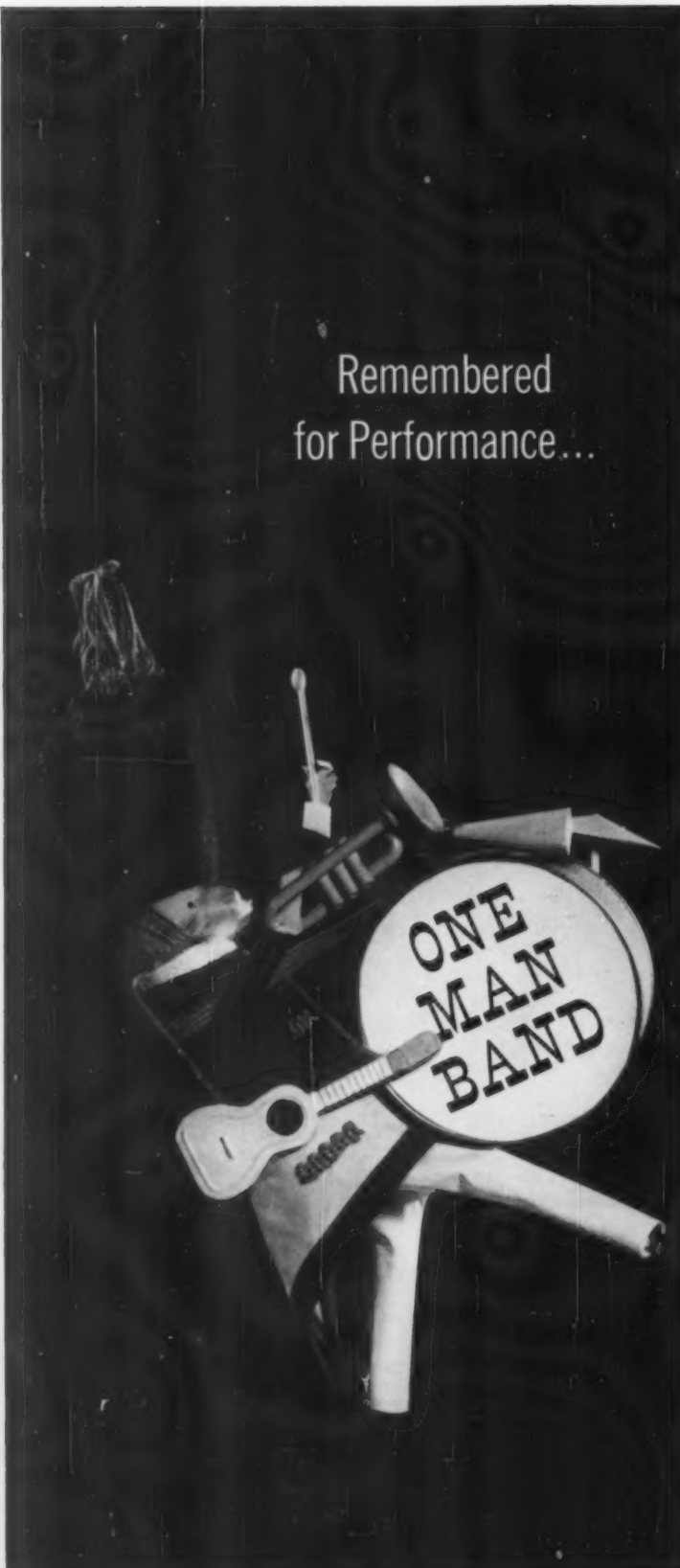


See Sweet's Design File 11/Ri

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for Performance...



CYMEL[®] MELAMINE BEETLE[®] UREA PLASTICS

CYANAMID MOLDING COMPOUNDS

SELF-EXTINGUISHING ■ HIGH ARC RESISTANCE ■ DEPENDABLE ELECTRIC PROPERTIES UNDER ADVERSE CONDITIONS ■ EXCELLENT ABRASION-RESISTANCE ■ CHEMICAL RESISTANCE

CYMEL 3135 - 3136 (glass-filled) Additional distinctive properties: outstanding electrical properties; high impact resistance; extraordinary flame resistance; good dimensional stability. Typical applications: circuit breaker boxes; terminal strips; connectors; coil forms; stand-off insulators. Specifications: Cymel 3135 (MMI-30, MIL-M-14E, Federal L-M-181 Type 8; ASTM D704-55T Type 8); Cymel 3136 (MIL-M-19061, MMI-5).

CYMEL 592 (asbestos-filled) Additional distinctive properties: resistance to atmospheric extremes; high dielectric strength. Typical applications: connector plugs; terminal blocks; a/c, automotive and heavy duty industrial ignition parts. Specifications: MIL-M-14E MME; Federal L-M-181 Type 2; ASTM D704-55T Type 2, SPI SPEC NO. 27025.

CYMEL 1077 (alpha cellulose-filled) Additional distinctive properties: Surface hardness, heat resistance, unlimited color range. Typical applications: appliance housings, shaver housings, business machine keys. Specifications: MIL-M-14E - Type CMG (in approved colors); Federal L-M-181 Type 1; ASTM D704-55T Type 1, SPI SPEC NO. 30026.

CYMEL 1500 (wood flour-filled) - **CYMEL 1502** (alpha cellulose-filled) Additional distinctive properties: Good insert retention. Typical applications: meter blocks, ignition parts, terminal strips. Specifications: Cymel 1500 (MIL-M-14E Type CMG, Federal L-M-181 Type 6, ASTM D704-55T Type 6); Cymel 1502 (MIL-M-14E Type CMG, Federal L-M-181 Type 7; ASTM D704-55T Type 7).

BEETLE[®] UREA (alpha-filled) Additional distinctive properties: Economy of fabrication, economy of material, myriad translucent and opaque colors. Typical applications: wiring devices, home circuit breakers, tube bases, appliance housings. Specifications: Federal L-P-406A, LC 726-1, ASTM D705-55, Grade 1 (Arc resistance limits are in process of revision by ASTM), SPI SPEC NO. 27026.

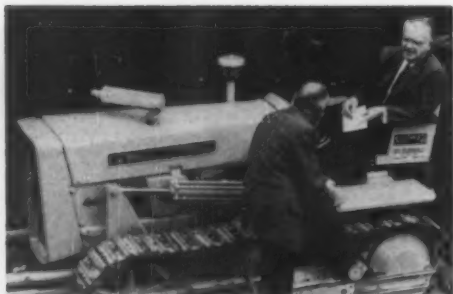
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AMERICAN CYANAMID COMPANY • PLASTICS AND RESINS DIVISION • 30 ROCKEFELLER PLAZA - NEW YORK 20, N. Y. OFFICES IN BOSTON • CHARLOTTE CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT LOS ANGELES • MINNEAPOLIS • NEW YORK • OAKLAND PHILADELPHIA • ST. LOUIS • SEATTLE • IN CANADA CYANAMID OF CANADA LTD., MONTREAL AND TORONTO.

Henry Dreyfuss: man in a hurry





Dreyfuss talks design

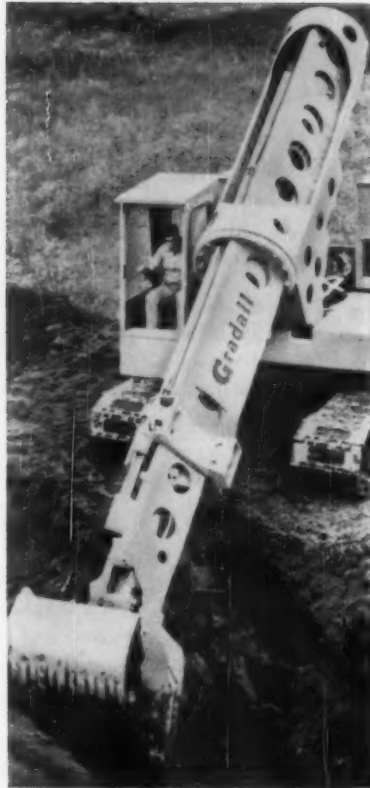
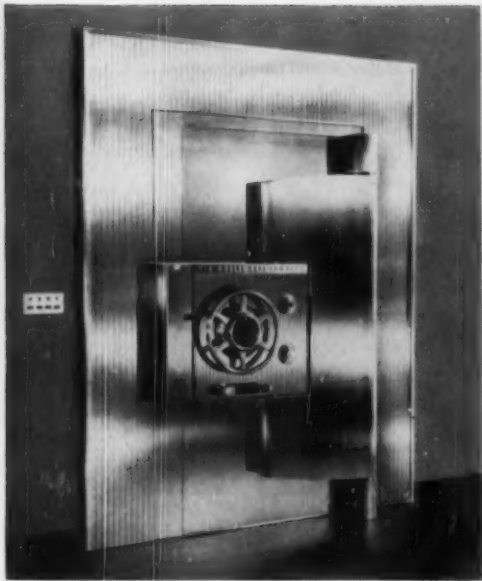
If you could get Henry Dreyfuss to sit still long enough for a caricature, the drawing would inevitably show him with his coat half on and briefcase in hand. Most likely, he would be on his way to the airport. He's on the East Coast a third of his time, on the West Coast a third, and the other third in between.

Henry Dreyfuss has been busy ever since he gave up scenery design in the late Twenties and helped pioneer the business that is now called industrial design. In the early days, he gave a new look to everything from hinges to pianos, cigarette lighters to tractors. Today he can look back on a career of redesigning vacuum cleaners and gas stations, bowling alleys and ship interiors, typewriters and dental equipment, magazine formats and military strategy rooms, plumbing fixtures and the Nike missile launcher.

But Henry Dreyfuss is not one to look back. There are designs on his boards today that will influence our lives twenty years from now. "Time," he says, "is one of the designer's big problems. A design assignment is often three years in development. The item may not be on the market for another three to ten years. After it's introduced it will be in use for any number of years. In order to design that far ahead, our ideas have to be fresh, advanced and sprightly. It is a challenge to have to think as far ahead as we do."

One thing that goes a long way is the Henry Dreyfuss design credo, and it is all about people. "It says in effect," Dreyfuss states, "that the item is going to be ridden in, sat on, looked at, talked into, operated or in some way used by people. If the point of contact between the product and people causes friction, we have failed.

"On the other hand, if people are made safer, more comfortable, more eager to purchase, more efficient, or



just plain happier—we have succeeded.” And succeed Dreyfuss does, by following this yardstick for effective industrial design: 1. Safety and convenience of use. 2. Ease of maintenance. 3. Cost, including tooling, production and distribution. 4. Sales appeal. 5. Appearance.

Selection of the right material for the job plays an important role in satisfying each of the five requirements. As a matter of ethics and sheer common sense, Henry Dreyfuss, like any member of the American Society of Industrial Designers, will not endorse any one material. “We have worked with all materials. What we want is the material that is right for the job. We look for the material that combines reasonable cost with the ability to be fabricated economically, and at the same time will give the product the built-in quality and durability it needs to sell well.” With no-nonsense requirements like that, it is not surprising that a great many Dreyfuss-designed products use steel in one way or another.

Steel has strength, integrity and honesty. Steel is what the designer is apt to call a ‘natural.’ Dreyfuss feels that the public’s image of steel depends largely on the product itself. A massive steel vault door conjures up an image of strength, imperviousness. Stainless Steel tableware suggests style and modernity. Steel curtain wall panels give buildings the look of tomorrow.

The moral is this: steel has been with us for ages, yet it is the modern metal, the metal of the future. Its enduring modernity will continue to be recognized, and used, by designers like Henry Dreyfuss.

(turn the page for a new look at steel)

designing with High Strength Steels

Good design goes beyond material selection. Once the choice has been made, the designer's job is to take full advantage of the material's properties. Few materials offer designers as much opportunity as high strength steels.

COR-TEN Steel was developed by U.S. Steel and first used in 1933.

Dead weight in stationary structures is costly; in mobile equipment dead weight requires more power to move.

USS High Strength Steels' yield points are all 50,000 psi min. compared to 33,000 psi for structural carbon steel.

Send for the manual described at the right for a comprehensive guide on how to design with high strength steels.

MAN-TEN Steel costs only about 20% more than structural carbon steel; TRI-TEN Steel about 36% more, and COR-TEN Steel 42% more.

USS COR-TEN Steel is a name that has become a byword in design circles. It is a time-tested, high strength low-alloy steel. Structural designers welcomed COR-TEN Steel because it allowed them to pare dead weight and to lower maintenance costs. As structures, mobile equipment and machinery got bigger and bigger, dead weight became more of a problem. Even when weight could be shaved without stress problems, durability suffered. This high strength steel answered both problems.

Strength did it. COR-TEN brand and other USS High Strength Steels have a 50% higher yield point than structural carbon steel. They permit as much as 33% weight reduction. They have superior resistance to atmospheric corrosion and abrasion, so there is little reason to over-design. Their fatigue and impact properties are excellent. Here is a quick look at three well-known USS High Strength Steels:

USS COR-TEN Steel has a yield point 50% greater than structural carbon steel, has four to six times its resistance to atmospheric corrosion. It is used to do any one of these three things: 1) in slimmer sections to cut weight at no strength loss; 2) in equal sections to increase load-carrying capacity, cut maintenance and lengthen life; and 3) any number of combinations of 1 and 2. COR-TEN Steel also has greatly superior paint adherence and is used where a longer interval between repainting is wanted.

USS TRI-TEN Steel, with its 50% higher yield point than structural carbon steel, has superior notch toughness at low temperatures and keeps rugged equipment operating even in sub-zero weather. Its high endurance limit makes TRI-TEN Steel ideal for mobile equipment that must take repeated loading and reversals of stress. It is a natural for welded structures and bridges.

USS MAN-TEN Steel also has a 50% higher yield point than structural carbon steel, and is the low-cost member of the family. Weight reduction as little as 17% with MAN-TEN Steel will save money on material cost alone. MAN-TEN Steel is a tough, durable steel and widely used in earthmoving equipment, truck frames, material handling apparatus and riveted bridges.

High strength steels represent but a few of the over 3000 grades of steel in existence today. United States Steel makes a complete line of high strength steels, as well as constructional alloy, stainless and carbon steels. Bring your design problems to us. United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

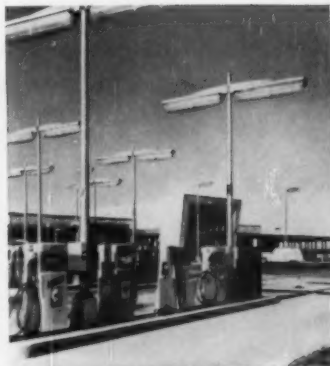
USS, COR-TEN, MAN-TEN and TRI-TEN are registered trademarks.

Watch United States Steel's special Christmas show, *The Coming of Christ*, in Color on NBC-TV, Wednesday, December 21, 8:30 P.M., E.S.T.

 **United States Steel**



Cranes have to operate in all-weather temperatures and are subject to stress and shock. That's why many of them are made of tough TRI-TEN Steel.



Light standards stay good looking for years because of COR-TEN Steel's outstanding atmospheric corrosion resistance. Paint life is extended. Slim design is made possible by COR-TEN Steel's strength.



TRI-TEN Steel has cut weight and cost of dozens of major bridges. In the bridge shown here, TRI-TEN Steel saved a quarter of a million dollars.



One of the first applications of COR-TEN Steel was in hopper cars for weight reduction and longer life. Today, use of COR-TEN Steel can save hundreds of dollars over the life of a car.



MAN-TEN Steel, used in truck frames and body members, reduces dead weight and increases payload.



The LPG cylinder business uses considerable amounts of MAN-TEN Steel because of its strength, cost and ease of fabrication to lighten the weight.



This mark tells you a product is made of modern, dependable Steel.

Here's a book that is in the hands of thousands of engineers and designers. It is your guide to the design of lighter, stronger equipment and structures.

design manual for high strength steels

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 - Corrosion Resistance
 - Formability
 - Amenability to Welding
 - Applications
 - Economics of Application of High Strength Steels
 - USS High Strength Steels

Design Considerations for High Strength Steels

Working Unit Stresses

Tension

Compression

- Axially Loaded Columns
- Eccentrically Loaded Columns
- Flat Plates in Edge Compression
- Interaction of Flat Plate Elements
- Effective Width of Flat Plates
- Stiffened Flat Plates

Shear

- Rivets
- Flat Plates in Shear

Stresses in Beams

- Local Buckling of Compression Flanges
- Lateral Buckling of Beams
- Web Buckling
 - Web Buckling Due to Compression
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Deformation and Deflection

- Beam Formulas

Formed Sections

Designing Against Corrosion

Appendix

- Beam Formulas
- Characteristics of USS High Strength Steels
- Bibliography

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Room 6147
525 William Penn Place
Pittsburgh 30, Pa.

Please send me "Design Manual for High Strength Steels"

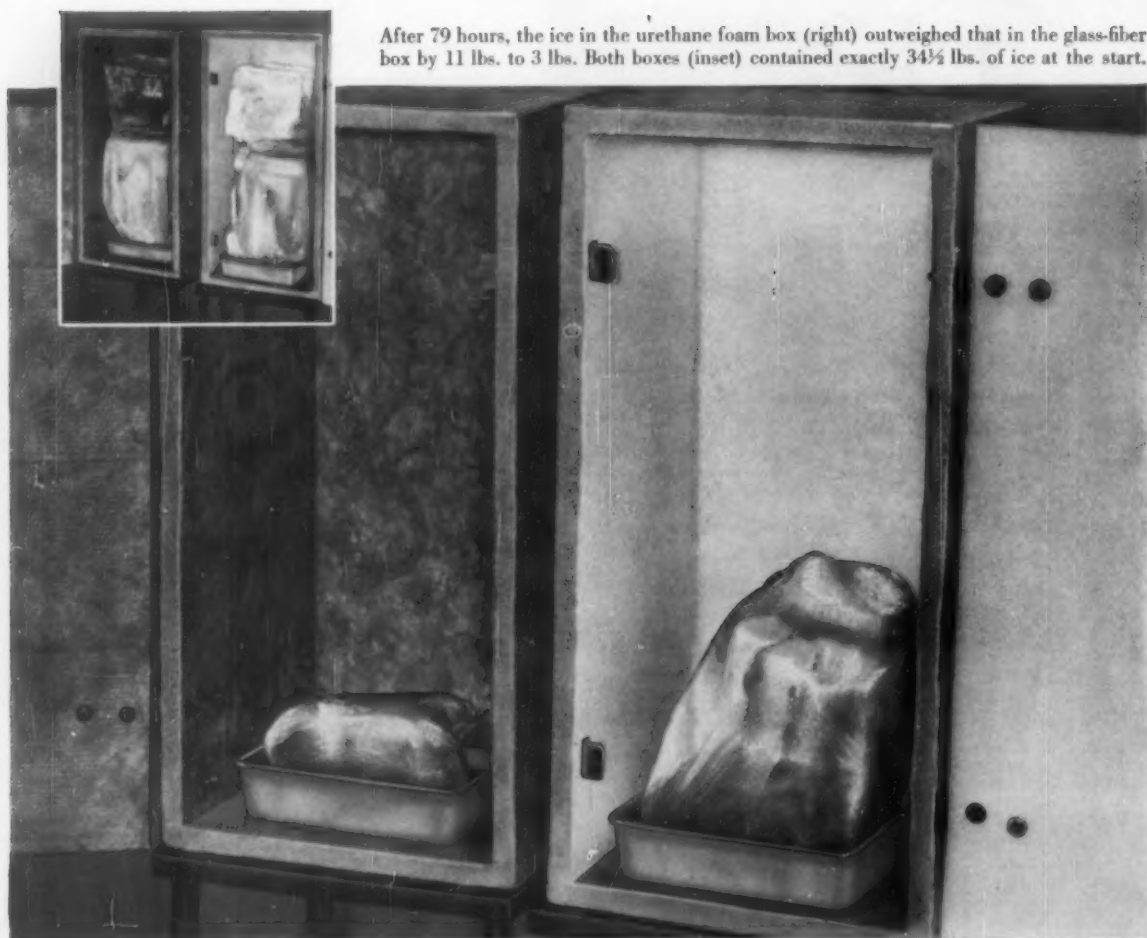
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Title _____

Company _____

Address _____

City _____ Zone _____ State _____



After 79 hours, the ice in the urethane foam box (right) outweighed that in the glass-fiber box by 11 lbs. to 3 lbs. Both boxes (inset) contained exactly 34½ lbs. of ice at the start.

The difference is superior insulation . . . from new, rigid urethanes foamed with FREON®

These two cakes of ice started out equal in size. The only difference?—improved urethane foam insulation in the box on the right, glass-fiber insulation in the other. Rigid urethane foams blown with "Freon"® blowing agents now have a K-factor of just 0.14—provide twice the insulation at the same thickness as other materials.

Urethane foamed with "Freon" will also match other insulating materials in efficiency with just half the volume . . . permitting more compact designs, greater interior space with the same outer dimensions.

Structural strength of urethane foams blown with "Freon" lets you combine insulation and lightweight, structural support in one material. High adhesive strength makes these foams ideal for bonding . . . and offers a built-in water-vapor barrier.

Greater design freedom. Foamed in place, these new foams will fill voids of almost any shape and size . . . can

simplify production techniques. Foaming with "Freon" also permits closer control of density.

Other features. Exceptional buoyancy and water resistance, freedom from rot, vibration dampening, resistance to aging and chemical action.

For more information, write to: E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division, N-2420, Wilmington 98, Delaware.

*Du Pont's registered trademark for its fluorocarbon blowing agents.

FREON®
BLOWING AGENTS



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Some grace under some pressure

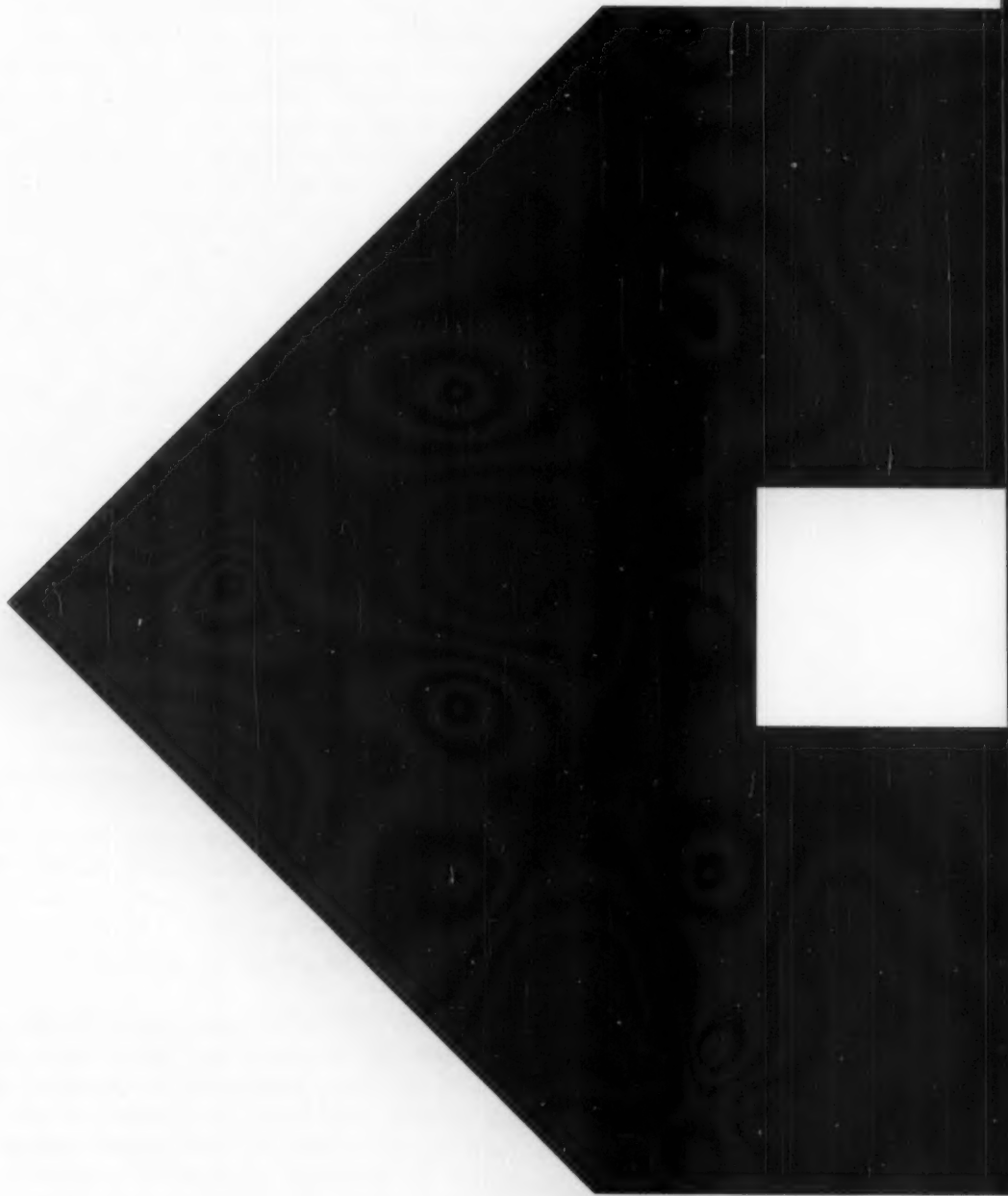
Once upon a time political experts were asked, on election day, "Do you spot a trend?" Invariably they did, or said they did; and if they turned out to be wrong, they were always able to spot a counter-trend in time to save face.

Political trend-spotting has now been taken over by machines like Univac, but other kinds are still being crudely done by people like us in issues like this. We don't mind, as long as we reserve the pollster's right to spot a counter-trend. On the basis of the 310 products in this 7th Annual Design Review (and on the basis of the many hundreds of products we reviewed but are not showing), we can state confidently that American taste is both rising and falling, and American design is running both ways to meet it. There are some wonderful things in the next 86 pages, but why shouldn't there be?—we tried to review the entire designed output of the nation's industry in 1960. ADR is the GNP seen in the light of some admittedly fallible design criteria.

Electronic brains are not only spotting trends but making them. Last year we reported that electronics equipment, along with industrial goods in general, had taken over design leadership by persistent attention to essentialness. This year it has bravely held its lead in the same way. Hemingway once defined courage as "grace under pressure." But courage in designing for industry consists not just in responding to pressure but in choosing which pressures to respond to. Electric can openers and spectrophotometers are both designed under pressure, and the pressure may be equally intense for both. But in one case the pressure is to get to the market with something the sales force can crow about; in the other, the pressure is to get something right because it has to be right: the knobs and meters must "read," the appearance must support, rather than belie, reality. Apparently when there is enough pressure towards rightness, there needn't be any towards design as such—its need becomes obvious, as in the case of the machine tools (page 88) so large and unprecedentedly complex that their composition requires a kind of architecture. The complexity of modern precision instruments, and the difficulty of understanding what they do and how they work, makes clean design necessary; the circumstances under which they are sold makes clean design possible. The man who operates the missile guidance computer on page 74—unlike the man who operates an American automobile or the woman who operates an American kitchen "control center"—doesn't need to feel that he is right out of science fiction; he *is* right out of science fiction.

In 1954 the editors of the first Annual Design Review wrote: "The total absence of automobiles is neither accidental nor happy." Most ADR's since then have been characterized by the same non-accidental, non-happy absence of Detroit's state flower. That the 1960 ADR is carless is noteworthy only because it points up the fact that the compact cars have not changed the character of our automobile design.

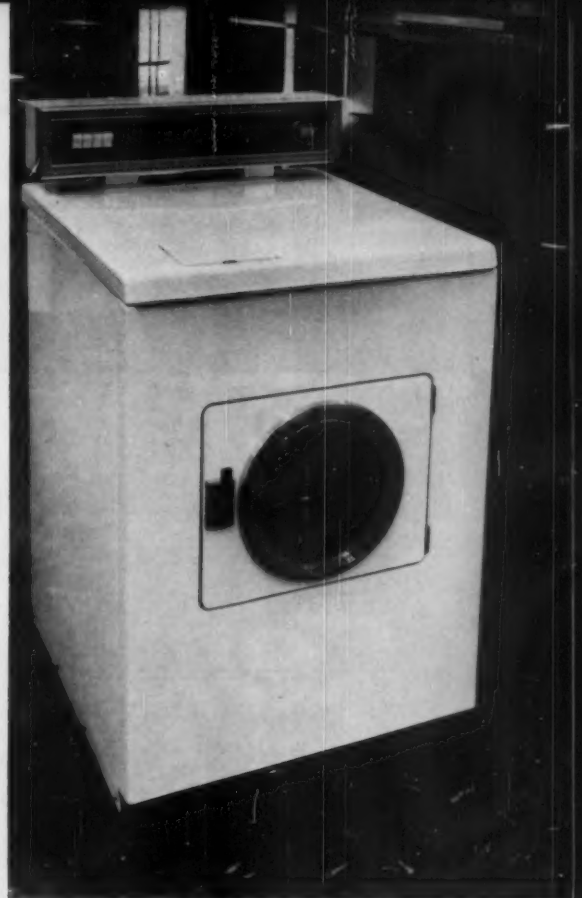
A word about the issue itself. Many of the captions offer not only basic information, but criticism—some of it unfavorable. This is not because we do not like the products, but because we wish they were even better. It may seem like ingratitude to carp at the well designed things we were able to find, but we are not ungrateful. Rather we feel that these are the products *worth* criticizing, and that it is more useful to discuss the small failures in good work than to add to the voluminous literature on tailfins, chrome, and total gaudiness. We hope that by commenting on what we like (and on what we don't like about what we like), we can describe the pressures *we* choose to respond to.—*The Editors*



CONSUMER: The most noticeable thing in the best of this year's consumer products is lack of noticeability. Almost nothing is daring or startling, but a great many things are remarkable for their unobtrusiveness. Of course reticence may not be the most desirable design objective, but in the absence of greatness there is something to be said for the object that does not intrude. Most of the appliances shown were chosen for their general neatness; few would stand out in a store as exceptional, and several of them are not the top of the line. In general the cheaper models have less trim and fewer trademarks, and the latter is certainly something to consider in the total look of a kitchen. The most interesting appliances to us were the Waste King ovens and ranges, which have some new practical features and seem to have been designed as much more of an integrated line than most. Kitchen housewares are a disappointment; most of the good ones are imports. Quite a few top-line U.S.-made pots and pans are designed to lead a double life on the dining room table, and nine times out of ten they get too fancy. In one case, West Bend, we thought they did not. There are fewer furniture entries this year than last year, and most of these few are restrained and respectable, rather than striking. The largest group of interesting consumer designs was in hi-fi—perhaps because it appeals to a limited audience of relatively informed people and so avoids the onus of mass taste.



1. Refrigerator, Hotpoint division of G. E.



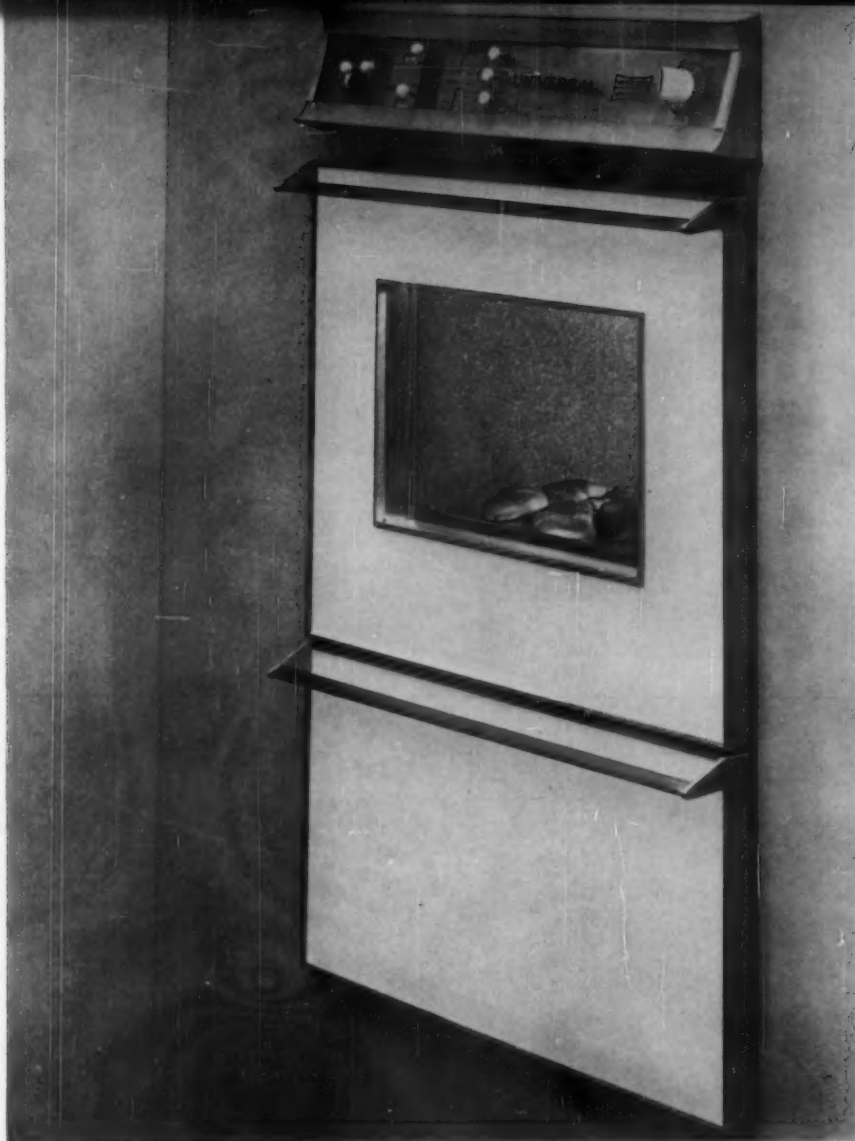
3. Washer-dryer, Speed Queen division of McGraw-Edison Co.

2. Oven, Hotpoint division of G. E.



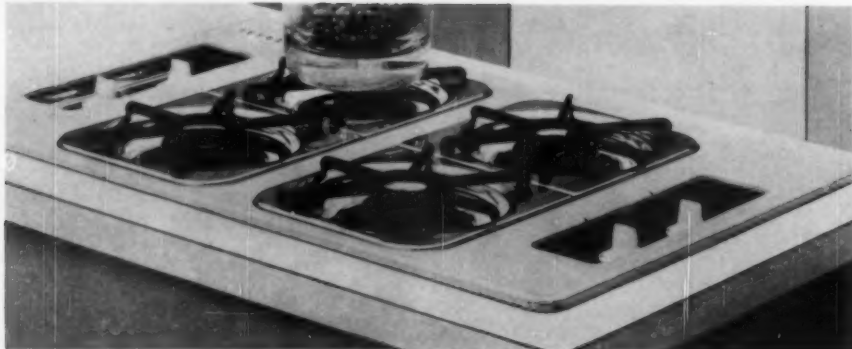
4. Oven, Waste King Corp.





5. Oven, Waste King Corp.

6. Range units, Waste King Corp.



Appliances

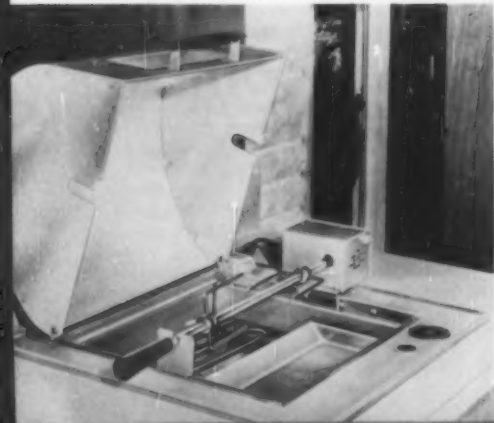
- Hotpoint refrigerator remains free of decorations to mar the well-balanced layouts of doors, hardware, and graphics. Steel, plastic, and aluminum stamped and formed. White, yellow, turquoise, pink, or brown.
Designer: Robert R. Fink, staff; Raymond C. Sandin, staff manager.
- Hotpoint built-in oven's shadow-box control panel is happily not as complexified as it might have been, but the clock, in common with most built-in clocks (e.g., automobile dashboards, radio-alarms, other appliances), is not brought off.
Designer: Staff design, Raymond C. Sandin, manager.
- Speed Queen washer-dryer is characterized by simplicity of controls, legible yet unobtrusive lettering, unusual informality in a costly object. Frame around panel is superfluous, but not offensive.
Designer: George Conlee, staff product engineering manager.
- Waste King Universal drop-in electric oven and range fits a two-foot-square area, has removable panels to allow for mounting in center or at either end of counter. One chronic ailment of range design is that burners are not clearly related to their controls. Here, all on the surface and in like patterns, they are. But one wonders if they aren't in the way.
Designer: Henry Dreyfuss.
- Waste King Universal electronic wall oven is notable for its simple frame, which incorporates handles, and simplicity of panel design; but use of glass set off from panel face requires absurdly long control knob extensions.
Designer: Henry Dreyfuss.
- Waste King Universal gas burner surface unit (top) features recessed top controls, chrome-finished burner bowls, a thermostatically-controlled burner. Electric counter top surface unit (bottom), like the drop-in range on the opposite page, features top-surface controls that are easy to use, but which may get in the way.
Designer: Henry Dreyfuss.



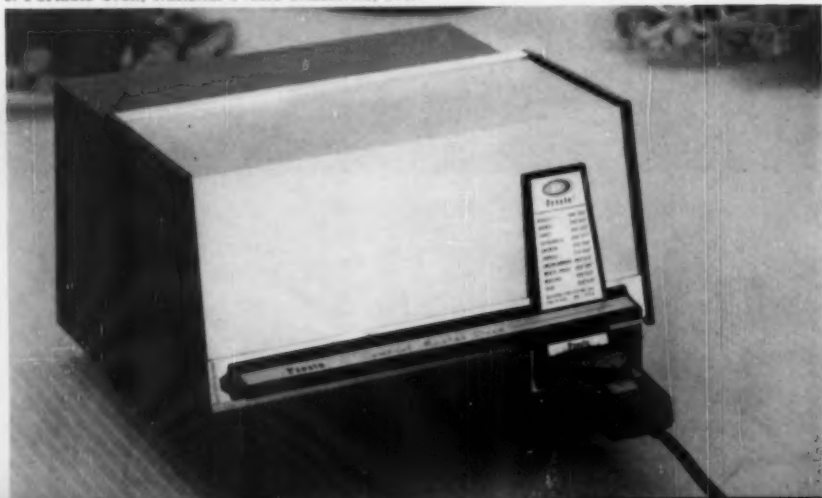
1. Food waste disposer, Harvill Corp.



3/4. Rotisserie-broiler and portable grill, General Electric



2. Built-in barbeque, NuTone, Inc.



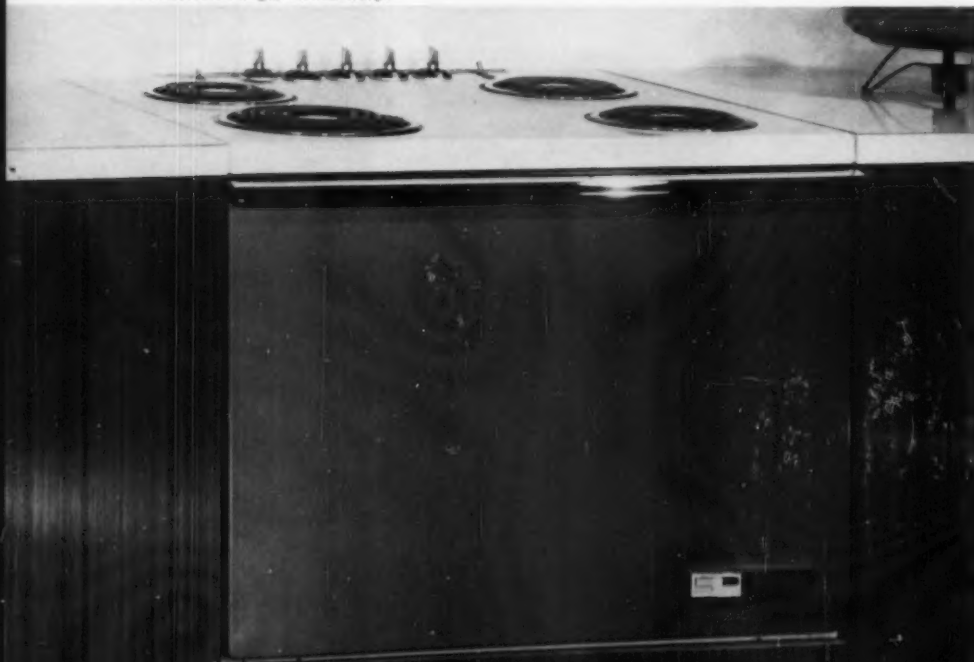
5. Portable oven, National Presto Industries, Inc.

Appliances



6/7. Gas surface range and electric surface range, Chambers Corp.

8. Electric range, Philco Corp.



1. Harvill food waste disposer is extremely low-cost, which accounts for its straightforward appearance (smoother lines would have raised the cost). Grind chamber is a single casting, eliminating center gasket; mounting bracket is designed to simplify installation for do-it-yourselfers. Neat, and no decorations but words.
Designer: Henry Keck Associates.
2. NuTone indoor barbecue drops into cabinet, operates electrically, and is fitted with an anodized aluminum cover to speed up cooking time. Interesting idea, but execution looks low-cost for what is ostensibly a luxury item.
Designer: NuTone staff.
3. GE rotisserie-broiler is inexpensive and makes no pretense of being otherwise. Chrome steel with removable glass half-door, drip-pan, and spit. Feature is an outlet for timer. Control knob has an unfortunate purplish cast.
Designers: Paul Rawson and Max Hauenstein, GE staff; O. E. Haggstrom, project head.
4. GE portable grill is another money-saver reduced to essentials: aluminum pan with heating element, grill, steel windshield-chimney with brick red enamel finish.
Designers: Paul Rawson and Max Hauenstein, GE staff; O. E. Haggstrom, project head.
5. Presto portable oven uses electric heating control common to other cooking units in line. Well-proportioned, beautifully detailed — so meticulously simple that it seems almost unobtrusive. Steel with aluminum door, Bakelite end-caps and handle.
Designer: Mel Boldt Associates.
- 6/7. Chambers surface ranges have handsomely solid cooking surfaces, handles, and knobs, but fluted and colored extruded front panels spoil the effect of substance. Broiler is under griddle in center top; materials are steel and aluminum.
Designer: Wayne Hendrix, project head.
8. Philco electric range for custom installations uses same basic tooling as lower-cost models in line. Its unusual simplicity derives partly from full-length handle, partly from absence of back-splash-mounted controls—but surface-mounted controls make it difficult to avoid scorched hands.
Designers: Harper Landell & Associates with Philco Range Engineering Dept. under Earl Harris.



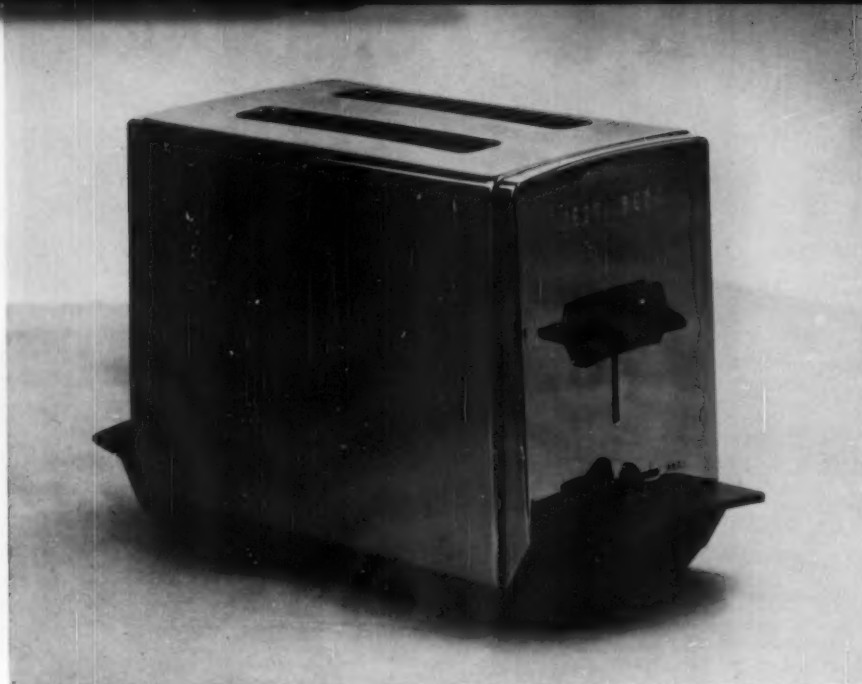
4. Portable mixer,
Hamilton Beach Co.



1/2. Queens Ware pot and saucepan, Vollrath Co.

3. Designers' Group saucepan, Revere Copper & Brass, Inc.





5. Toaster, West Bend Aluminum Co.

6. Immersible percolator, Westinghouse Electric Corp.



7. Designers' Group percolator, Revere Copper & Brass Co.



CONSUMER

Housewares

1/2. Vollrath "Queens Ware" pot and saucepan do not try to be anything but sensible, stainless steel, plastic-handled translations of the pots of classic French cookery. Lids fit against lip nicely; knobs are substantial and unrepulsive and apparently planned to keep fingers away from hot top. Saucepan handle is a latterday Lambhandle®, and better than most derivatives. Designer: Vollrath staff.

3. Revere 4-quart saucepan from Designers' Group, also a modern rendering of classic cookware, is more ambitious than Vollrath and in these terms, less successful. Sides taper inward very slightly near top (why?), lid extends beyond lip in a flare (why?), fancy knob has a recessed gold top, and finger guard has become a separate plaque. Heavy, slightly-tapered handle looks pleasant to hold but is relatively shapeless. It is interesting that manufacturer of a "modern classic," Revere, has seen fit to introduce this expensive "classic classic" line. Designer: W. A. Weldon

4. Hamilton Beach Mixette, tapered but not streamlined, looks good in the round as a portable should, but few do. Charcoal and white urea. Designer: Robert Le Sueur, Dave Chapman, Inc.

5. West Bend toaster has a neat consistency in way wrap-around body is joined to end panels and entire body is joined to plastic cradle. Gilded wheat is less obnoxious than stylized stars and scrolls. Designer: Painter, Teague & Petertil.

6. Westinghouse percolator is rare example of "annual improvement" that did no harm. Spoutless pouring is made more realistic (if less decorative) by addition of channel in rim. Handle is simpler, trademark is handsomer, less prominent. Designer: F. W. Perl, project head.

7. Revere Designers' Group percolator is an elegant drum of stainless steel surmounted by a black plaque for a lid and a solid chunk of glass for a knob. Designer: W. A. Weldon

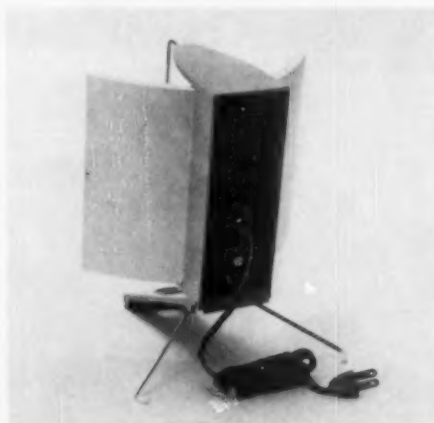


1. Electric can opener,
Burgess Vibrocrafters, Inc.

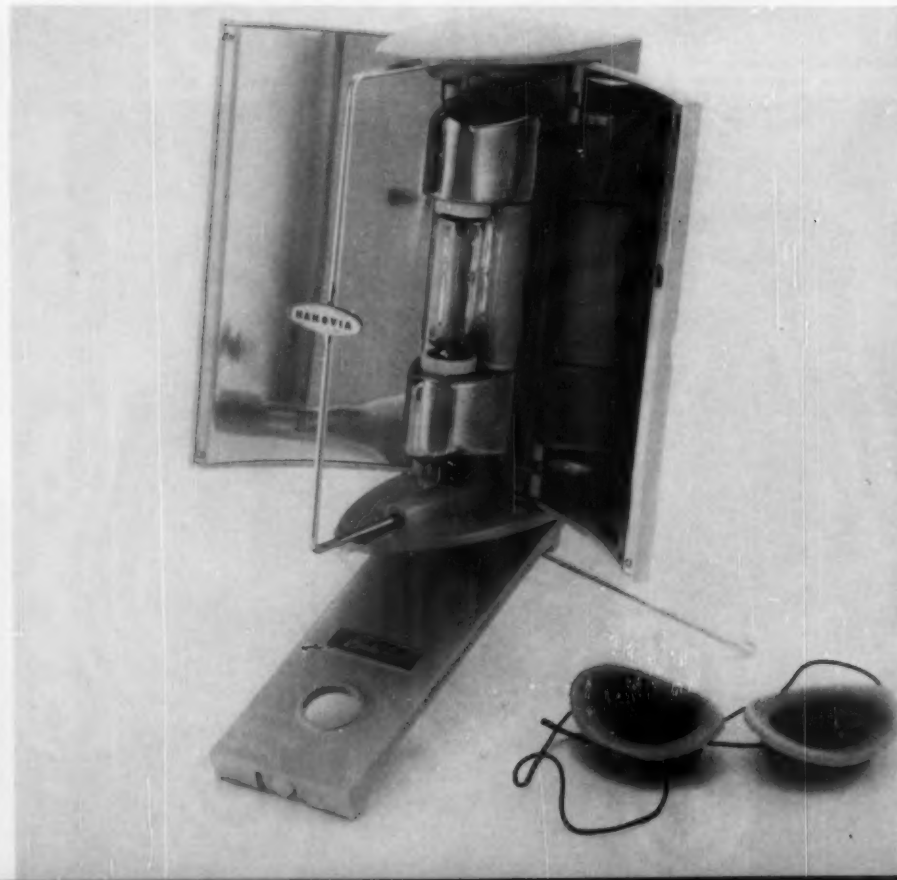


2. Slicing machine, *General Slicing Machine Co.*

4. Hanovia sun-lamp, *Engelhard Industries, Inc.*



3. "Filterjet" fan, *Chemex Corp.*



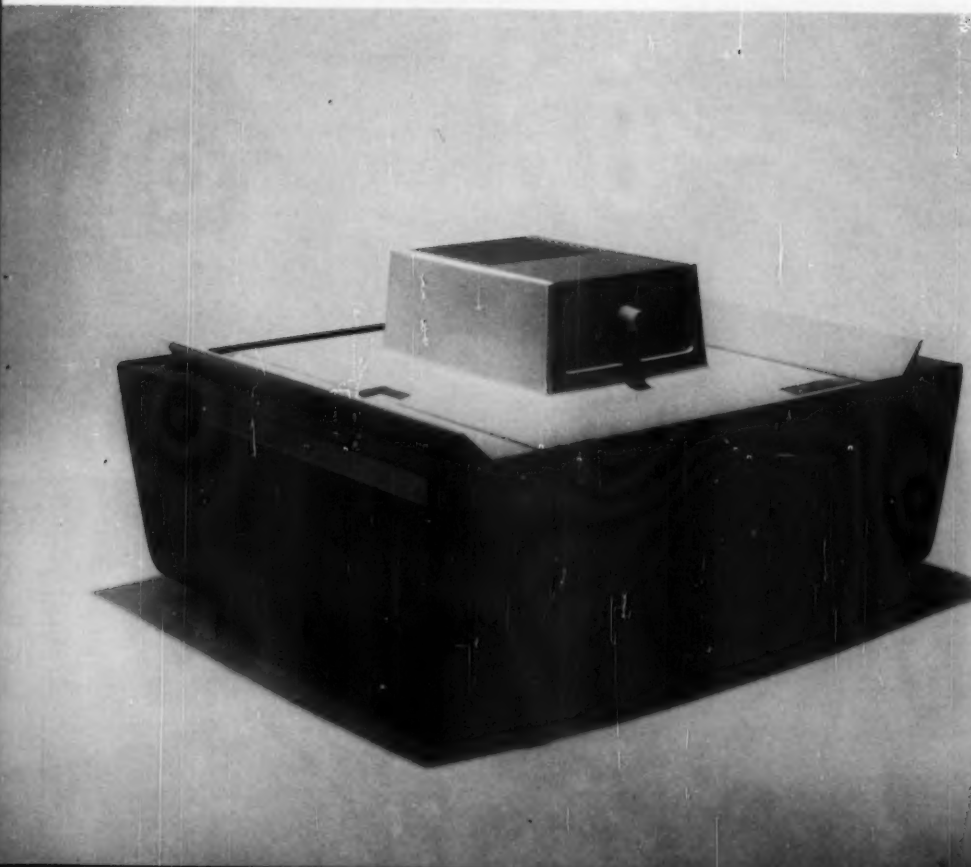


5. Electric slicer-shredder-salad maker, Proctor-Silex Corp.



6. Multi-purpose electric floor cleaner, Bissell, Inc.

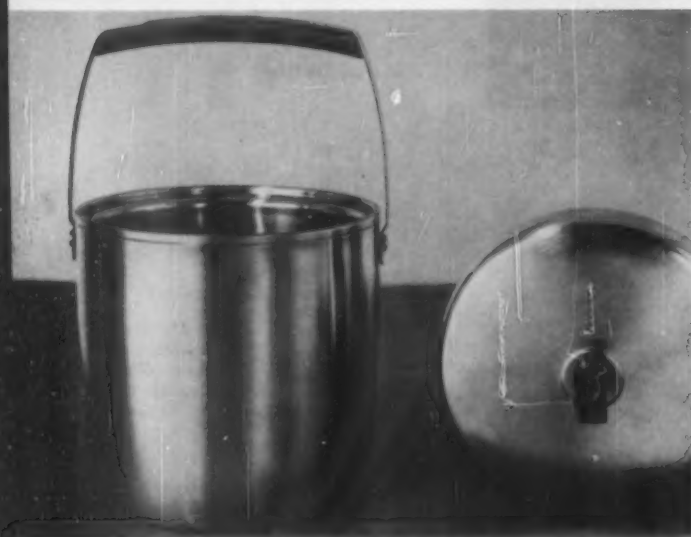
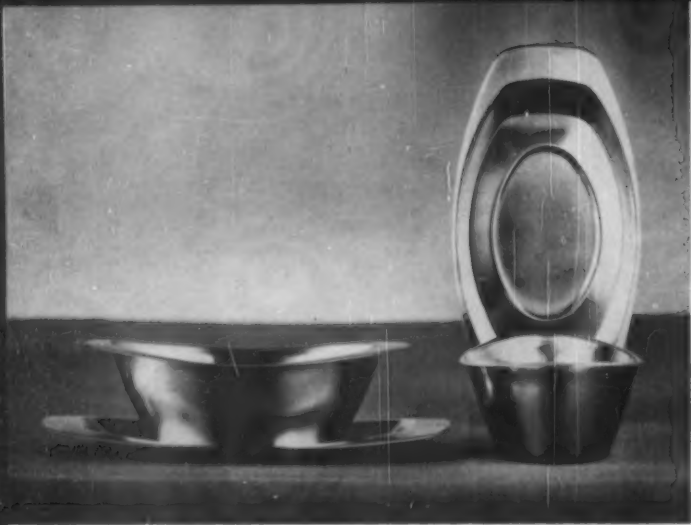
7. Electric humidifier, Burgess Vibrocrafters, Inc.



CONSUMER

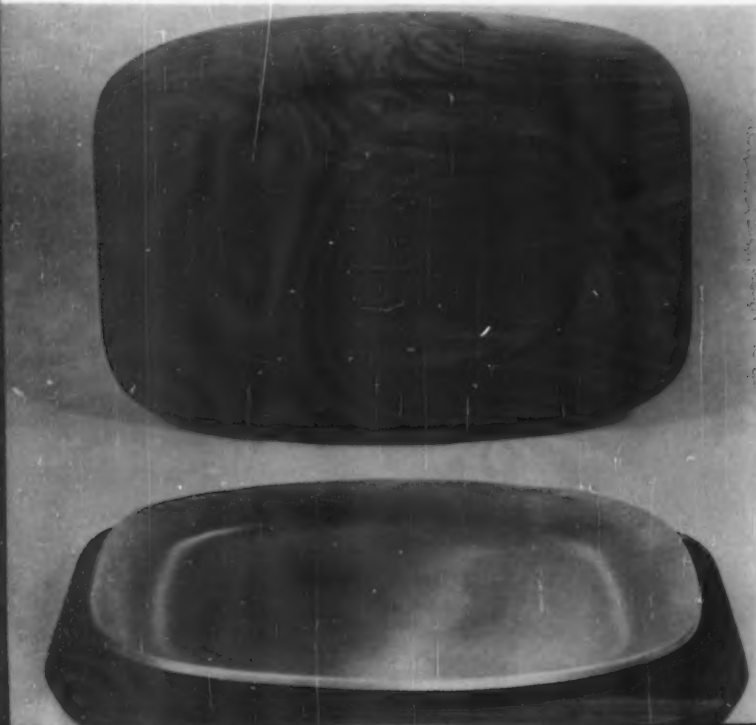
Housewares

1. Burgess Vibrocrafters' new built-in electric can opener, designed for new or remodeled kitchens, has same features as the counter-top model. Plastic door latches magnetically.
Designer: Dave Chapman, Inc.
2. General Slicing Machine Co. consistently produces interesting yet unforced shapes. This slicer model, chrome-plated zinc, folds up for storage in a drawer or its own container.
Designer: Harry Preble.
3. Chemex filterjet fan filters air as it circulates it. Air in spaces between five spinning "impeller discs" is thrown out centrifugally. Vacuum thus created is filled by new air entering through (and filtered by) outer discs. Motor struts and handle form tripod base.
Inventor: Dr. Peter Schlumbohm.
4. Hanovia sun-lamp's front lamp-guard also actuates the door-reflectors; attached brand name device latches doors when closed. Die-cast aluminum case; Armahide vinyl finish; Alzac reflectors.
Designer: Raymond Loewy Assoc.
5. Proctor-Silex electric slicer-shredder-salad maker has as many skirts as functions; but it is neat, avoids the confusion that several repeating motifs usually cause. Steel and plastic.
Designer: Don Booty.
6. Bissell's standards have been pretty high in recent years. Using a number of designers, the firm seems to have aimed at real as well as visual simplification. This multi-purpose floor cleaner is a good recent example.
Designer: Peter Muller-Munk Associates; Bissell R & D staff.
7. Burgess Vibrocrafters' portable electric humidifier's polypropylene shell has adjustable directional fins, a design motif oddly repeated by superstructure wrap-arounds.
Designer: Dave Chapman, Inc.

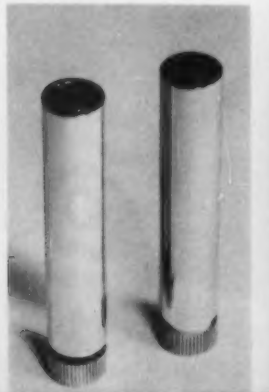


1/2. Stainless steel gravy boat and tray, ice bucket, West Bend Aluminum Co.

4. Cook and serve platter, A. C. Fabricators, Inc.



5. Salt and pepper set, Simon Watzman



6. Patio hot-tray, Salton Manufacturing Co., Inc.





1/3. Stainless steel pitcher, West Bend Aluminum Co.

Tablewares

1-3. West Bend stainless steel hollow-ware (gravy boat and tray, ice bucket, pitcher) is made by deep-drawing operations. Pitcher and ice bucket use phenol resin impregnated wood laminate handles. Note interesting jointure of the handles to the metal.
Designer: West Bend staff; Painter, Teague & Petertil, consultants.

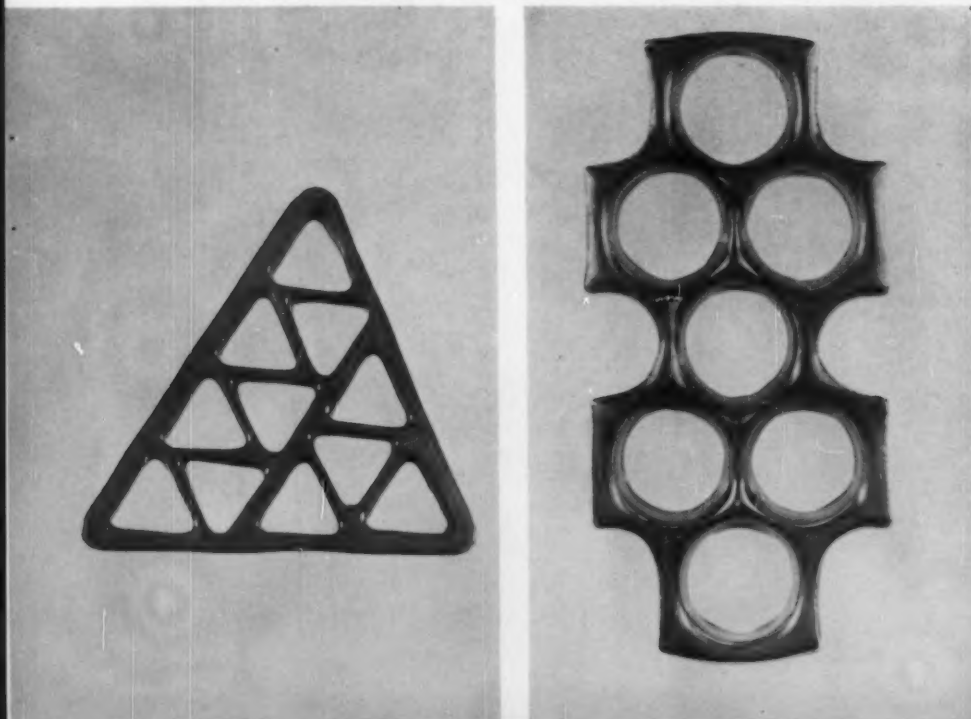
4. A. C. Fabricators cook-and-serve platter is notable for the play of rounded square shapes. Brushed aluminum, rubbed walnut.
Designer: John E. Gavin.

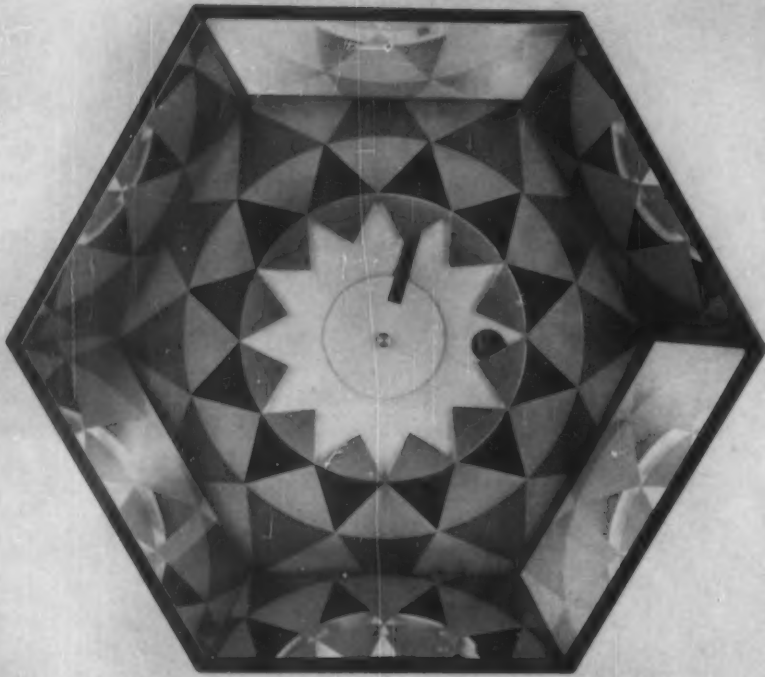
5. Prototype salt and pepper shakers, soon to be produced, pour through a ring opening at the top, instead of holes. Machined stainless steel shafts are relieved by milled bases, which are used to remove the plastic plug denoting salt (white) and pepper (black).
Designer: Simon Waitzman.

6. Salton patio hot-tray is covered with removable plastic dome hinged to base. Dome's walnut handles match handles of tray. Adjustable temperature control.
Designer: Peter Quay Yang.

7. Bennington Potters-Cooperative Design's pressed vitreous stoneware trivets are glazed in turquoise, charcoal, white, and brown. Rubber feet.
Designer: David Gil.

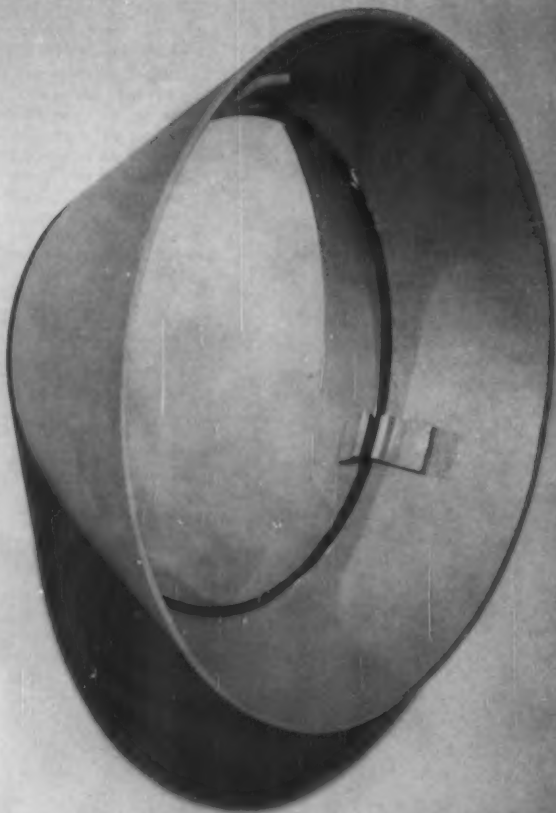
7. Trivets, Bennington Potters-Cooperative Design





1. Clock, Howard Miller Clock Co.

2. Mirror, Chemex Corp.

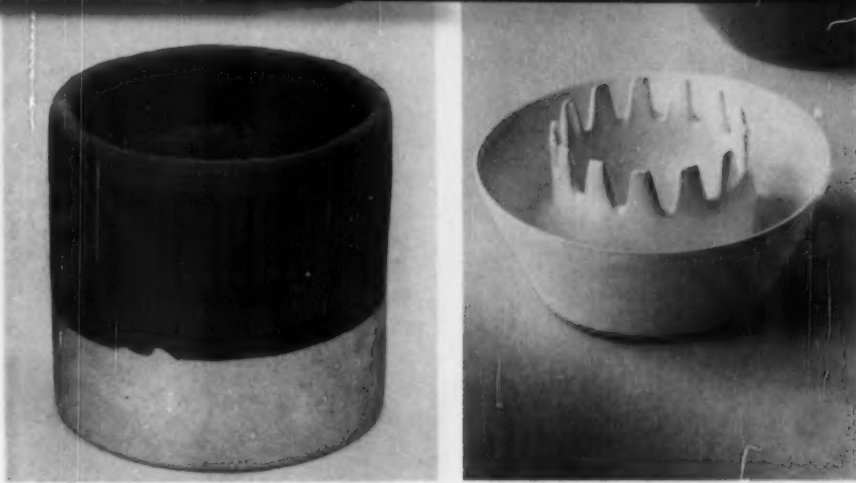


3. Book-ends, Structural Products, Inc.

4. Cake tray and candlesticks, Sam Mann Contemporary Crafts.



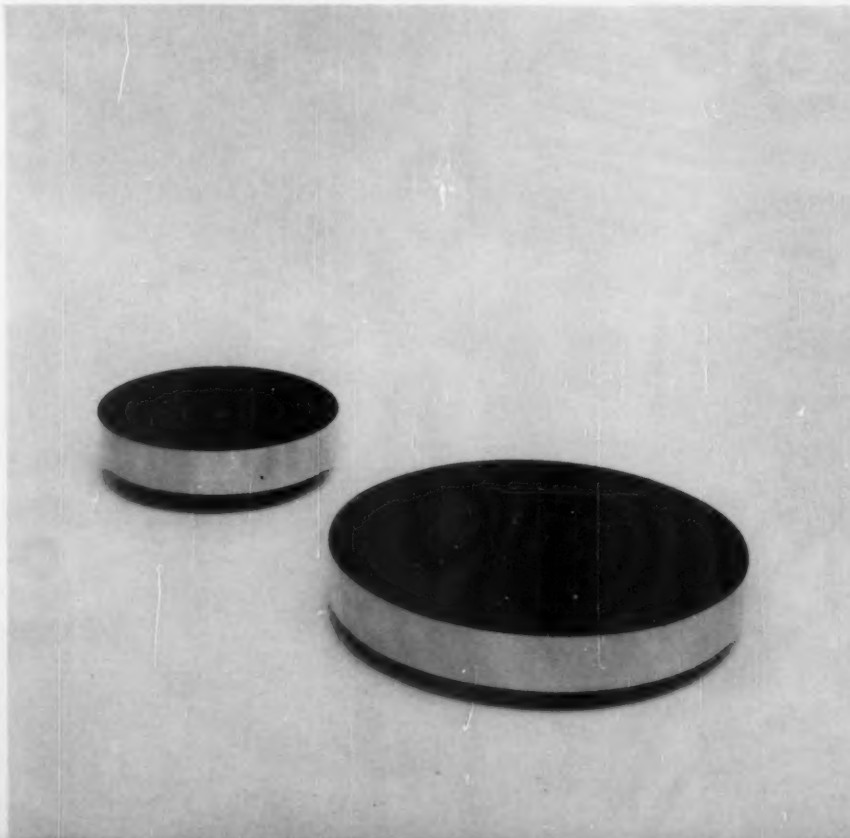
Decorative accessories



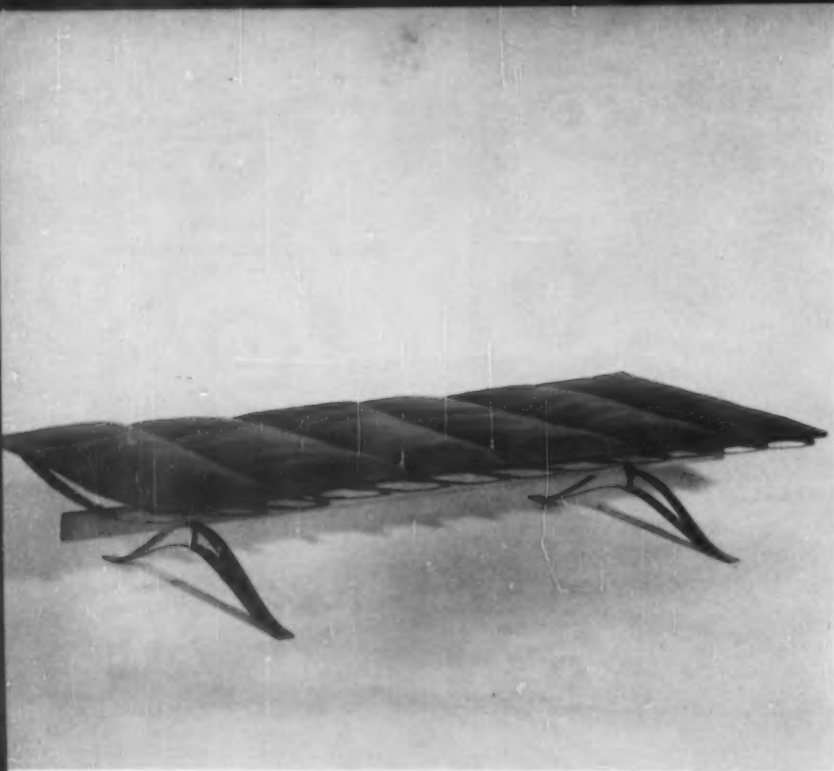
5. Stoneware planters, Marshall Studios, Inc.

6. Safety ashtrays, Bennington Potters.

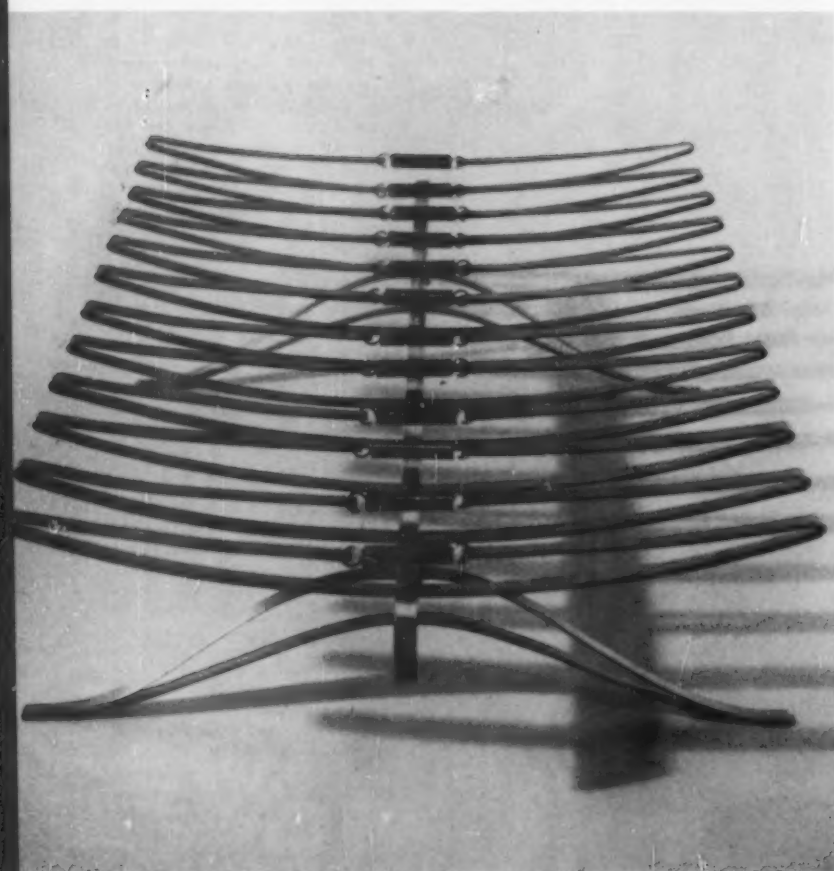
7. Ashtrays, Levco Metal Finishers, Inc.



1. Howard Miller "Kaleidoscope" clock is a hexagonal shadowbox with mirrored facets, in which the face of the clock, revolving in tempo with minutes, creates constantly changing color patterns. One objection to the design is that it impedes, rather than facilitates, finding out what time it is. But it is not a clock to catch trains by.
Designer: George Nelson & Co.
2. Chemex "Shadowbox" mirror is versatile: as a wall mirror it hangs on a single hidden nail, as a desk mirror it rests on its side wall, and as a hand mirror it is easily gripped by the Royalite pastel blue rim. It is designed on the principle that the light that illuminates the face should not illuminate the glass.
Designer: Dr. Peter Schlumbohm.
3. Structural Products' "Shelvie" is a lightweight (one ounce) book-end whose flexibility is adapted to the modularity of contemporary shelf installations. Using the ingeniously simple device of a coil spring, the drawn aluminum tube will stand rigidly in place between shelves set anywhere from 9½ to 14 inches apart.
Designer: George Nelson & Co.
4. Sam Mann cake tray (top) is of Brazilian rosewood and cherry; companion server is a stainless steel blade set in a rosewood handle. The candlesticks (bottom) are designed to hold one-half inch tapers, are turned from Brazilian rosewood with black lacquered steel stems.
Designer: Samuel J. Mann.
5. Marshall Studios' incised stoneware planters are hand molded from slabs of clay. Matte colors (grey, turquoise) with black decoration and the natural clay showing at the bottom.
Designers: Jane and Gordon Martz.
6. Bennington Potters - Cooperative Design's group of apparently fool-proof safety ashtrays are designed so that the ashes fall into the center receptacle, and if you leave the cigarette burning, the ashtray will put it out for you. But it is not as good looking as it is practical. Pressed in vitreous stoneware glazed in turquoise, charcoal, white, and "oatmeal."
Designer: David Gil.
7. Levco Metal Finishers' "Circletron" ashtrays are aluminum castings with satin finish exterior and matte charcoal-grey interior. Concentric grooves slope down to center-post "stubber."
Designer: Robert J. Gargiule.



2. Walnut chest, Knoll Associates

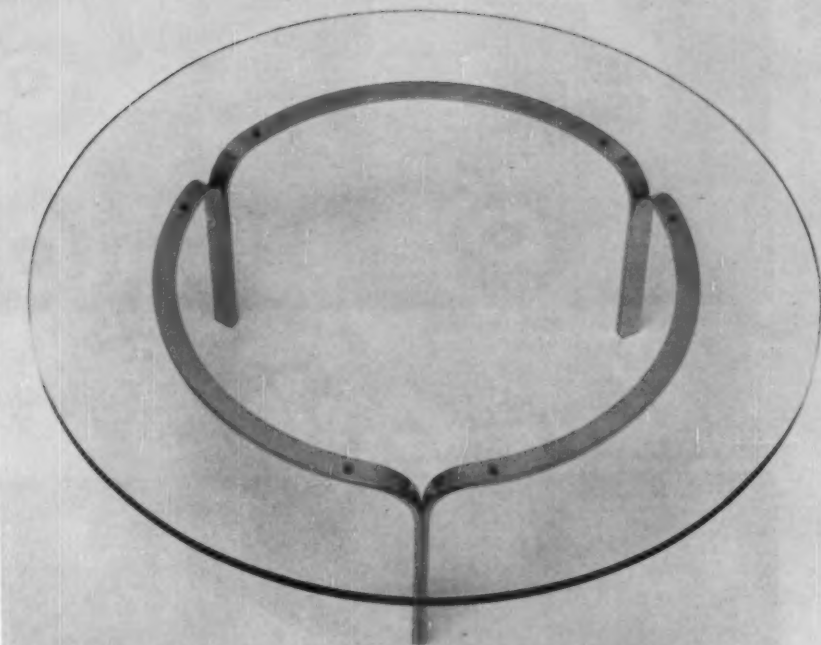


1. Steel spring bench, prize-winning design

CONSUMER

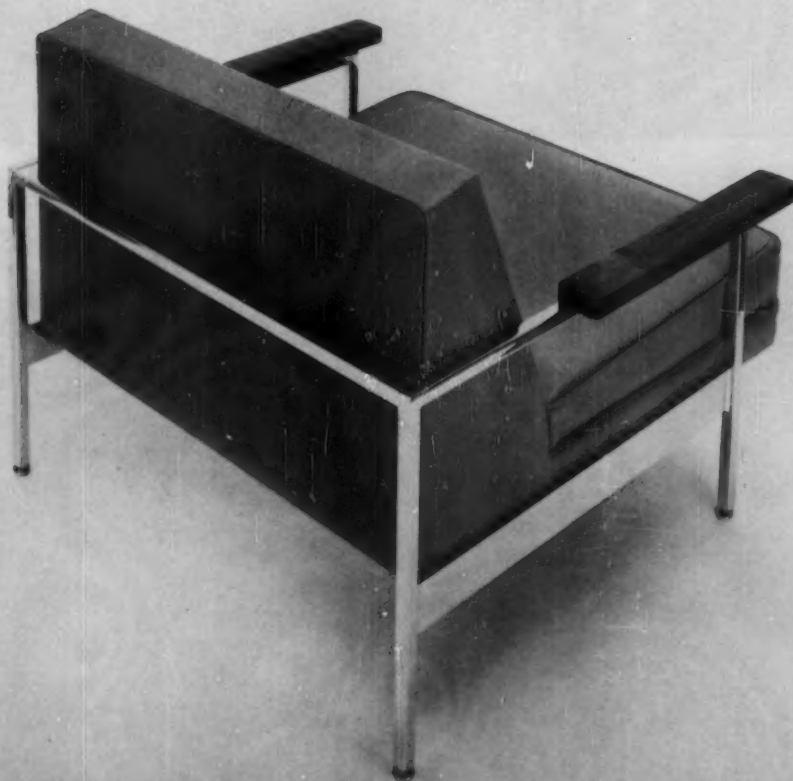
3. Box chair, Dunbar Furniture Corp.





4. Glass table, Albano Co.

5. Chrome arm chair, Herman Miller Furniture Co.



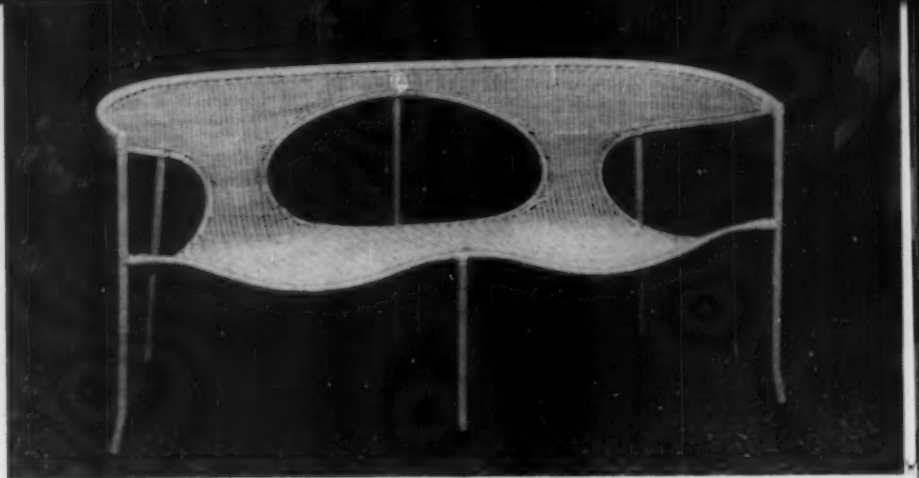
6. Hanging cabinet, Glenn of Cal.

Furniture

1. Prize-winning bench in National Cotton Council and National Cotton Batting Institute design competition is a fascinating contrast in spring forms. Seat springs are set off from each other along heavy bar spine; foot springs have an entirely different shape. Designer: Nicos Zographos.
2. Knoll chest from a series in oiled walnut with wood or white laminate top. Perfect in the proportions of its parts, and perfectly made, its side surfaces are almost but not quite flush with legs and top, and the slight recess is important. It is as unobtrusive as the Zographos bench is spectacular. Designer: Florence Knoll.
3. Dunbar side chair in walnut is tidy and box-like except for slope of seat frame which seems half-hearted way to handle necessary seat pitch in such a rectilinear composition. Mitered joint on front of arm is decorative where structural joint is called for. Designer: Edward Wormley.
4. Albano glass table has a steel base that bends metal in lovely round curves but, unlike much curved, steel-based furniture, the material still looks strong and taut—partly because it avoids the temptation to curve again at the floor. Designer: Nicos Zographos.
5. Herman Miller arm chair, of chrome with walnut arms, is so plain that it is almost severe—yet proportions are extremely refined and detailing is very subtle: back brace, for instance, is wider than frame so that seat back is set away from frame; supporting function of frame is nowhere emphasized. Designer: George Nelson & Co.
6. Glenn of California hanging mirror cabinet has no waste parts. Side pieces are shaped as brackets for mirror, drawer, pegged back; there is no top frame on mirror, no bottom frame on drawer. Designer: Richard Thompson.

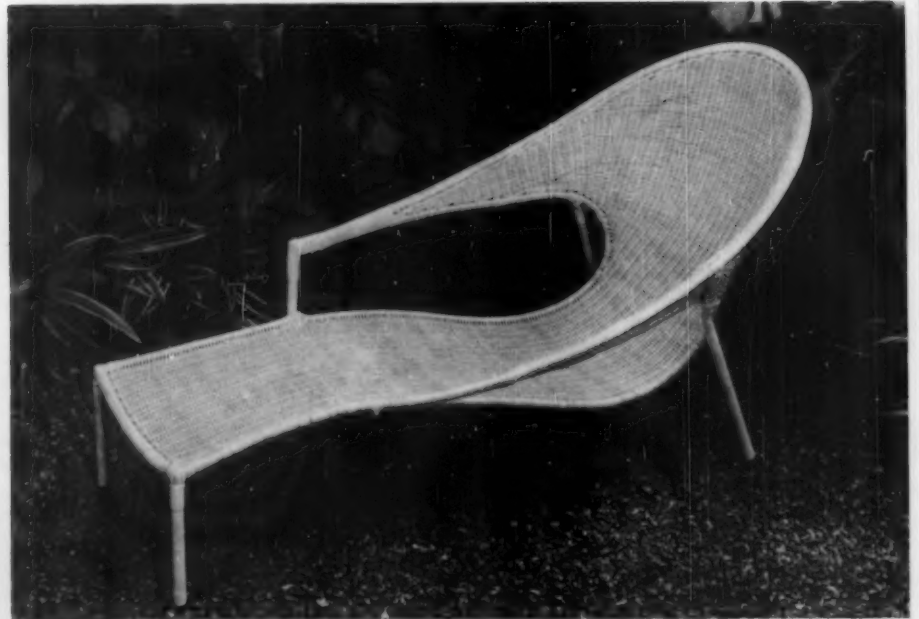


1. Door pulls and knobs, *Era Industries*

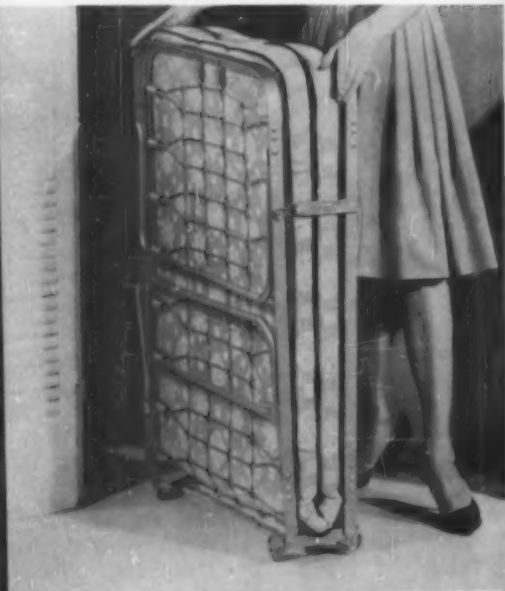


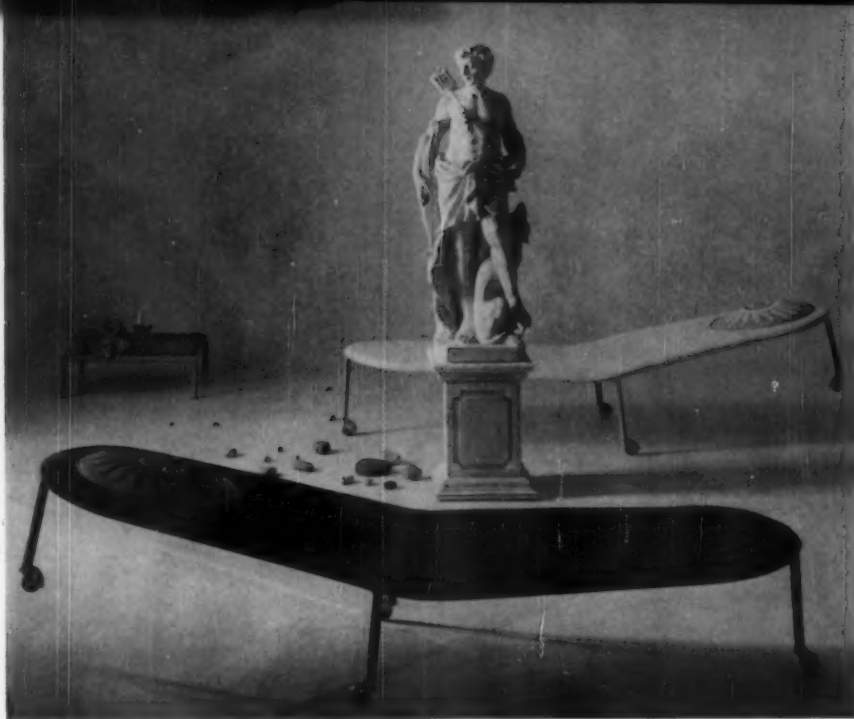
3. Rattan love seat, *Decorative Imports*

4/5. Rattan chaise and lounge chair, *Decorative Imports*



2. Folding cot, *Burton-Dixie Corp.*





6. Sun lounge, W. Wes Williams Design

Furniture

1. Era Industrias door knobs and pulls, enameled plaques or solid chunks of marble cuffed in brass, are slightly barbaric, but what better way to attack the unequivocal planes of flush-surfaced wood or glass doors?

Designer: Sherrill Broudy.

2. Burton-Dixie folding cot pares structure to a minimum while increasing adaptability—it locks in position for sleeping, lounging, or feet-up therapy. Trampoline-like springs, foam pad.

Designer: Staff design.

3/4/5. Decorative Imports love seat, chaise, and lounge chair of vinyl-coated rattan look like torn cobwebs hanging from sticks, but they are actually sitting-prints—a furniture counterpart of footprints. Practically, they may be arbitrary (no one ever sits or steps twice in quite the same way), but visually they are not — there are no unnecessary parallels or curves.

Designer: Francis Mair.

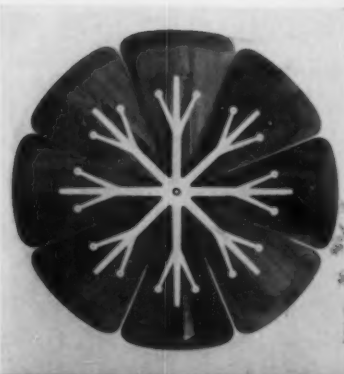
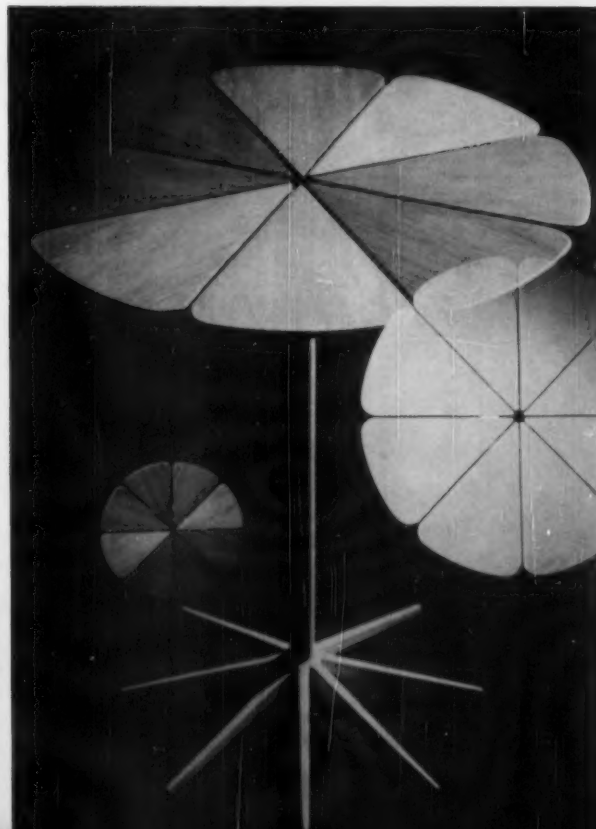
6. Wes Williams SunScoop is a comical idea (a tilting cot for sunbathing) comically executed. A greatly simplified, gawky shape on skewed legs, it looks like a landlocked surfboard. Canvas cover on steel tubing frame, with built-in vinyl sunspot pillow.

Designer: W. Wes Williams

7/8. Knoll indoor-outdoor petal table agreeably combines thick beveled redwood wedges and vinyl-sprayed metal base. It seems unnecessary symmetry to match the number of feet to the number of wedges. Perhaps they were intended to balance the supports for the wedges, but to get the connection, one would have to be under the table.

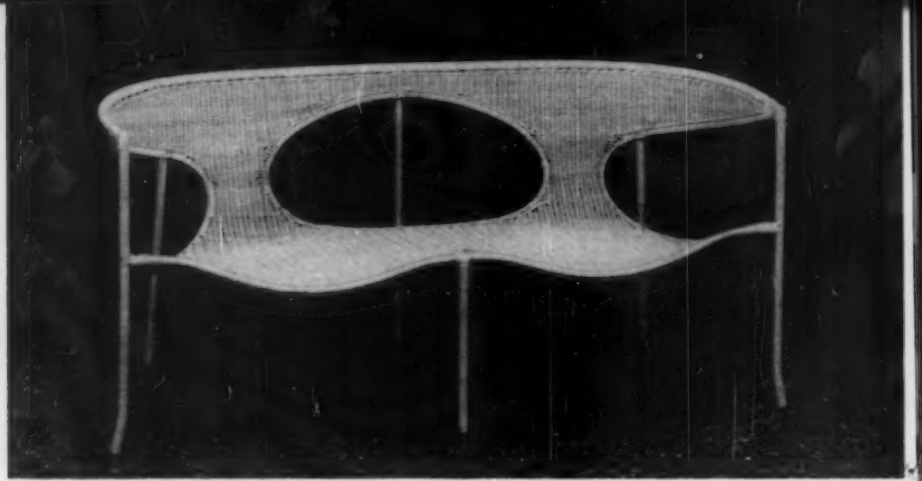
Designer: Richard Schultz, Knoll Planning Unit.

7. Petal table, Knoll Associates



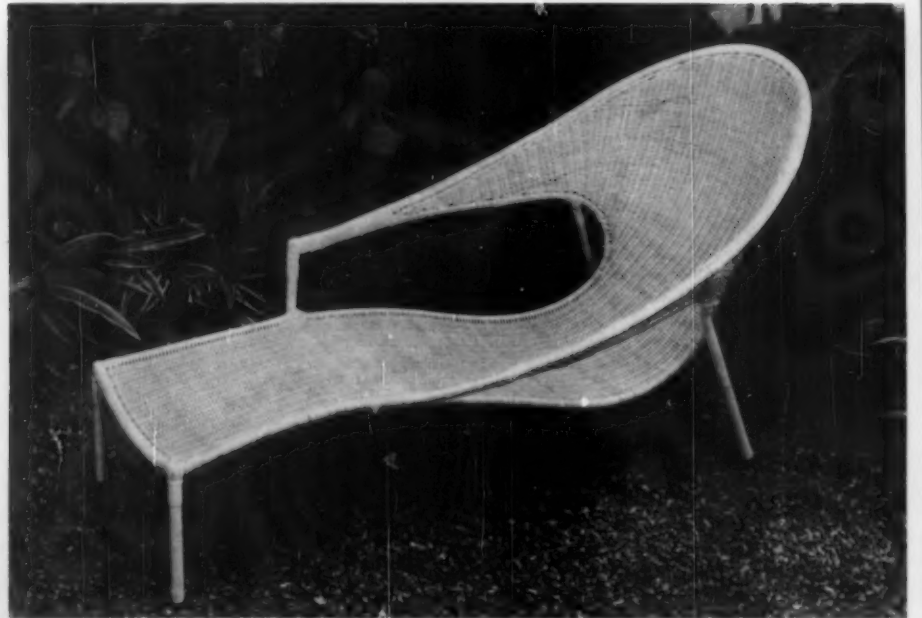


1. Door pulls and knobs, *Eva Industrias*



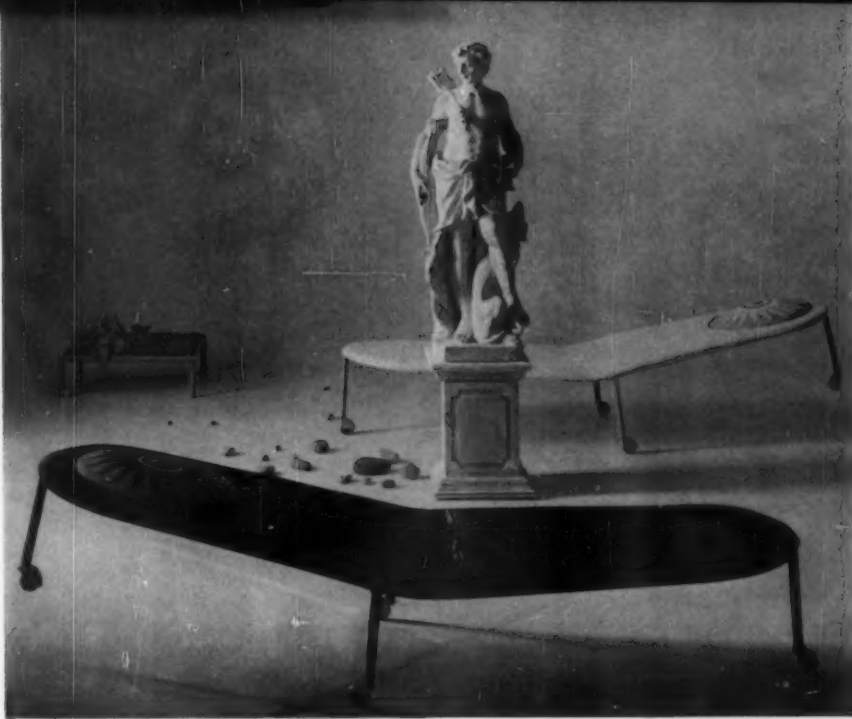
3. Rattan love seat, *Decorative Imports*

4/5. Rattan chaise and lounge chair, *Decorative Imports*



2. Folding cot, *Burton-Dixie Corp.*





6. Sun lounge, W. Wes Williams Design

Furniture

1. Era Industrias door knobs and pulls, enameled plaques or solid chunks of marble cuffed in brass, are slightly barbaric, but what better way to attack the unequivocal planes of flush-surfaced wood or glass doors?
 Designer: Sherrill Broudy.

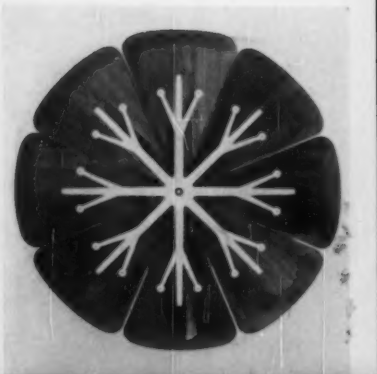
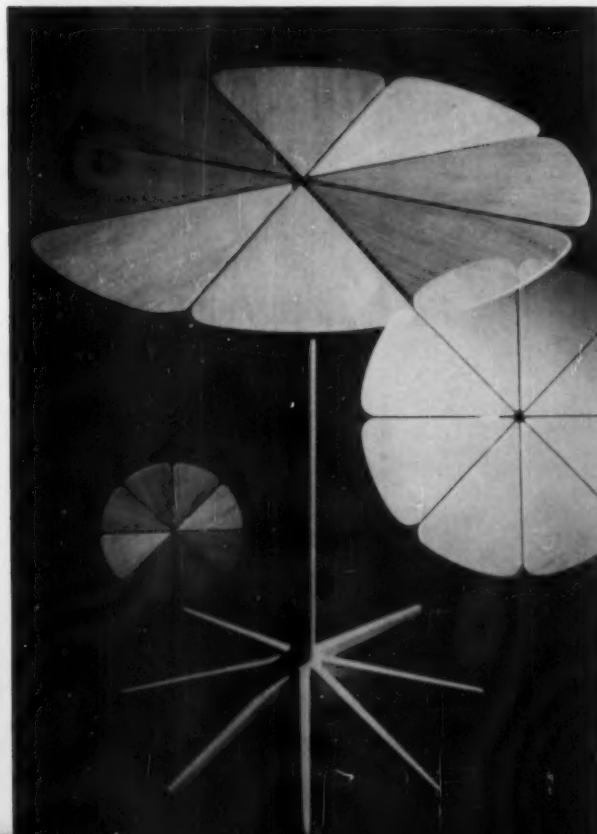
2. Burton-Dixie folding cot pares structure to a minimum while increasing adaptability—it locks in position for sleeping, lounging, or feet-up therapy. Trampoline-like springs, foam pad.
 Designer: Staff design.

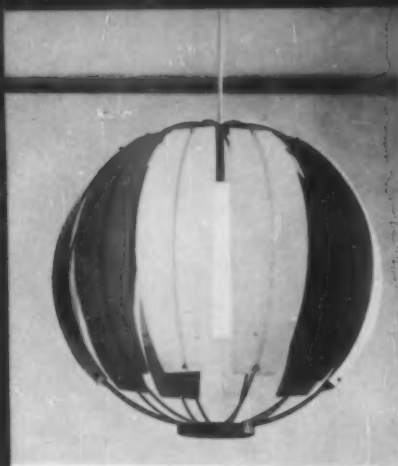
3/4/5. Decorative Imports love seat, chaise, and lounge chair of vinyl-coated rattan look like torn cobwebs hanging from sticks, but they are actually sitting-prints—a furniture counterpart of footprints. Practically, they may be arbitrary (no one ever sits or steps twice in quite the same way), but visually they are not — there are no unnecessary parallels or curves.
 Designer: Francis Mair.

6. Wes Williams SunScoop is a comical idea (a tilting cot for sunbathing) comically executed. A greatly simplified, gawky shape on skewed legs, it looks like a landlocked surfboard. Canvas cover on steel tubing frame, with built-in vinyl sunspot pillow.
 Designer: W. Wes Williams

7/8. Knoll indoor-outdoor petal table agreeably combines thick beveled redwood wedges and vinyl-sprayed metal base. It seems unnecessary symmetry to match the number of feet to the number of wedges. Perhaps they were intended to balance the supports for the wedges, but to get the connection, one would have to be under the table.
 Designer: Richard Schultz, Knoll Planning Unit.

7. Petal table, Knoll Associates

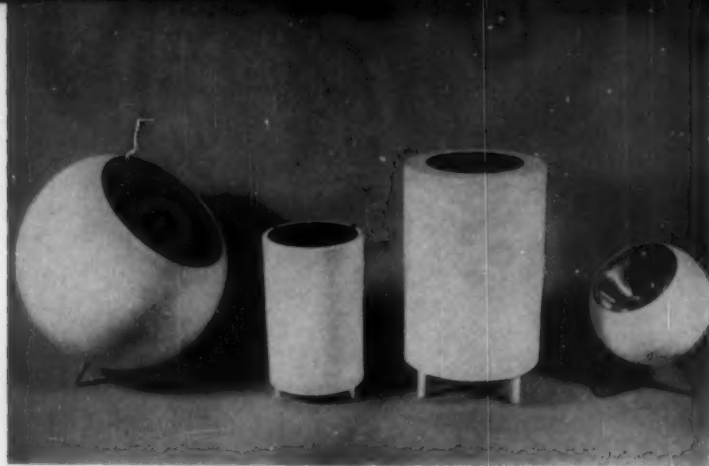




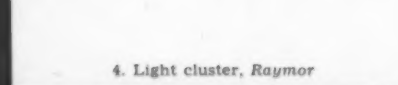
1. Pendant light, *Lightolier*



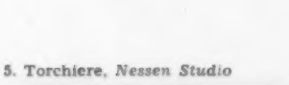
2. Pin-up light, *Suitvelier*



3. Floor lights, *Harry Gittlin*



4. Light cluster, *Raymor*



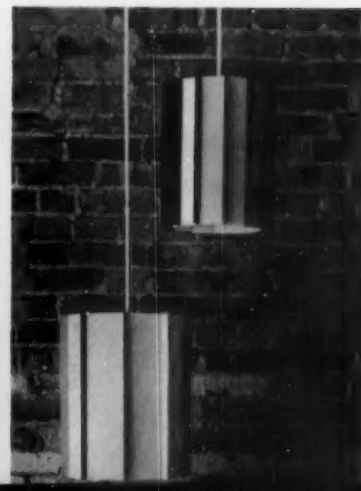
5. Torchiere, *Nessen Studio*



6. Pendant fixture, *Decorative Imports*



7. Pendant lights, *Harry Gittlin*



Lamps and fabrics



8. Brigadoon vinyl, Knoll Associates

1. Lightolier sphere in vari-colored clear and translucent acrylic plastic on an iron frame is gay, but like all playful ideas, could become tiresome with repetition.
Designer: Maurizio Tempestini.

2. Swiveller aluminum pin-up lamp (brushed, anodized, or painted) hangs up with its packing case, an odd idea, but a neat way of keeping a light for intermittent use.
Designer: Raymond Loewy Assoc.

3. Gitlin floor lights are designed for specific kinds of illumination (paintings, ceilings, plantings, etc.). Cylinders and circles in many sizes; white, black lining.
Designer: Harry Gitlin.

4. Raymor hand-blown glass shades have a hint of Art Nouveau in their soft colors (orange, lemon-lime, brown, blue), and flower-like shape. But relation of shade to globe is unfortunate—one is disgorging the other.
Designer: Norman Cherner.

5. Nessen torchiere connects spun aluminum, spun steel, and tapered brass tubing. Fastening is all inside, finish is satin white enamel. Blossom is lyrical but stem (perhaps unavoidably) seems heavy.
Designer: Von der Lancken & Lundquist.

6. Decorative Imports pendant lamps are thin, translucent shell in a pewter frame. Philippine-made, American design.
Designer: Francis Mair.

7. Gitlin pendant lights are sheet metal pans welded together into finned cylinders; sometimes the fins are colored.
Designer: Harry Gitlin.

8. Knoll Brigadoon is printed and embossed to simulate nubby linen tweed on Du Pont's Fabrilite, a vinyl-coated, elastic-knit, cotton-backed upholstery. Six colors.
Designer: Suzanne Huguenin, Knoll Associates.

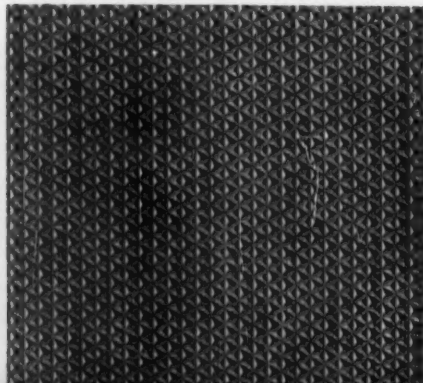
9. Larsen 51" linen and cotton case-ment cloth is monumental scale strips woven, by new techniques, in random diagonals.
Designer: Jack Lenor Larsen.

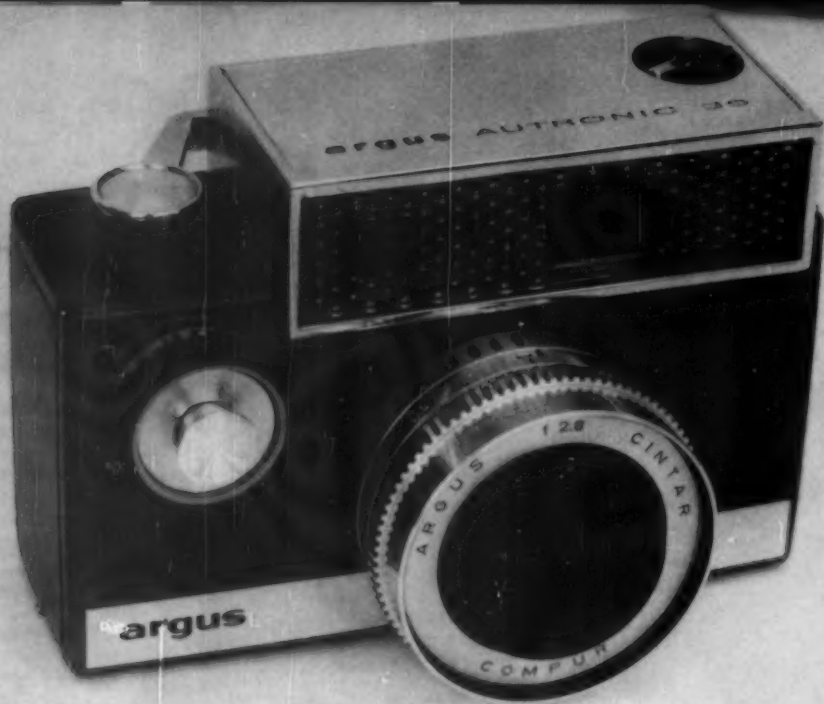
10. Katzenbach & Warren Cariba vinyl-impregnated Fiberglas wall-covering is impervious to many things—heat, humidity, sunlight, people-damage, and fungi; 15 colors.
Designers: William and Lois Katzenbach; color, Ann Hatfield.

9. Diagonal stripe, Larsen Design Corp.



10. Cariba vinyl, Katzenbach & Warren





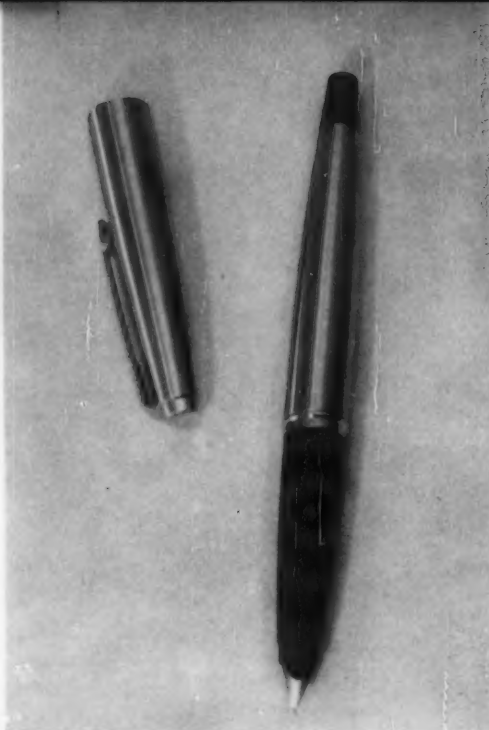
1. Camera, Argus division, Sylvania Electric Products, Inc.

2. Projector, Argus division, Sylvania Electric Products, Inc.





3. Luggage, Hartmann Luggage Co.

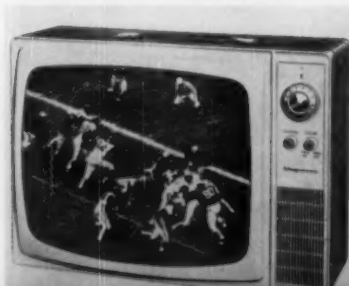


4. Cartridge pen, Parker Pen Co.

5.6. Phonograph, transistor radio, Westinghouse Electric.



7. Table model tv, Magnavox Co.



CONSUMER

Personal

1. Argus 35mm automatic electric eye camera was designed for mass production fabrication techniques rather than traditional semi-craft treatment in zinc, aluminum, and plastic.

Designer: Harley Earl Associates in collaboration with O. Lind, staff engineer.

2. Argus "Showmaster 1000" movie projector lets its important elements show clearly, simply, in forms that follow their natural lines, rather than hiding them in boxes. Decorative effects are achieved through form and materials in very interesting ways. There seems to be nothing extraneous. Aluminum.

Designer: Harley Earl Associates.

3. Hartmann luggage set comes in several different kinds of stitched leather. The group shown has a shantung fabric lining whose 5-and-10 quality contrasts sharply to the rich exterior.

Designer: Staff design.

4. Parker "45" cartridge pen is made of brushed stainless steel and plastic. Barrel and cap are of the same diameter and length for tooling economy.

Designer: Don Doman Associates.

5. Westinghouse portable stereo phonograph looks like a dozen others on the market, but it is designed with a little more restraint.

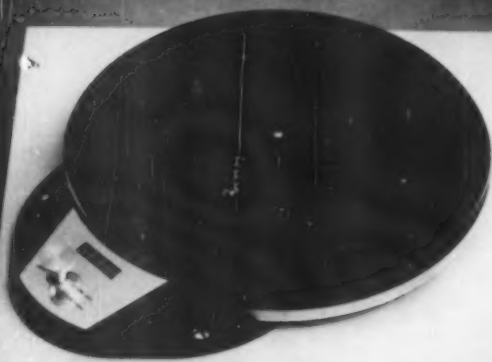
Designer: Staff design, Seymour Silverman, manager.

6. Westinghouse seven-transistor "personal" radio differs from most other small radios in that it isn't striving for any effects. Leather case covers a simple polystyrene housing with a built-in handle.

Designer: Staff design, Seymour Silverman, manager.

7. Magnavox table tv does not, unlike most other similar sets, find it necessary to match the control panel on the right with a superfluous panel on the left, which is to its credit.

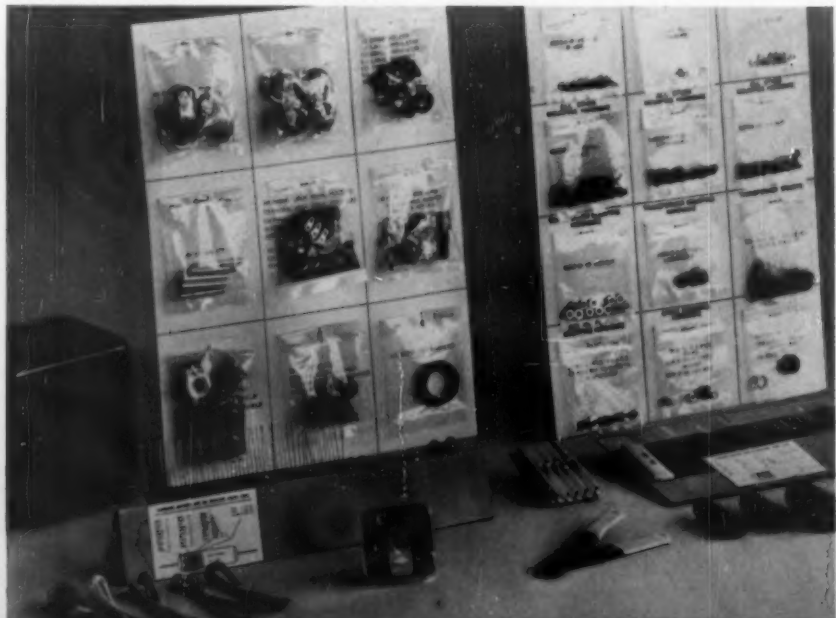
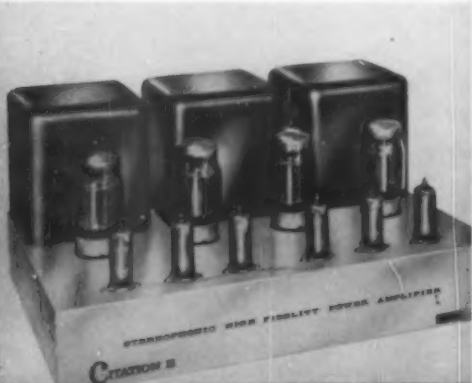
Designer: Edward Klein.

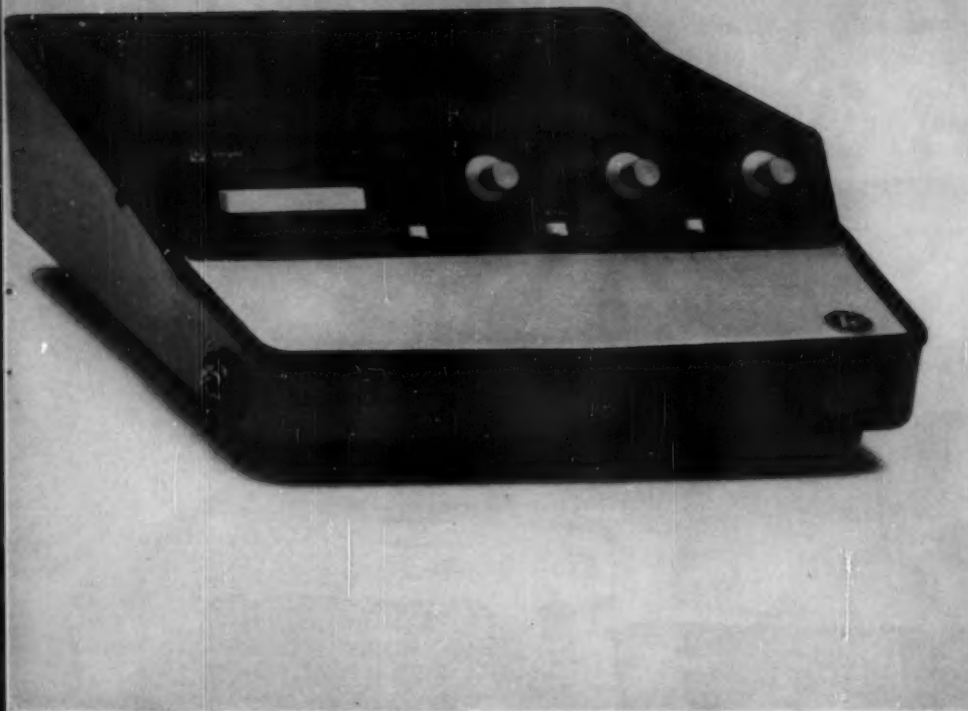


1/2/3. (Top left) Knight FM tuner, KN-141; (left) Knight turntable, KN-100; (right) Knight headset, KN-840, Allied Radio Corp.

5. Citation II amplifier kit, Harman-Kardon, Inc.

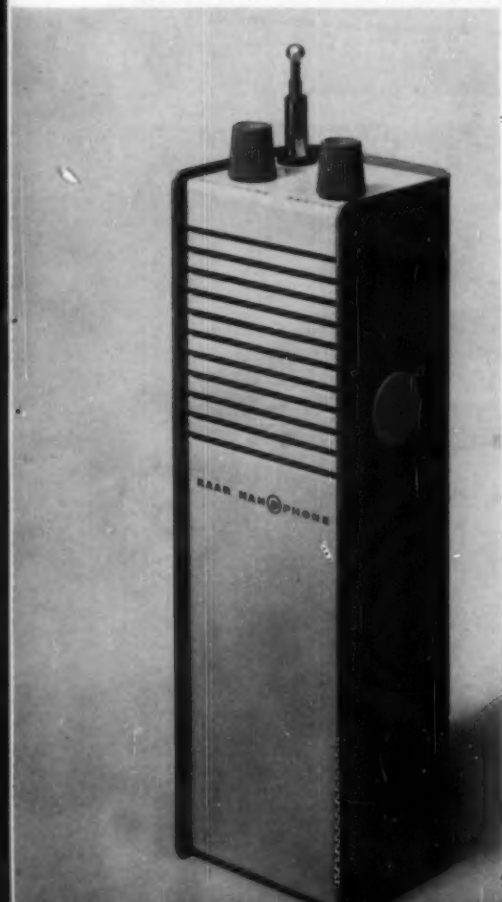
4. Citation II amplifier, Harman-Kardon, Inc.





6. Knight-Kit two way radio, Allied Radio Corp.

7. Kaar two-way radio, Kaar Engineering Corp.



Radio and hi-fi

Hi-fi equipment is most often still approached as a problem in plane geometry. One exception, however, is a Marantz amplifier (overleaf) which attacks it as solid geometry. Like almost everything else, hi-fi is on the gold standard; but since this is usually combined with brown/beige the result is more warm than flashy.

1/2/3. Knight FM tuner, KN-141, is evenly balanced, right against left, and diameter of knobs is exactly equal to depth of dial. Colors are sophisticated: dark gray control panel, black dial with white markings and red and blue indicator lights, natural aluminum knobs and case. Two-speed turntable, KN-1000, consolidates controls and logo in boldly simplified curved panel which plays against strict curve of turntable. Stereo headset, KN-840, rakes a deep groove in receiver to separate mechanism from earpiece.

Designers: Lute Wassmann, Gerry Priestley, Ralph Hertle, Klein-Wassmann/Design; Robert Berkovitz, Knight staff.

4/5. Harman-Kardon stereo amplifier, Citation II, is one of a new line of kits. Not especially remarkable as a finished object, but packaging of parts in transparent bags mounted in identified squares on easel boards makes assembly look easy and intriguing.

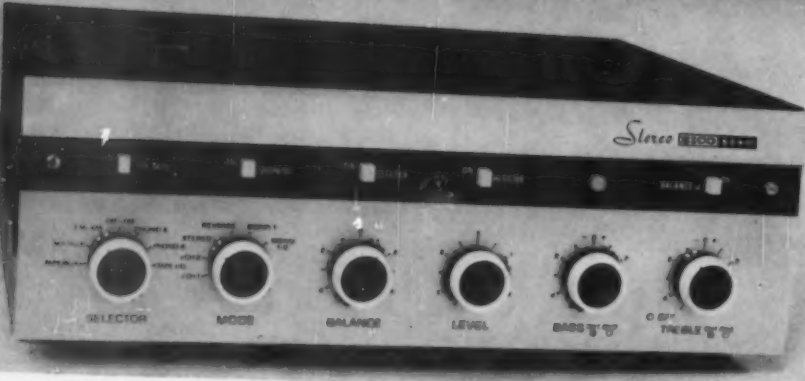
Designers: Stewart Hegeman and Larry Levow, Harman-Kardon staff.

6. Knight-Kit C-27 two-way radio for use on FCC's new Citizen Band is meant for mobile or stationary installation, i.e. under car dashboard or on kitchen shelf. Overall silhouette is good, but nesting forms unfortunately suggest that one box is swallowing another.

Designer: Edward Klein.

7. Kaar Han-D-Phone two-way radio treats buttons and grille lines as graphics. Design goal was a look of super-efficiency, which it has; details are rendered with such precision that result seems almost un-American. Aluminum with light to medium gray epoxy finish.

Designer: Walter Landor & Associates.

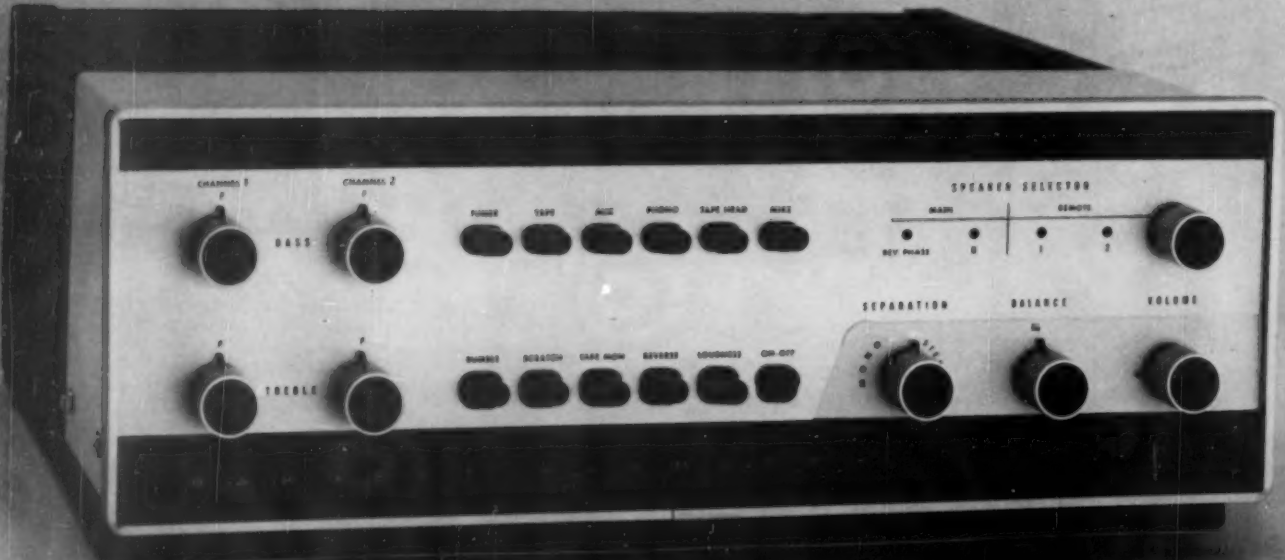


1. Eico ST-40 stereo amplifier, Electronic Instrument Co., Inc.

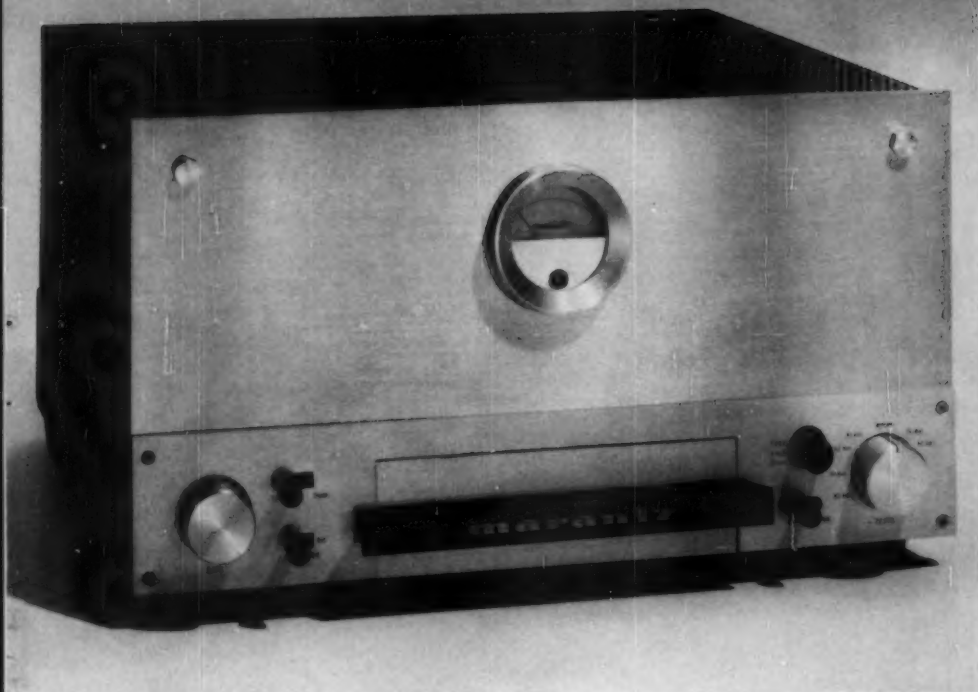


2. Eico RP-100 tape deck, Electronic Instrument Co., Inc.

3/4. SR-1020 FM tuner and SR-2051 stereo amplifier, Sargent-Rayment Co.



Hifi



5. 70-watt amplifier, Marantz Co., Inc.

1/2. Eico instruments are unusual for their indicator markings. Instead of being treated simply as lines of type, each abbreviation, symbol, and calibration is handled as a lively element of design. It may not reassure the mind but it fascinates the eye. Control panels on both stereo amplifier, ST-40, and stereo deck tape, RP-100, are gold anodized aluminum; knobs are white polystyrene with brown centers and bases. Amplifier case is of perforated aluminum; top panel of tape deck is fluted aluminum painted brown.

Designer: Ray Prohaska, Eico staff.

3/4. Sargent-Rayment FM tuner, SR-1020, and stereo amplifier, SR-2051, are from "amateur" and "professional" lines, respectively, but they have a family design resemblance and they share some novel ideas for simplifying operation. Both substitute "remote control" indicator lights for the usual ring of calibrated markings around knobs, and both do an orderly job of organizing controls — the 2051 has 24 indicator elements, but its appearance belies this (the four on the right are the most-used, thus grouped together). Gold anodized aluminum panels with silk-screen markings; 2051 knobs are aluminum with Tenite centers, pushbuttons are Bakelite; 1020 knobs are brass-over-plastic.

Designer: Arnold Wolf Associates.

5. Marantz 7-watt amplifier is a lot more dressed-up than purists may think proper, but the ostentation is well done. Most of the richness derives from three-dimensional scaling, i.e. the recessed knobs imply that they are impressively heavy cylinders of metal rather than disks mounted on stems. For simplicity, some controls are hidden behind small access panel with large handle (here the weightiness is overdone). Gold anodized aluminum, black buttons, brown case.

Designers: Marantz staff.

6. Gray ST-33 turntable is pleasant because it does not overemphasize precision engineering, though it has it. Mounting board is gray-painted steel; turntable, tone arm, and name plate are aluminum. Tone arm is arbitrary shape, but why not?

Designers: Peter Quay Yang; Chester Snow, chief engineer of research for Gray.

6. ST-33 stereo turntable, Gray Manufacturing Co.





1. Tail light, Shinn Engineering, Inc.



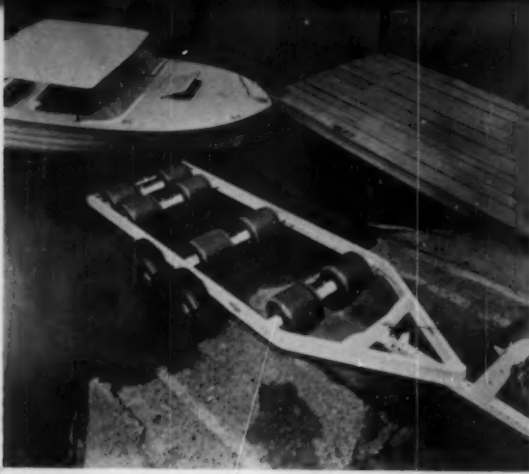
2. Electric lawn mowers, Huffman Manufacturing



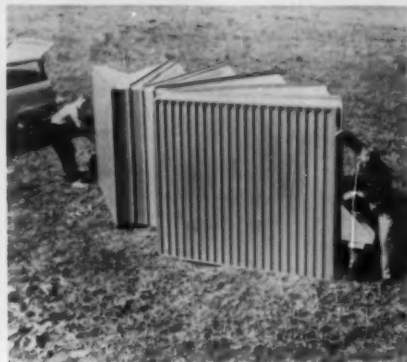
3. Skin divers' back pack, B. F. Goodrich Co.

4. Riding lawn mower, Eclipse Lawn Mower Co.





5. Boat trailers, Dana Corp.



6. Folding house-trailer, Alcoa

8. Folding barbecue, Montgomery Ward



7. Barbecue, Kampkap, Inc.



Outdoor living

1. Shinn water-proof tail light for boat trailer tackles a circumscribed problem (tail end of trailer goes under water when boat is launched) and makes it yield a nice solution in tapers, threading, grooves, joints, and disposition of electric parts.

Designer: Ken Andrews, Executive Engineering Corp.

2. Huffy electric mowers are simple and forthright: irregular circle, off-center placements of parts, are interesting expressions of what goes on underneath.

Designer: Vie Studios.

3. Goodrich back pack for skin divers is yellow Koroseal. A one-piece rubber harness designed to fit a wide range of wearers is bound to be interesting to look at. It is better sculpture than many consciously sculptured things because the sculpture has a reason: the reason isn't esthetic, but could be.

Designer: Robert H. Ulrich, Jr.

4. Eclipse riding mower takes on opposite tack from Huffy and Goodrich forms. Instead of accommodating vagaries of shape — human and mechanical — it puts everything in a box. Controls are isolated and emphasized by shiny finish which suggests machining. Planes and solids are arbitrary, but appropriate—like squared-off forms of Jeep. But blade housing is made to look like an afterthought when it is really the essential part. Steel and plastic, white and yellow.

Designer: Stowe Myers.

5. Dana boat trailers support heavier hulls on rubber cushion Rollaires; lighter boats on rubber keel spools combined with a scissored clamp.

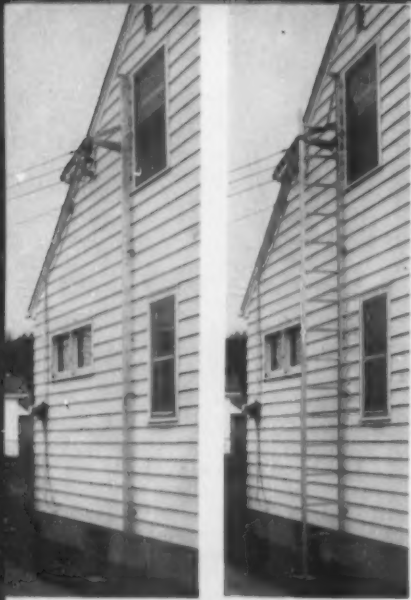
Designer: Dana staff.

6. Alcoa Forecast accordion-folded house trailer uses the wheels to swing square into a circle. Aluminum ribs, nylon membrane.

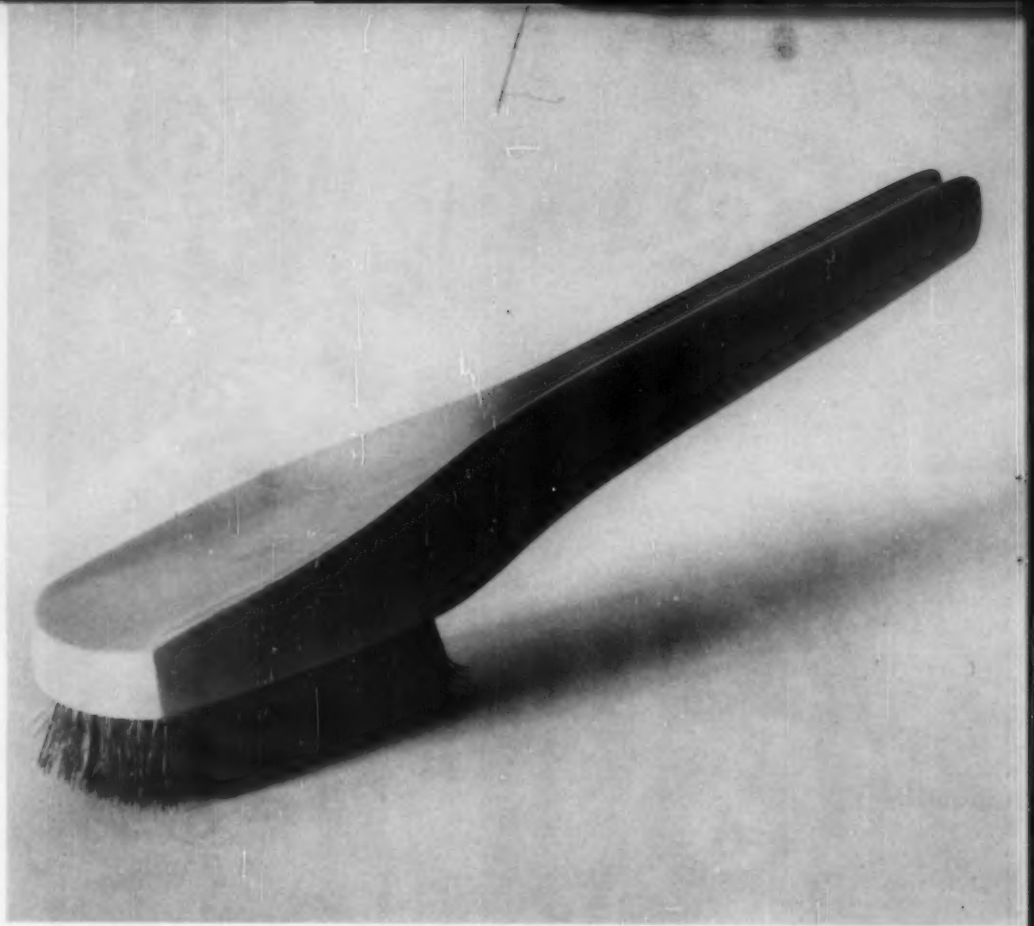
Designer: Henry Glass.

7/8. Kampkap barbecue and Montgomery Ward folding barbecue achieve simplicity partly by limiting functions. MW unit (also impressive for the way reflector repeats angle of legs) is just two boxes on a neat stand—no gadgets. Kampkap unit is so clean that trademark seems an intrusion in design.

Montgomery Ward designer: G. F. Mendenhall, Manager, Product Design; R. Stavowoy, Chief Designer. Kampkap designer: Carreto Design Associates, William B. Skarloff, project head.



1. Ladder, Fire Escapes, Inc.

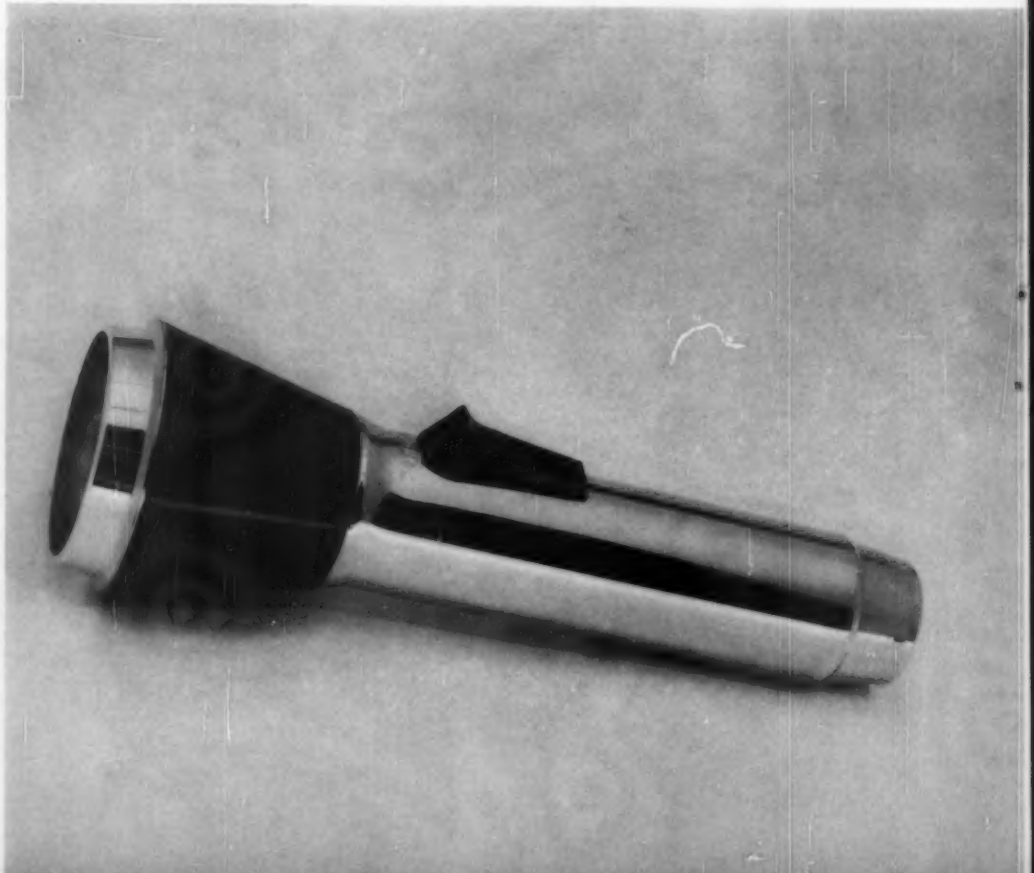


3. Sidewall brush, Laitner Brush Co.

2. Sharpener, Buchanan Industries



4. Flashlight, Burgess Battery Co.



Tools



5. Powr-Kraft drill, Montgomery Ward



6. Safe-T-Drill, Millers Falls Co.

1. Fire Escapes, Inc. folding aluminum ladder is fine idea even if crudely executed. Meant to be mounted permanently and painted to match building, if desired. Locking controls inside prevent use for unauthorized entry, but opening device is simple enough for a child to handle and can be operated from any floor.
Designer: Staff design.

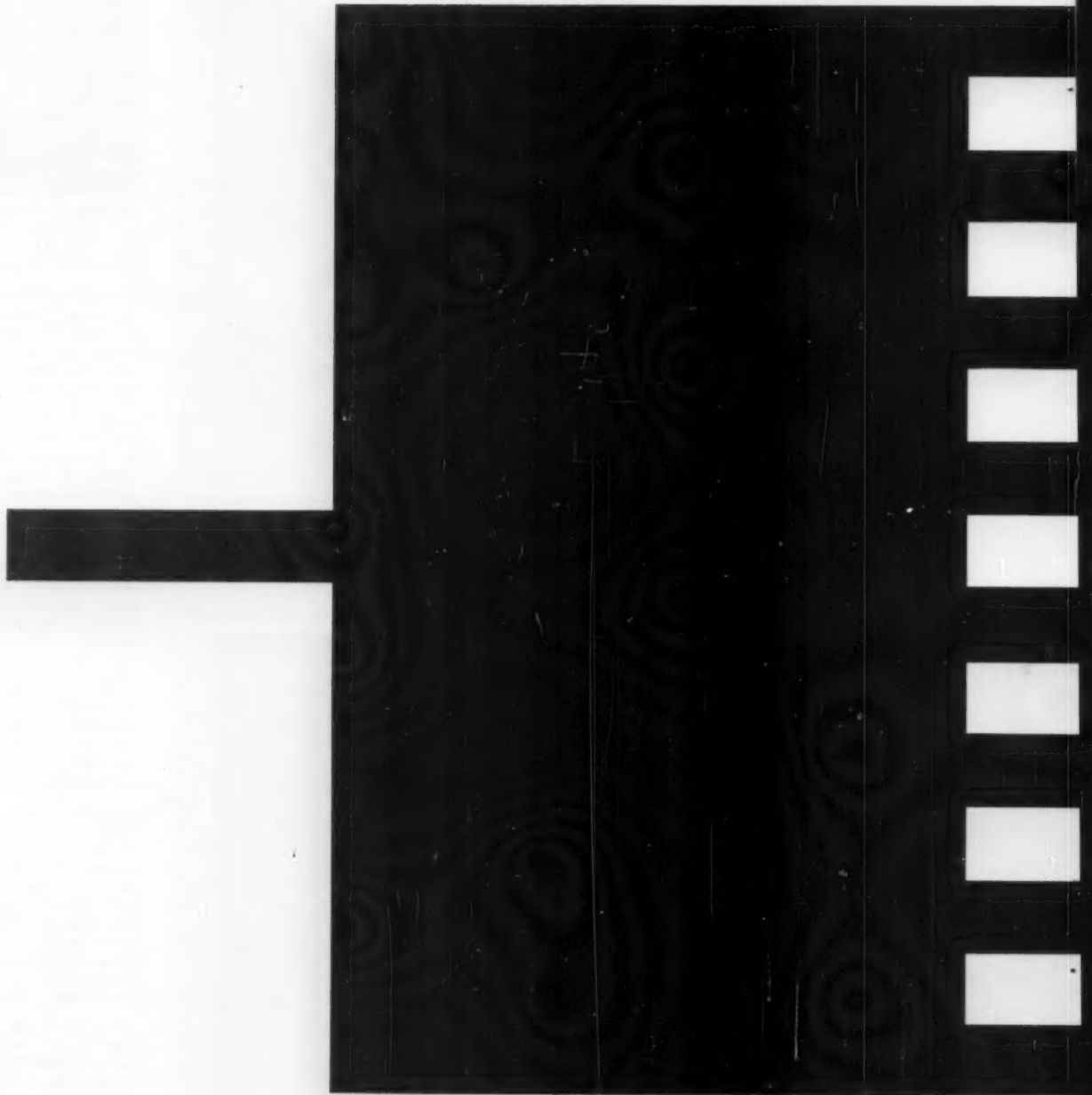
2. Buchanan "Reel Sharp" sharpening tool for reel-type lawn mowers is a pleasant shape to hold and comes, properly, in a color called "tool vermillion."
Designer: King-Casey, Inc.

3. Laitner brush for white sidewall tires has handle that is economical of material without sacrificing comfort. It is large enough in diameter to fit hand well but cored to conserve material, and core has been contoured for thumb rest. Play of surfaces is fascinating—inside becomes outside, top is underneath. Light gray polystyrene, bright brass wire.
Designer: William M. Schmidt Associates

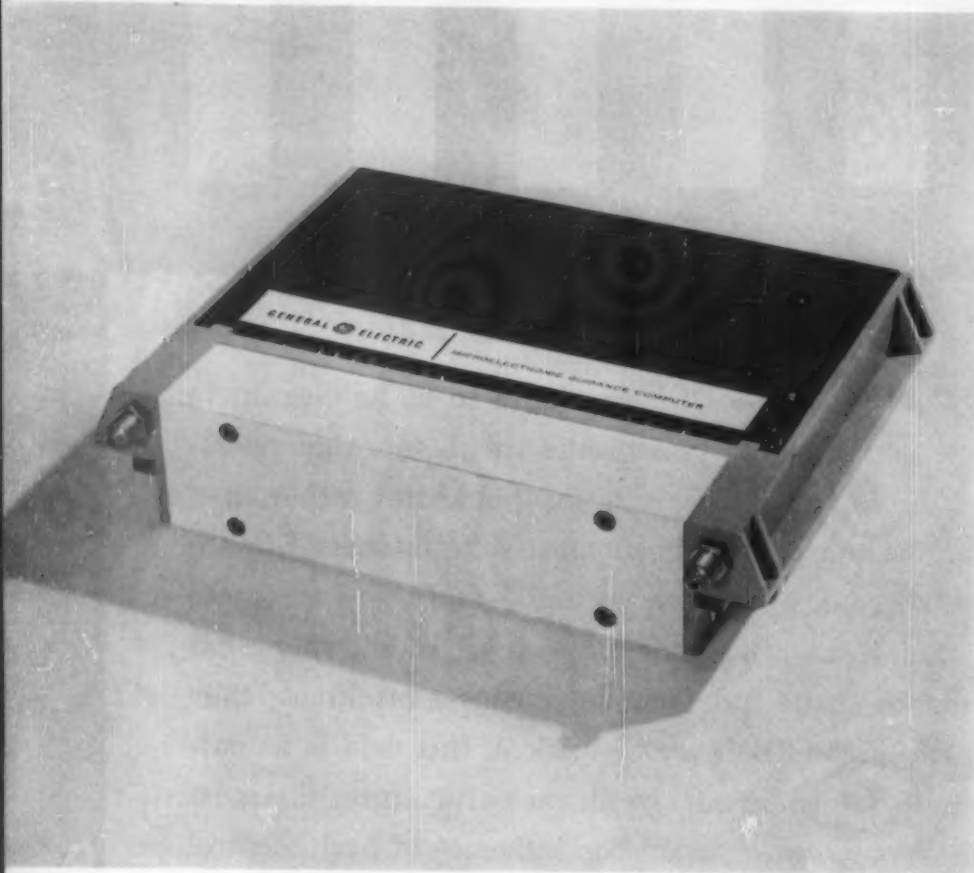
4. Burgess two-cell flashlight has black polyethylene head angled to echo flare of beam and, more literally, of reflector. It cuts in abruptly to capture lens; a less emphatic taper defines cap at back.
Designer: Don Doman Associates.

5. Montgomery Ward drill is over-styled, but cylindrical shape is simple and unusual, and eccentric position of chuck cylinder is potentially interesting, though not fully explored. Whiplash depression around switch reduces conviction of body shape. Handle has storage compartment for drills.
Designer: F. W. Priess, Manager, MW Product and Package Design.

6. Millers Falls gray nylon drill with black Delrin nose-piece is pleasant to handle in extremes of weather (plastic does not pick up heat or cold as readily as metal), is shatterproof, permanently colored, and has a Lexan gear hub between spindle and motor which makes it completely shockproof—it does not even need ground wire when used outdoors in damp weather. Design is generally good, but indented contours for hand diminish weightiness of body, make relation of housing to motor suspect.
Designer: L. Garth Hurtable.



NON-CONSUMER: EDP continues to be as elegant in appearance as in function; sometimes the results are glossier than necessary, but in general the thinking machines are thoughtful rather than dramatic. Industrial machinery is still comparatively untouched by industrial design, but where design has been used—and there are more examples this year than last—it has made a good job of showing what can be done. Less can be said for the smaller business machines; they were disappointing except for IBM, whose work in this field is as outstanding as it has been in computers. In business furniture, the most important — and most obvious — fact is the influence of architecture. Much of it is being designed first for big office projects and then becomes a stock item in the manufacturer's line. A similar movement of special-to-stock is current in other institutional equipment: the lighting system for the Union Carbide building and the partitioning system for the Time & Life building are both slated to become catalog items, and some of the Four Seasons tableware may become consumer products. In one other institutional category, education, there was surprisingly little interesting design, considering all the flurry over educational concepts and new schools. We will not show any more school desks until manufacturers stop swedging legs and covering tops in pink and green vinyl—which may be ophthalmologically correct but is certainly painful to look at.



NON-CONSUMER

Data processing

1. GE missile guidance computer condenses circuitry for guiding a large-scale ballistic missile into 9" x 6" x 2" box. Circuitry is deposited electrolessly on 1/10,000"-thick sheets of glass, stacked six to 10 sheets deep and encapsulated in plastic modules. Cast aluminum spine dissipates heat and provides structural support for two banks of modules. Clarity and compactness of both circuitry and case are remarkable.

Designers: Ernest Hansberry and Robert Robb, GE staff; George Beck, project head.

2. IBM 1415 console for 1410 data processing system is four well-integrated units: typewriter, back-lighted display panel, control panel, work surface. Stainless steel, Formica, polyvinyl chloride.

Designers: David G. Moore, IBM staff; P. Fagg, project head; Eliot Noyes, consultant.

3. IBM card-keyboard data transmitting unit for 1001 also banks mechanical components on two sides of metal spine. Brushed chrome, with nicely shaped plastic snap-on covers — light gray on one side, dark gray on the other.

Designer: Frank Wilkey, Jr., IBM staff.

4. Bendix G-20 console does a good job of adapting lines of computer to lines of furniture. System is designed for a minimum of human intervention so console has fewer lights and switches.

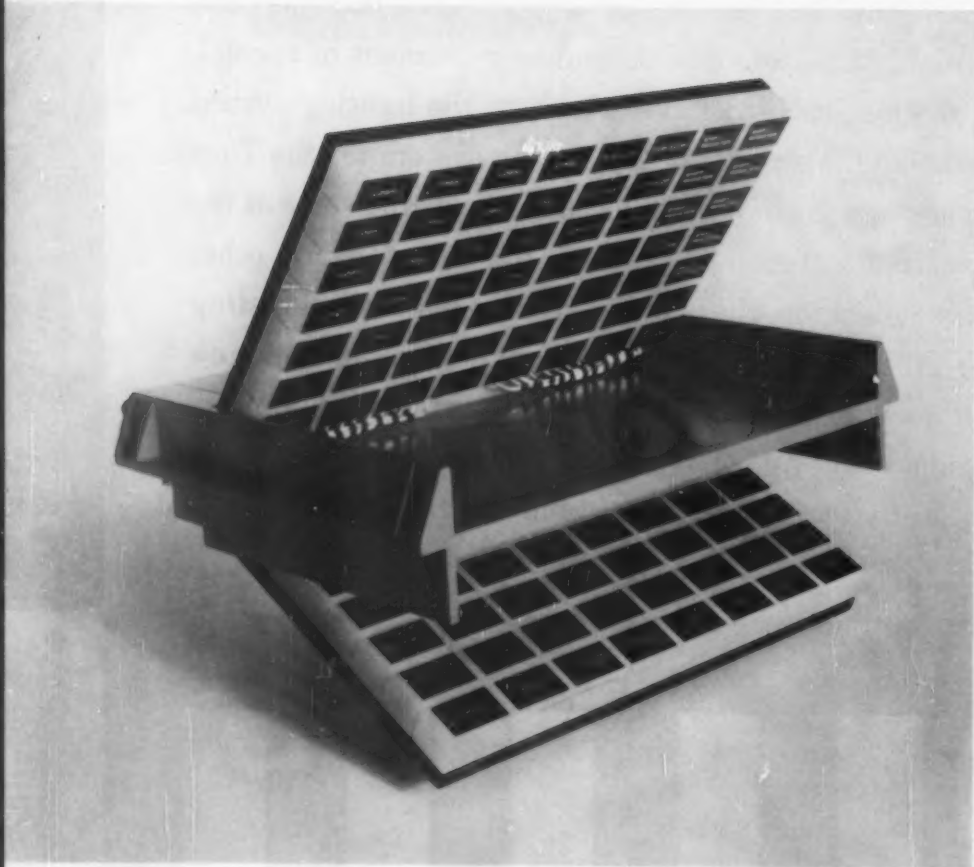
Designers: Emerson, Johnson & Mackay; Robert M. Lee, Bendix project engineer.

5. Monrobot XI alpha-numeric computer suffers from unlovely keyboards, but tape handlers are nicely incorporated into desk fronts. Steel frames with vinyl finish.

Designers: Richard Hollerith, Jr., Monroe staff; S. Richardson, project engineer.

6. Royal Precision RPC-9000 digital computer system keeps cabinets low—an interesting change—and does a nice job of exposing the works of various components under clear plastic tops. Group identity seems carried to an extreme (i.e. angled elbows on chair frame, typewriter, desk). Aluminum extrusions, steel, vinyl surfacing.

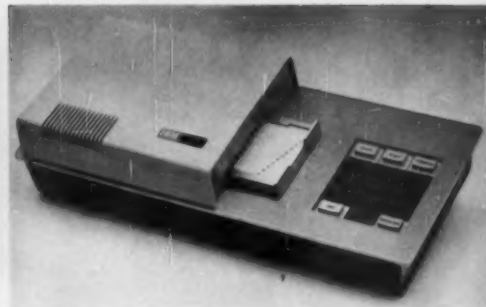
Designer: George H. Kress Assoc.



2. 1415 console, *International Business Machines Corp.*



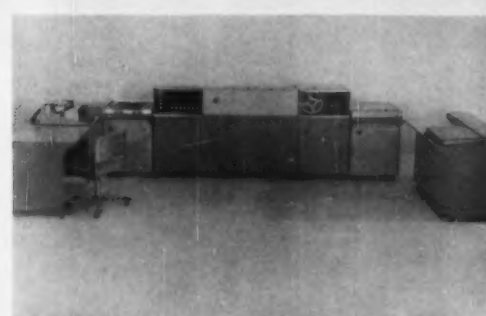
3. 1001 data transmitter, *International Business Machines Corp.*



5. Monorobot XI computer, *Monroe Calculating Machine Co.*



4. Console, G-20 EDP system, *Bendix Aviation Corp.*



6. RPC-9000 EDP system, *Royal Precision Corp.*



Electronic instruments

1. Minicom CM-100 magnetic tape instrumentation recorder-reproducer slants rack-mounted instrument panels for easier reading from above, incorporates pulls into panel for easier access to operating parts. Grille and door framing echo three-dimensional look.
Designer: Staff design.

2. Ampex TM-1 digital tape handler apparently aims at organization and perfect proportion, rather than simplicity. Reels, for example, have more details, yet are more beautiful than most.
Designers: Frank T. Walsh and F. Arden Farey, Ampex staff; Richard Trott, project-engineer.

3. Redcor differential amplifier uses color to distinguish two kinds of information: top of aluminum panel is satin-finish with black markings, bottom is dark gray with white. Extruded handle with red inset is appropriate place for trademark.
Designer: Zierhut/Vedder/Shimano.

(Electronics instruments continue on page 85)




1. Instrumentation recorder/reproducer, Minnesota Mining & Mfg. Co.

2. Digital tape handler, Ampex Data Products, Inc.



3. Differential amplifier, Redcor Development Corp.



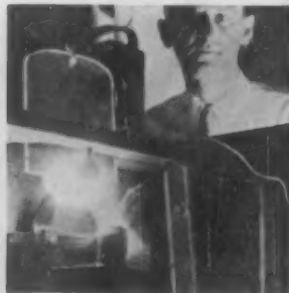
TECHNOLOGY: Inventions that make American industry sit up and take note were scarce this year, and developments in materials, power, and components have mostly had the character of improvements—quicker forming of hard metals, a moldable leather, gas used as a more efficient medium for electric power generation.

One common feature of current Research and Development is: *systems*. What was component news a few years ago is now under test through application—powerful vacuum tubes, plus the ability to put spheres in orbit, produce global communication by means of outer space; automation's closed-circuit loops bring about a new type of highway traffic control and a subway run without human interference. It all adds up to more electronic relationships that are automatically controlled.

MATERIALS

The year's news in materials—hard metals, foam cushions, leather—is not what they are, but how they are made and used.

METAL PROCESSES



1. Explosive forming. The process of exploding metal into shapes, introduced about two years ago (see ID, April 1959), continues to be explored in factory and laboratory. Republic Aviation Corporation has developed the "spark bomb" (above), which releases a 6,000-hp force within 40-millionths of a second; explosion is in form of "lightning"—the charged "clouds" consist of plus and minus terminals of electrically charged capacitors. Explosive forming is intended for high-strength metals used in production of aircraft and spacecraft. The method was applied this year in the manufacture of rocket chamber domes by Aerojet-General Corp. For large shapes, sheets of metal are placed on a die submerged in water. *By Republic Aviation Corp.; Aerojet-General Corp.*

2. Extrusion cladding. Composite materials such as aluminum-over-steel combine the properties of both; the strength of steel and the corrosion resistance of aluminum make the combination material a good one for bridge railings, office furniture, playground equipment. The reinforced extrusion process was developed by *Battelle Memorial Institute*.

3. Metal from gas. Decomposing nickel carbonyl—nickel, carbon and oxygen—results in a tough nickel shell of good ductility with grain structure closer to wrought than cast material. Process can produce accurate duplication of original models. New foundry method developed by *The Budd Co.*

4. New metal sandwich. To shield jet-engine parts from the intense engine heat, thermal insulation shields are used. These are a sandwich of inner and outer stainless steel shells and an insulating "blanket" made of non-woven refractory fibers. Shields are produced in a variety of sizes and configurations, and can be used wherever thermal problems are acute. *By Rogers Corp.*



5. Pantograph metal cutter. New eight-foot torch-cutting machine carries four torches, reproduces template pattern; does shape-cutting and straight-line cutting. Called Linagraph, new cutter has centralized operator control. *By Air Reduction Co., Inc.*

PLASTICS



6. Extruded netting. Du Pont last year acquired the U. S. rights to a British extrusion process by which polymers are extruded directly in tubular net form. The process puts on the market rigid or flexible colored net sheeting and tubing for fish nets, chemical filter cores, decorative sleeves. Mesh size and pattern, filament diameter, strength, stiffness and color to customer specifications. *By E. I. Du Pont de Nemours & Co.*

7. Weatherable film. Polyvinyl fluoride film can be used like paint, as a decorative and protective coating. Particularly adaptable for prefinished building panels, it is also being developed for use as roofing material. Called Teslar; *by E. I. Du Pont de Nemours.*

8. Mechanical upholstery. U. S. Raval is the term for a new process to shape cushioning by mechanical means. Patents are pending on the process and not much is available on it, but it has been used in prototype chairs. With it, plain and tufted surfaces can be shaped in concave or convex contours. Foam rubber cushioning was used in the prototype seats. Uniformity can be obtained without tacks or other hand work. *By U. S. Rubber Co.*



9. Contour weaving. A new process for making glass fabric preforms, used in reinforcing plastic parts, combines the main advantages of the standard reinforcing processes: high strength due to high glass content, continuous reinforcement, control of preform density. The process is an adaptation of standard weaving processes and results in three-dimensional cloth preforms in symmetrical or irregular shapes. *By Raymond De-Icer and Engineering Co.*

10. Acoustical topline. A one-piece fiberglass ceiling for buses, trucks, railway cars, aircraft, and appliances is made of a fiberglass fabric, a layer of polyethylene film, plus layers of light fiberglass insulation. The topline muffles noises and vibration, can be snapped in quickly when used with automobiles. Available in various colors. *By Johns-Manville & Co.*

11. Printing plates. Exposing a plastic monomer to ultraviolet light has resulted in a "polymerized" material with which printing plates are now being made. Conventional master printing plates are made of metal by the acid etch process. The plastic plates consist of a thin layer of plastic bonded to a metal support. To produce a printing surface, the plate is covered by a photographic negative of the material to be reproduced. Ultraviolet light exposure causes the pattern to be embedded. Called "Dycril" photopolymer plates. *By E. I. Du Pont de Nemours & Co.*

ADHESIVES

12. Adhesive cloth. Flexible adhesive cloth to bond metal-to-metal joints is supplied in rolls 18 inches wide. Cloth can be cut to the shape of the areas to be bonded. Heat and pressure must be applied to form bond. *By Narmco Resins & Coatings Co.*



13. Architectural adhesive. An experimental building in St. Paul, Minn., was assembled entirely with new experimental adhesive tapes. Not a single metal fastener was used. Structure was a test building to determine the "performance" of an adhesive-bonded building. Joining system reduces thermal loss due to metal paths through walls, eliminates supporting extrusions, provides rigid support for joint areas, is simple and inexpensive. *By Minnesota Mining & Manufacturing Co.*

14. **Junction box mount.** Epoxy adhesive supplied in putty form permits direct mounting of electrical junction boxes to masonry walls, tile, ceilings and floors, metal beams, wood panels. The adhesive-coated box is anchored in place when pressed for five seconds. Adhesive cures in about three hours. *By Permacel Co.*

CERAMICS

15. **Self-sealing ceramic.** A composite material composed of graphite and ceramic powders has the ability to develop its own protective coating in the face of two enemies—heat and oxidation. The new ceramic is still developmental; when it becomes commercially available, it may have important use as a space age material, since it automatically repairs breaks or cracks from its own body material. *By Boeing Aero-Space Division.*

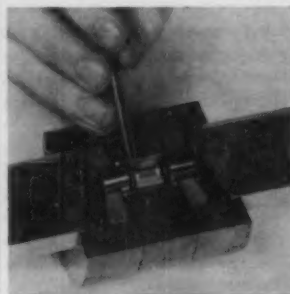
16. **Translucent ceramic.** Lucalox, a polycrystalline ceramic made from powdered aluminum oxide has the structure of metal and nearly the light-emitting ability of glass. The aluminum oxide gives it high strength, and the new ceramic can withstand higher temperatures than hitherto possible for ceramics; it can be pressed into any desired shape. *By General Electric Co.*

RECONSTITUTED MATERIALS

17. **Leather.** The production of leather goods may undergo a drastic change if a new leather making process, so far successful in the laboratory, proves equally effective in production. The new leather will be made by converting collagen to a solution and then producing a continuous sheet of any shape or thickness from the solution and hide fibers. The new material will be capable of being embossed with any grain and dyed in any color. In production of shoes, handbags, luggage and others, the leather sheets will lend themselves to a molding process. *By Armour Leather Co.*

18. **Cultured wood.** The structure of wood can be changed by a chemical rearrangement of molecules to make the material more durable and better able to withstand climatic changes. The new material

feels, smells, and looks like wood, but on rainy days furniture made from it will not swell; and under dry, overheated conditions, it will not shrink. *By Kroehler Mfg. Co.*



19. **Synthetic diamonds.** This year brought the first major news about synthetic diamonds since the material was first displayed by GE in 1955. GE has now been granted patents on the process and apparatus for large-scale diamond production. The U. S. Signal Corps' Research and Development Laboratory is so far the only other group that has managed to turn common graphite into synthetic diamonds. *By General Electric Co. and U. S. Signal Corps.*

MARONNY



20. **Foamed plastic planks.** Thin shell roof construction is possible with new foamed plastic planks which also provide thermal insulation. The boards are made of Styrofoam; they act as support for the application of structural roof material and can be used with roofs of many sizes and shapes. *By Dow Chemical Co.*

21. **Lancing concrete.** Powder-lancing of concrete with a tool called Oxweld ACL-4 is a noiseless and vibrationless method for breaking up concrete previously done by blasting. The new tool can also be used to pierce holes through concrete walls for piping, and to alter concrete structures. Main part of the tool is the lance handle connected to an oxygen supply and to the lancing powder, a special mixture of iron and aluminum metallic powder. The powder produces high temperatures which permit the lance to cut concrete. *By Lindo Co.*

22. **Impact drill.** The capabilities of a heavy-duty electric drill and power hammer are combined in a new impact electric drill whose high speed rotation creates sufficient force to drill masonry and reinforced concrete quickly and accurately. With extension couplings, the drill is capable of boring holes from 10 to 30 feet deep, depending on the type of materials. Designed for one-man operation, the No. 404 drill is small and easy to transport. *By Stanley Electric Tools.*

POWER

The stress in electric power generation is on simplification—the immediate conversion of heat and fuels into electric power without the aid of motors, compressors and other moving parts.

1. **Magneto-hydrodynamics.** This advanced concept for the generation of electric energy differs from conventional power generation, in which an electrical conductor moves through a magnetic field. The new method uses a high temperature (5000° F) ionized gas in place of the wire conductor, eliminating moving parts and improving efficiency. The reduced weight and high reliability will make this type of electricity generation desirable for space vehicle power, an application for which the heat source could be solar energy or a nuclear reaction. On space flights the generation would supply power for radio communication, light, heat, air-conditioning and electrical propulsion. *By General Electric.*



2. **Small thermionic converters.** A tiny (1½ inch) device capable of delivering one watt of electrical power directly from an 1100° C heat source is now in production. The unit will be a useful electricity supply source on space vehicles, where it will get its heat from the heat of the sun. Weighing three ounces, the converters yield a one-watt output at an operating efficiency of about 2.5 per cent. No moving parts are contained in the tiny disks; this means they create no noise in the process of generation and are well suited for use in electrically powered military equipment. The heat source from which they can operate may be solar, nuclear, chemical or fossil fuels. *By General Electric.*



3. Large thermionic converter. The conversion of nuclear fission heat into electricity by direct means (without the use of steam, generators, etc.) has been made possible with a cesium cell thermionic converter. In a series of reactor tests the highest electrical output achieved was 90 watts at a 10 per cent efficiency and operating temperatures of 3500° F. The aim of the experiments is to develop a nuclear thermionic reactor system for both space and land-based power applications. *By General Dynamics Corp.*



4. Thermoelectric appliances. Appliance manufacturers are experimentally using thermoelectric converters in place of motors, compressors and condensers in refrigerators, air conditioners and other appliances. A thermoelectric refrigerator, for example, directly converts electricity to cold by producing changes in electrons as they pass across the junction of two dissimilar thermoelectric materials. This eliminates most moving parts, drastically reduces the refrigerating unit size and makes refrigeration noiseless. The appliance above is an air conditioning panel using thermoelectric conversion. *By Whirlpool Corp.*

5. Fuel-cell-powered tractor. The power for an experimental tractor is provided by 1,008 propane-filled fuel cells arranged into 112 units of nine cells each. In this first large power application of this type of power supply, 3000 lbs. of drawbar pull—enough to pull a multiple-bottom plow—is developed. In a fuel cell the chemical reaction of gases in an electrolyte causes a direct current to flow. When perfected, the cells may provide electric power for homes and factories, trucks, buses, military weapons and space vehicles. *By Allis-Chalmers.*



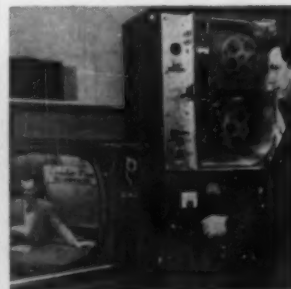
6. More of solar power. Two large solar converters (built by Hoffman Electronics) for the first time supplied the power for a two-way coast-to-coast radio conversation. One of the solar panels is at Fort Monmouth, N. J.; the other at Hoffman's Semiconductor Center in El Monte, Calif. When conversation took place between the two points, no standard electric power was used for radio contact. Radio transmitter and receiver power were supplied entirely by the solar energy panels which converted the sunlight on them directly into electricity. *By Hoffman Electronics and U. S. Army Signal Corps.*

7. Rechargeable batteries. Nickel cadmium batteries are not new but are much more prominent this year, and one manufacturer is turning them out in "button cell" sizes. The large cells, which can be recharged by merely plugging them into an ac line-outlet, have been reduced to the size of a coin for use with portable radios, flashlights, burglar alarms. *By Gulton Industries, Inc.*

COMPONENTS

Old materials applied to some new systems add up to compact components and point the way to quicker and more accurate communication.

1. Communication by light. Developments in communications laboratories point toward the future utilization of light waves as a medium for message transfer. This will be made possible by what is called an "optical maser," a device containing a synthetic ruby—which will beam light waves like radio waves, namely in a single direction. This point-to-point relation will permit enough control of light waves for message transfer. Using light waves in this way will relieve the now overcrowded radio bands, and increase the message-carrying capacities of wave bands. It is anticipated that the light waves will carry 10,000 times as much data as radio now can. Optical masers are being developed by a few laboratories, including Bell Telephone and Hughes Aircraft.



2. Thermoplastic recording. Early this year the audio and magnetic tape industry perked up its ears to listen to a new method of recording which stores sound—and sight—on thermoplastic film. Starting with a damping comment—"plastic will never take the place of the traditional magnetic medium"—spokesmen of the tape industry let it be known that they had all been working away developing a thermoplastic recording method for some time. When perfected, the new method will be to information storage what utilizable light waves promise to message transfer: it will have far greater handling capacity than the medium it seeks to replace. The new system can

store 24 volumes of encyclopedia on a reel the size of a spool of thread, and play it back either as an electric output signal or as a modified photographic image. An electronic beam is used to charge the thermoplastic film with the data, which the process "freezes" into storage. *By General Electric.*



3. Memory devices. Latest newcomer in advanced research laboratories is a field called bionics, whose specialists attempt to describe biological functions in terms of a mathematical equation. This will enable engineers to translate the equations into electronic equipment. The near-human machines will presumably come close to human selectivity; just as a shopper picks out the merchandise she seeks, the machine will select exactly and only what it needs. Thus an exploratory satellite will select and concentrate on only information for which it was sent.

Sending devices like the "neuron" by Aeronutronic—a tiny ceramic magnetic core with wires—are supposedly able to duplicate portions of the human nervous system, and actually to learn. Another new device by IBM (above), made of a thin steel shell, can carry 100,000 bits of information on the magnetic surface of the steel drum. RCA is using new magnetic discs similar to 45 rpm records for the 301 EDP system's "memory storehouse." *By Aeronutronic, IBM, and RCA.*

4. Radiation detector. A new instrument packaged in a cigar-size cylinder is being developed to detect the amount of radiation that will have penetrated cabins during space flights. The detector's main element is a slice of silicon which, when struck by nuclear particles, emits pulses fed to a telemeter system inside the vehicle; the system in turn transmits the signals to receiving stations on earth. *By Hughes Aircraft Company.*

5. Electronic "eye." A device that can sense the heat generated by jet engines has been developed to hunt and detect enemy aircraft. The supercooled scanners are held at a temperature of more than 300° below zero and are meant to be carried by interceptor planes informed of enemy approach by radar. Once spotted, the device indicates the target's exact position to the pilot on a small tv tube. *By International Telephone & Telegraph.*

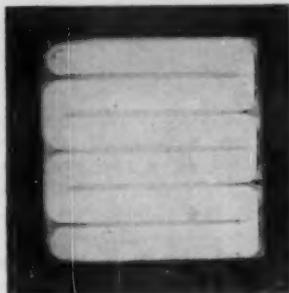
6. Gas bearing gyro. A new gyro containing ceramics in some of its most critical parts, and gas bearings which eliminate the ball bearings used so far, operates with sharply reduced drift inaccuracies. *By Minneapolis-Honeywell Regulator Co.*

7. First of new transistors. Cadmium sulfide is the material of a new type of transistor whose photoconducting properties make it a different kind of circuit device. As a result of the electrical properties of its material, which is greatly affected by light and other radiation, the amplification of the transistor can be controlled by changing color or intensity of light striking it. *By General Motors.*

8. Combo-tube. A new small "old-fashioned" electronic tube combines into one unit electron control functions formerly performed by up to three miniature tubes. Combo-tube may make possible electron-control centers (for radio, tv, garage doors, stove) in the home. *By General Electric.*

PRODUCTS AND PACKAGES

Lighting and packaging concepts this year are directed toward saving space and energy.

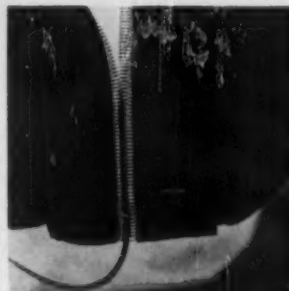


1. Flat fluorescent lamp. This thin, rectangular lamp consists of a maze of fluorescent passages sealed in a thin glass block. The electric discharge travels this path through the glass block, thus producing a large-area source of light. The blocks come in modules one foot square, and one and one half inches thick. The one-foot square models will be 40-to-50 watt lamps, but will produce more light than a 100-watt incandescent bulb. *By Westinghouse.*



2. Shatter-proof light bulb. "Flamescent" is the name of a new bulb made of Fiberglas yarn and a new silicone adhesive. The combination makes it shatter-proof and impervious to thermal shock. A large cooling crown lowers the filament operating temperature. Patents pending. *By Duro-Test Corporation.*

3. Super-speed camera shutter. The shutter in this camera works at a speed of 1/1000th of a second at its full one-inch aperture. This Graflex 1000 between-the-lens shutter makes possible high-speed pictures uniformly exposed. The new unit also has good motion-stopping ability throughout the full shutter speed range. The camera itself, the Super Speed Graphic—designed by Peter Muller-Murk Associates in cooperation with Graflex, Inc. engineering department—is of extruded aluminum with a two-tone gray and charcoal covering. *By Graflex, Inc., General Precision Equipment Corp.*

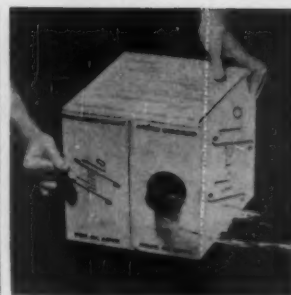


4. New zipper. This zipper closes by meshing two springs together vertically and then inserting a flexible steel rod up through the center shaft created by the overlap of two springs. Developed for a government order space-suit closure. *By Arthur D. Little, Inc.*

PACKAGING

5. Two-part adhesive. A new bonding material, Armstrong J-1158, designed to bond replacement mirrors to automobile windshields, is intended for use wherever a strong, flexible chemical setting type of adhesive is needed. The adhesive is packaged in a small saran tube containing both the base material and the catalyst. The catalyst is contained in a smaller tube inside the larger one. To mix, the small tube is broken by squeezing, becomes part of the large tube, and the catalyst is kneaded into the base. The tube also serves as applicator. *By Armstrong Cork Company.*

6. Textured cans. A new line of textured finishes for lithographed or coated metal cans offers new appearance possibilities and easier-to-grip surfaces. *By American Can Co.*



7. New liquid containers. "Fibrelo" is a packaging concept for all types of liquids: foods, chemicals, oils, syrups. Consisting of a corrugated cardboard construction with flat outside surface and inner plastic liner, the containers for store use can lie flat before and after use; can serve as packages for various liquids. Containers have a reclosable spout and a strong handle. *By Fibreboard Paper Products.*



8. "Slide-Top" case. A new hard box cigarette package made of .014 paper board works like a slide-opening cigarette case. Pack is opened by sliding a loose paperboard panel away from a top opening. Panel is guided by side flaps. New package can be produced from a one-piece, die-cut paper-board blank on standard cigarette-packaging machines. *Designed by "Slide-Top" Packaging, Inc., manufactured by Brown & Williamson Tobacco Corp.*

TRANSPORTATION

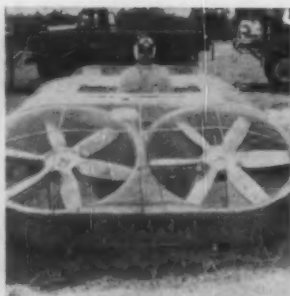
Innovations based on nature and technology improve movement on land, air, and sea.

1. Automated subway. For the first time in subway history a train has run on taped instructions. The motorman-less trial run between Times Square and Grand Central in New York City was preceded by hundreds of experimental runs in Brooklyn. The run is controlled by an electronic circuit which tells the decoder (a sort of electronic motorman and conductor combined) when to close the doors, when to start the train, when to slow down, when to stop. A tape recording and a flashing signal warn passengers when doors are about to close. For the New York City Transit Authority by General Railway Signal Company and Union Switch and Signal Company.

2. Magnetic powder transmission. A new automotive transmission sends the drive from one rotating member to another by means of metallic powder that passes a magnetic field to each member in turn. Advantages of this new transmission are: no power loss due to slippage; longer service; continuous driving torque while the car accelerates; easier maintenance. Made in England, introduced to U. S. by British automobile manufacturers, *Rootes Motors, Ltd.*, in their Hillman Special.



3. Uphill. An army vehicle built largely of magnesium and aluminum, and appropriately called the Mechanical Mule, weighs 900 lbs., can carry a 1,000-lb. load plus driver over a 60 per cent grade. By *Willys Motors, Inc.*



4. Above-ground. This experimental Free Air Suspension Vehicle lifts itself up to move across both land and sea. Twin rotors set in ducts provide lift and thrust. By *Chrysler Corp.*



5. Over-the-beach. This light amphibious resupply cargo, the Larc 5, is an all-aluminum vehicle designed for quick over-the-beach supply missions. By *Borg Warner.*



6. Across streams. Aluminum foot bridge can be erected from far side of river in a matter of minutes, by pushing aluminum pontoons toward target side, as they are joined. For *U. S. Army.*



7. Fireproof. Crew prepares to fire a 4.2-inch mortar mounted on a new versatile tank, the M-56, whose special equipment converts tank to a carrier and firing platform for mortars. For *U. S. Army.*

8. Turbofan engine. The new JT-3-D is being used with commercial jets by airlines (American, United, KLM, Lufthansa, etc.) flying the Boeing 707-120B and 720B, as well as the fan version of the Douglas DC-8. New engine delivers 17,000 pounds of thrust at takeoff, is said to be more efficient at subsonic speeds than pure jet, with 10 per cent lower fuel consumption at comparable thrust. By *Pratt & Whitney Aircraft.*



9. Business jet. The Sabreliner is a twin-jet business plane that can carry passengers at about 500 miles an hour over 1,800 miles in one hop. The plane is directed entirely toward the corporate aircraft market for rapid executive transport. By *North American Aviation, Inc.*

10. Anti-turbulence coating. Taking the effortless underwater movements of the porpoise as an example, Dr. Max O. Kramer, a Los Angeles inventor, has developed a rubber coating to increase the speed and efficiency of sea travel. Coatings developed so far have reduced drag by about 50 per cent on underwater measuring

devices. *U. S. Rubber* is experimenting with the material on the hulls of motorboats.



11. Blasting snow. Highways and airfields can be snow-cleared more effectively with this new "Snow Compactor" snow-blast tractor. Its rotary snow plow is fitted with a special chute that carries the discharged snow to the rear of the unit, where it is pressed into a hard surface. Surface can be used as a landing strip for snowed-in airfield. By *American Snowblast Corp.*



12. Liquid carriers. The Rollitanker combines a container with a wheel for hauling liquids directly to their destination. By *Goodyear Tire & Rubber.*

13. Spare tire assembly. A lightweight spare-tire assembly less than one inch thick is not inflated until required. Called the "Standby," it consists of a steel disk drilled to match the wheel studs of the car. A CO₂ bottle is supplied with the unit to provide the pressure when inflating the tire. By *Dunlop Tire and Rubber Corp.*

INFORMATION SYSTEMS

Electronic systems instantaneously relay messages, a corps of robots perform hazardous tasks, and machines teach people to operate machines.

1. Satellites for communication. The successful operation of new message-transmitting satellites will mean reliable transoceanic communication, with messages received almost the moment they are sent. So far, the military has been the force behind these projects, but their civilian potential is also great. One such satellite—called the Courier—carries equipment consisting of circuits containing 1,300 semiconductor devices (transistors and diodes); equipment was developed by Philco. Another scheme employing a natural satellite, the moon, for relaying conversation, is a Bell Labs experiment called "Moonbounce." This is also aimed at the establishment of a satellite communication network to carry telephone calls and television programs around the world. *By Philco; Bell Labs.*

2. Electronic ear. A new listening device—perhaps the most sensitive one ever developed—is capable of picking up faint radio signals from interplanetary rockets millions of miles away. Like the optical maser, this device—the ruby maser—has a "ruby" heart which, coupled with a 12-ounce magnet, can amplify the most distant signals with high fidelity and low noise. *By Hughes Aircraft.*

3. Most powerful tube. Intercontinental tv and outer space communications are being pushed closer to actuality by a new electron tube whose average power output is supposedly four times greater than that of any other tube at the same frequency rating. Its power is sufficient to send a tv picture halfway around the world by bouncing it off an object in outer space. *By RCA.*



4. Silent sentry. This transistorized combat surveillance radar unit can detect a person moving half a mile away in the dark. The unit cuts power needs in half and makes it possible for a battery to replace previously used gas generator. *For U. S. Army by Sperry Gyroscopes.*

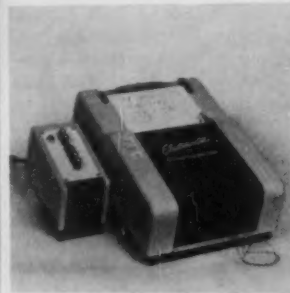


5. Blind man's reader. First discussed two years ago, and now at the demonstration stage, a reading machine for the blind acts as an aural print interpreter—it creates tonal patterns from the print, which the blind then reinterpret into letters. *For the Veterans Administration by Battelle Memorial Institute.*



6. Image-forming tube. A special type of cathode ray tube can establish an image on non-sensitized paper, plastic or other dielectric material. The tube directly transfers electrons from the electron beam (containing the image) to the printing medium on which it

"prints" an electrostatic charge which can then be made visual with a pigmented powder that adheres to the electrostatically charged surface. The new tube, the B3-C2 Printapix, provides denser images at a quicker rate than possible with previous tubes. *By Litton Industries.*



7. Long-distance handwriting. Improvements have been made this year in equipment which transmits written messages instantaneously; receiving stations receive the message in exactly the same way in which it is written at the sending station. TELautograph's new Model D telescriber uses solid-state circuitry which improves the unit's signal quality and transmission range, which is now a radius of up to 50 miles. Comptometer's unit, the Electrowriter (above), can be used with or without a telephone hook-up. *By Telautograph Corp.; Comptometer Corp.*

8. Automatic translator. Since a year before its public demonstration, last May, a robot has been translating the Russian *Pravda* into rough but meaningful English. The machine, which can translate at a rate of 1,800 words a minute, has at its core a rotating glass photoscopic disk memory. This constitutes its "dictionary," from which a light beam selects the right English word matching a Russian text. Translation of a word takes 1/30th of a second. *By IBM.*



9. Electronic highway. An electronic circuit that can provide automatic traffic control on highways has been tested. The system could include warning lights along roadside and intersections, speed detection and warning, vehicle counting, adjustment of traffic lights to encourage maximum flow of traffic, and specially equipped automobiles that operate automatically. *By RCA.*



10. Traffic detector. A new infra-red detector, the Traffic Control Detector, can be connected with existing traffic control boxes, and detect and count cars traveling at up to 80 mph. When mounted, the detector is positioned so that an infra-red beam projects downward into the traffic lane. The beam is reflected from the pavement into a receiver lens. When cars or trucks break the beam, they are counted. *By Heiland Division of Minneapolis-Honeywell Regulator Co.*

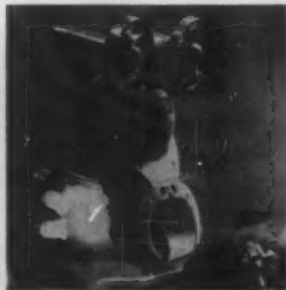


11. Electronic guard system. A single guard is now able to sit at his console and guard an entire wired-in area (grounds, plant, buildings). The guard can tune in sections of the location he is surveying on his closed-circuit tv, talk with anyone seeking admittance, determine any attempt to sneak onto the grounds, and perform various other policing activities. *By Minneapolis-Honeywell Regulator Co.*



12. Mechanical arm. A human operator at a small portable control box can handle contaminating materials by supervising a mechanical arm. The arm has a reach of about 18 feet, and can flex and rotate at the shoulder, bend its elbow, rotate at the elbow, bend its wrist, spin its wrist and close its fingers; it can hold more than 100 pounds. *By General Mills.*

13. Image recognition. A machine that can identify objects or patterns, including letters of the alphabet, has been developed experimentally. It is an electro-mechanical device consisting of a sensory unit of photo cells which view the pattern shown to the machine; an association unit which contains the machine's memory, and a response unit which displays the recognition response. Called the Mark I perceptron; *by Cornell Aeronautical Laboratory.*



14. Underwater robot. Connected to a ship by a pair of cables, a robot with claw-like pincers can retrieve underwater objects 2,000 feet below the surface. When it detects an object with its tv eye, the object also appears on a tv screen aboard the ship, to guide the operator in guiding the robot to its prey. *By Vitro Laboratories.*



15. Robot of many talents. A new industrial tool called TransfeRobot can perform complex tasks without elaborate programming. Equipped with mechanical arm and electronic brain, it can handle and assemble parts, operate accessory tools and machines, position parts. The robot is instructed by a chart which actuates the proper switches and controls for a given performance. *By USI Robodyne Div. of U. S. Industries, Inc.*



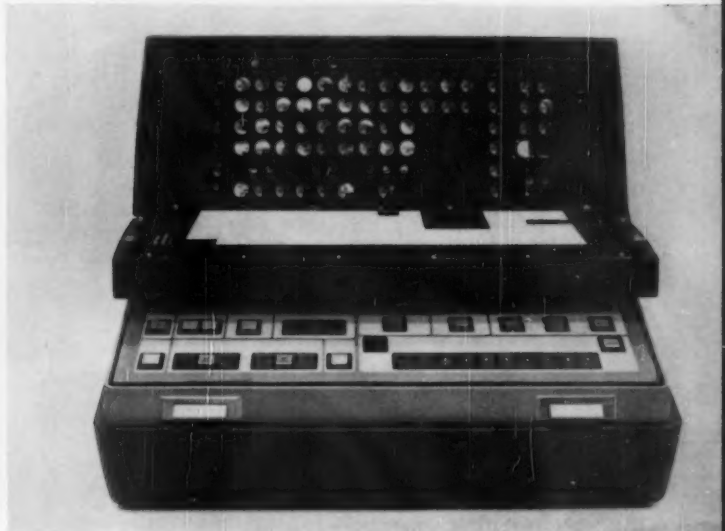
16. Teaching machines. A machine is now being used to train personnel how to operate the machines which have replaced them. The U. S. Post Office has ordered these mechanical instructors, called Digiflex, to retrain postal clerks whose jobs have been taken over by automatic letter-sorting equipment which they must now learn to operate. The machine instructs by conditioning a person's physical reflexes to a new function. *By USI Robodyne Division of U. S. Industries.*

17. Air traffic control. Plans are afoot to centralize the nation's 33 air traffic control centers by a data processing system which would "know" the exact status of each aircraft. Flight plan information will be entered by controllers into stations linked with the system's central computer. Information sent by the computer will be read at controllers' consoles. *Computer by Librascope Division, General Precision, Inc.*

4. Programmer comparator, *General Electric*



5. Manual input consolette, *Radio Corp. of America*



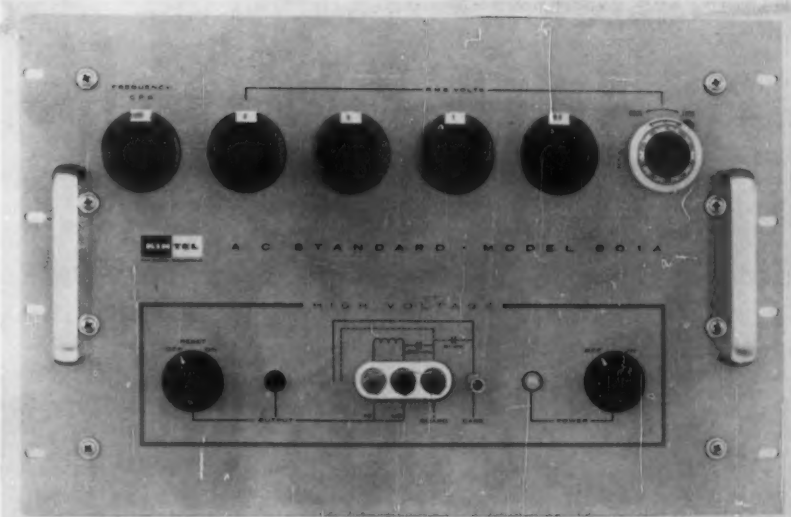
Electronic instruments *Continued*

4. GE programmer comparator simplifies tape reels to solid disks, separates tape section from controls by color on panel by color on panel and switches. Gripping edge of cut-out handle on side is neatly wrapped with metal. Aluminum sheet and extrusions.

Designer: Gerald M. Adams, GE staff; George A. Beck, project head.

5. RCA manual input consolette (shown with equipment status display lowered) organizes a great deal of information in small, desktop unit. Numerical readouts, pushbuttons, and indicator lights are arranged on simple, clean grids; but housing seems clumsy. *Designers: G. Miller, F. Joyner, W. MacPherson, RCA staff; S. Levine, project engineer.*

6. Kin Tel 801A AC voltage source has unusually subtle controls. Top and bottom tier are arranged in relation to entire panel; lettering is well-proportioned; clever use of white square behind plastic flange of upper dials sets off numbers. *Designer: Cohu staff; Harold Ahrens, project head.*



6. Voltage sources, *Cohu Electronics*

1. Spectrophotometer, Consolidated Electrodynamic Corp.



NON-CONSUMER

Electronic instruments

1. Consolidated Electrodynamic laboratory mass spectrophotometer, like all complicated instruments today, makes a point of human engineered work-space and control operations. Electronics console (left) and analyzer unit (right) put all controls at operator's arm's reach. Cabinet panels (Formica on honeycomb cores) are easily dismounted from the heavy-gage aluminum frame for easy maintenance (below).

Designer: Andrew Nowina-Sapinski, staff; Charles Blanchard, project engineer.

2. Beckman instrument housings are generally impeccable, and this double-beam spectrophotometer is no exception. Note that a subtle indentation under left-hand lift-up door (which encloses cell compartment) replaces what would otherwise have had to be an unsightly knob, and echoes the oblique bevel angles that provide the single motif of this composed design.

Designer: David J. Malk, staff; Tor Petterson, consultant; Robert E. Moody, chief project engineer.

3. Perkin-Elmer Infracord spectrophotometer is characterized by an interesting relation of large planes to small details, a theme which is emphasized by the combination of typefaces in the trademark group. *Designer: Eliot Noyes Associates; Nelson Alpert, project head.*

4. De Mornay-Bonardi precision standing wave detector won a certificate of merit at WESCON this summer.

Designer: Staff design.

5. Beckman gas chromatograph features functional groupings of controls and readouts into four quadrants. Lacquered steel.

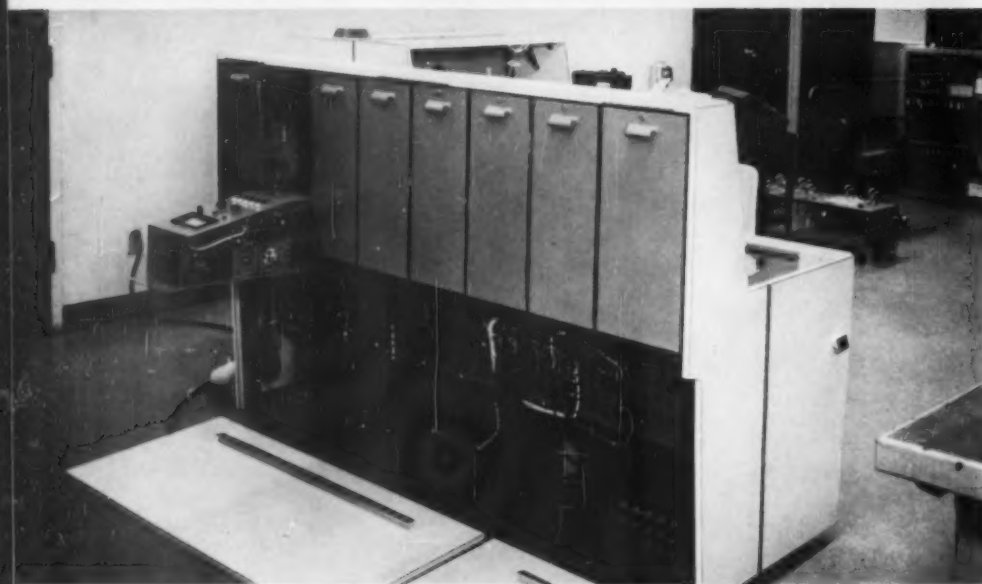
Designer: David J. Malk, Staff; Tor Petterson, consultant; Douglas B. Gardner, chief project engineer.

6. Eitel-McCullough power triode is an excellent component that might have been a very pedestrian product had the manufacturer not paid attention to good detail.

Designer: Staff design.

7. Consolidated Electrodynamic process chromatograph control unit panel is clean, but it is not quite as simple as it looks. A score of potentiometers are hiding behind the nameplate panel. Designer has relied on printed brackets, instead of unit composition, to group controls into functional areas.

Designer: Andrew Nowina-Sapinski, staff; William Fisher, project engineer.

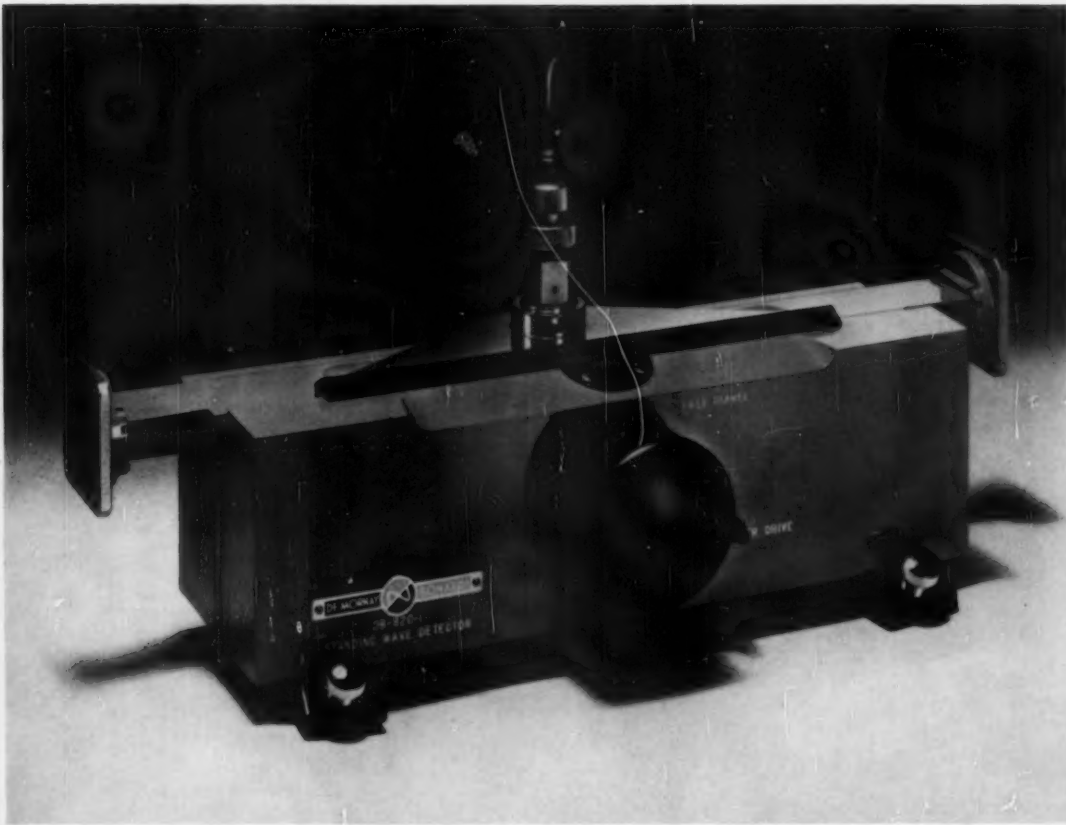


2. Spectrophotometer, Beckman Instruments, Inc.

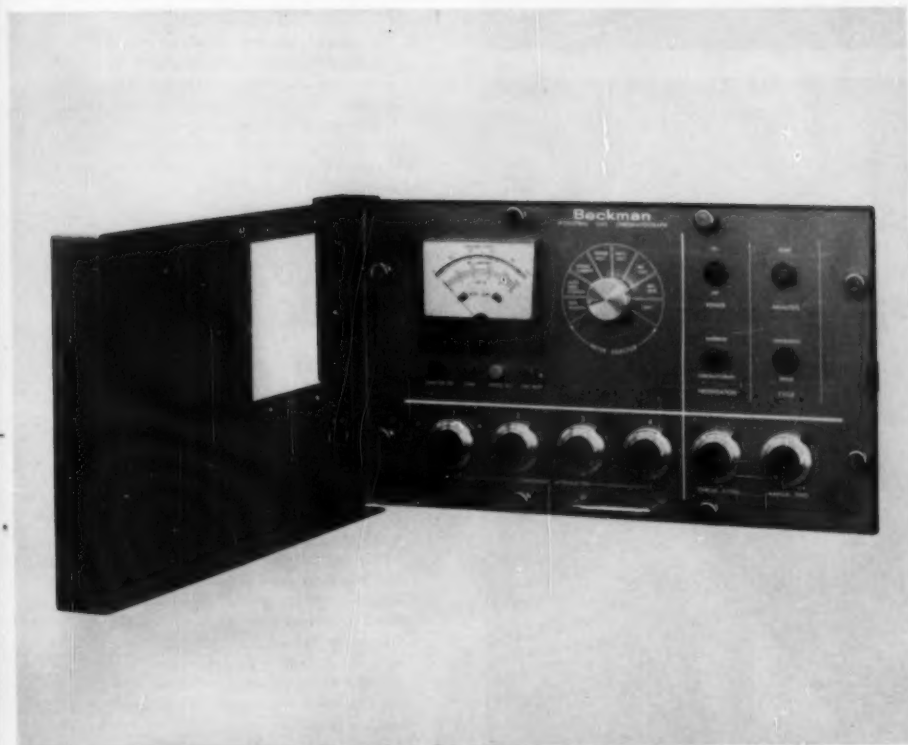


3. Spectrophotometer, Perkin-Elmer Corp.

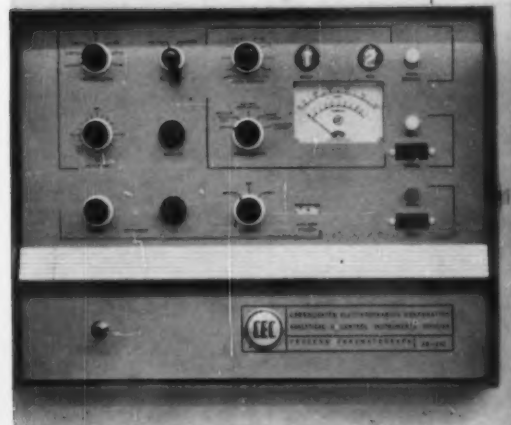
4. Standing Wave Detector, De Mornay-Bonardi



6. Power triode, Eitel-McCullough, Inc.



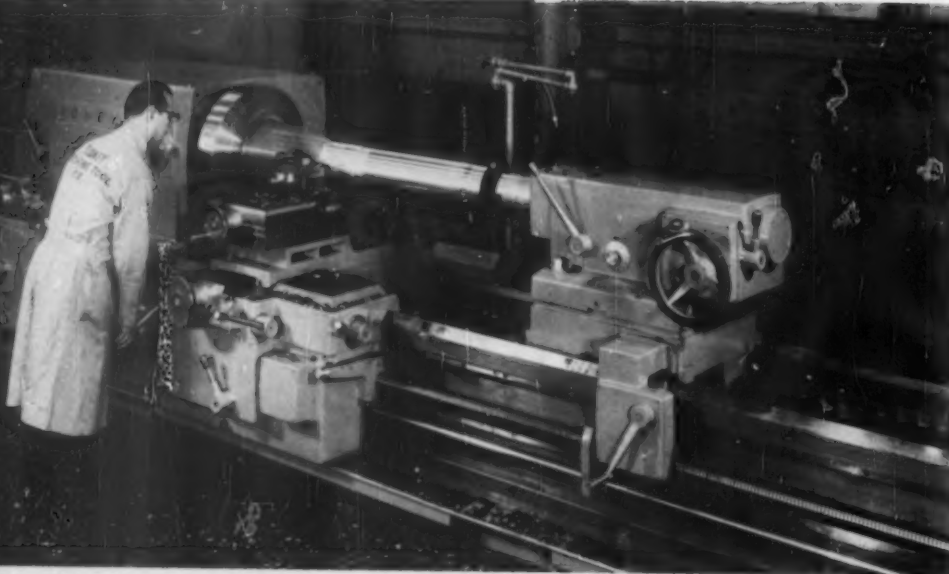
5. Gas chromatograph, Beckman Instruments, Inc.



7. Process chromatograph, Consolidated Electro Dynamics Corp.

Machinery

1. Lathe, Sidney Machine Tool Co.



1. Sidney lathe is a new item, not a redesign. Standard man-machine system studies were used as basis for grouping operator's spindle speed and threads-per-inch controls. Cast iron parts are finished in gray enamel; levers are machined steel with nylon grips.
Designer: Read Viemeister. Wilbur Gerchow, vice-president, Buhr Machine Tool Co., directed project.

2. Warner & Swasey called on industrial design to help build its new servofeed turret lathe from the ground up, and the results show it. Human factors studies showed the advantages of putting turret, bed, bedways, and cross slide at a 20° incline from the vertical, and this is the machine's most remarkable visual effect.
Designer: Henry Dreyfuss.

3. Cincinnati Lathe and Tool Co.'s six-spindle turret drill is a case of extreme design modesty. Almost self-effacing.
Designer: Staff design.

4. Cincinnati Milling Machine Co.'s "Acramatic Numerical Control" is useful in varying component arrangements, with a number of different types of machine tool operations. It is shown controlling the Cincinnati six-spindle drill (3) and grinding machine (5).
Designer: Staff design.

5. Cincinnati multiple diameter grinding machine, numerically controlled, is more artfully designed than the drill (3), and it is also a better integrated piece of work.
Designer: Staff design.

6. Norton cutter and tool grinder received most of the designer's attention in its overall shapes, rather than in details. Result is clean, but rough-hewn.
Designer: Designers for Industry.

7. Packaging Machinery Co.'s "Transwrap" bag forming and filling machine makes no attempt to conceal its intricate mechanism. Bold treatment of control knobs keeps them from getting lost among the other forms.
Designer: Peter Muller-Munk Associates with Packaging Machinery staff engineers.

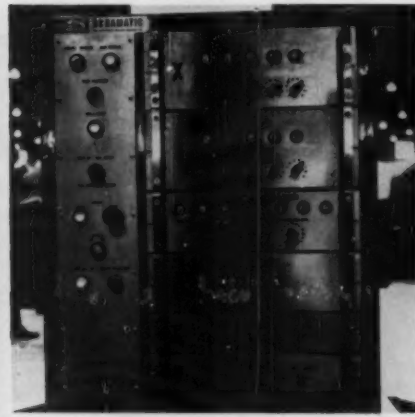
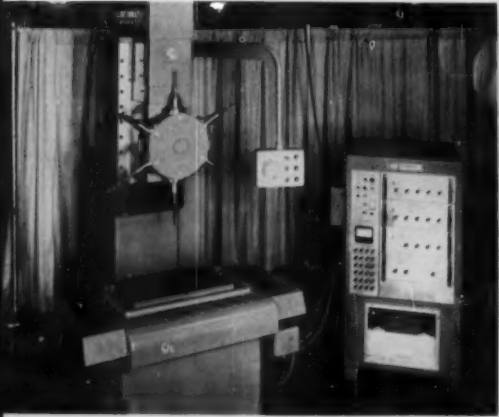
8. Kearney & Trecker milling machine employs a strong L-shape in place of the former C-shaped frame. Its operating controls were detailed to meet human factors studies made by the designers.
Designer: Peter Muller-Munk Associates.

2. Lathe, The Warner & Swasey Co.

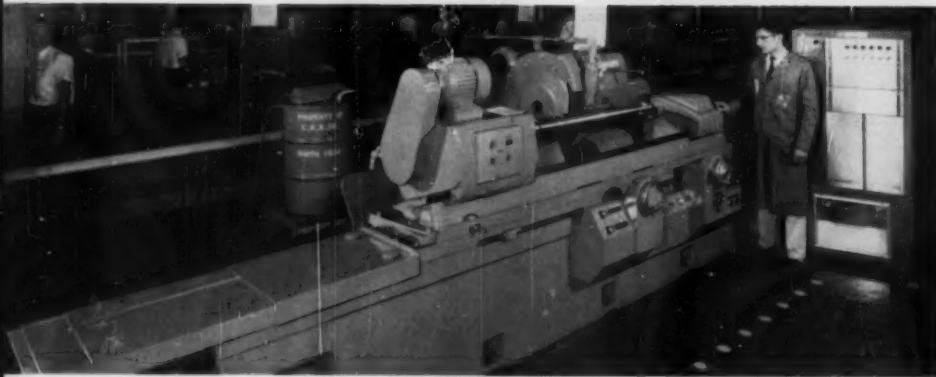
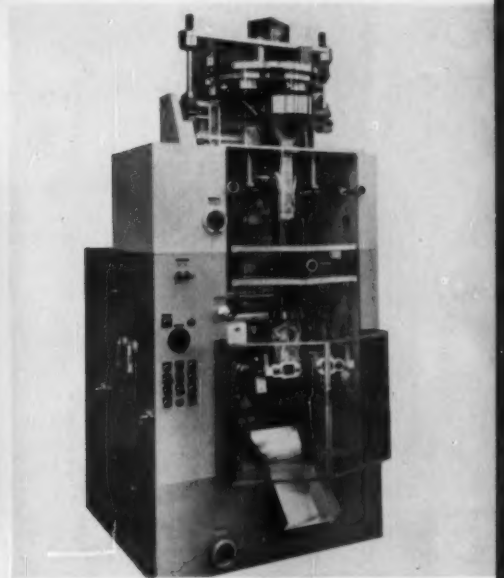


3. Turret drill, Cincinnati Lathe and Tool Co.

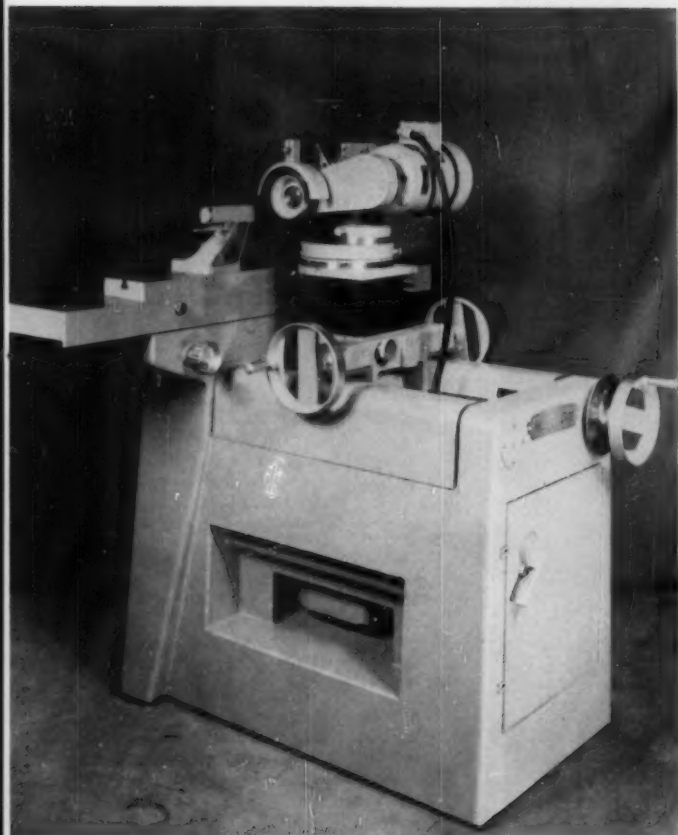
4. Numerical control, Cincinnati Milling Machine Co.



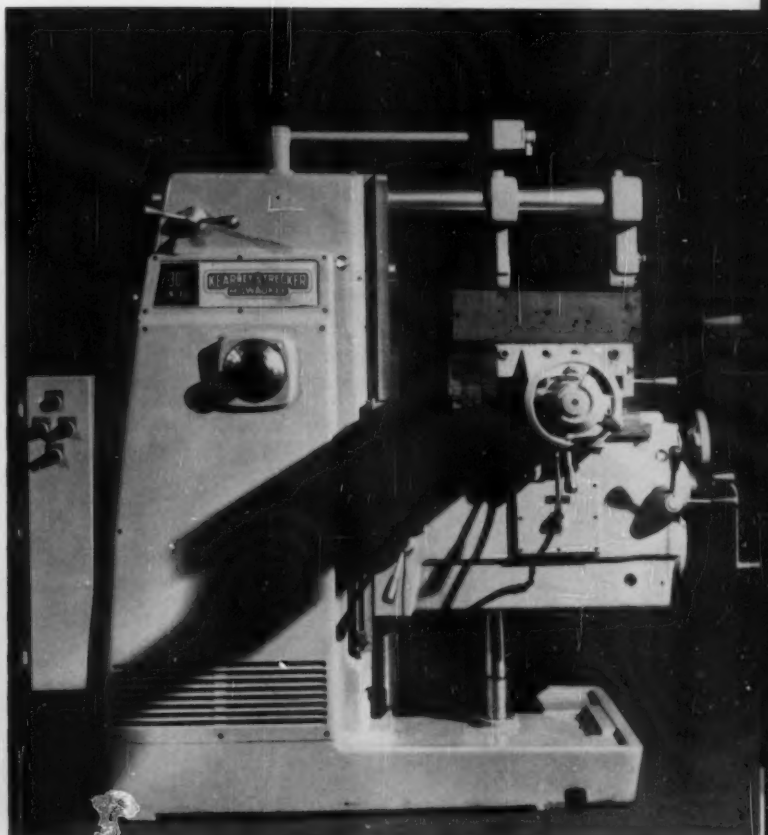
7. Bag machine, Packaging Machinery Co.



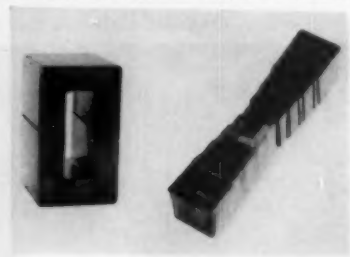
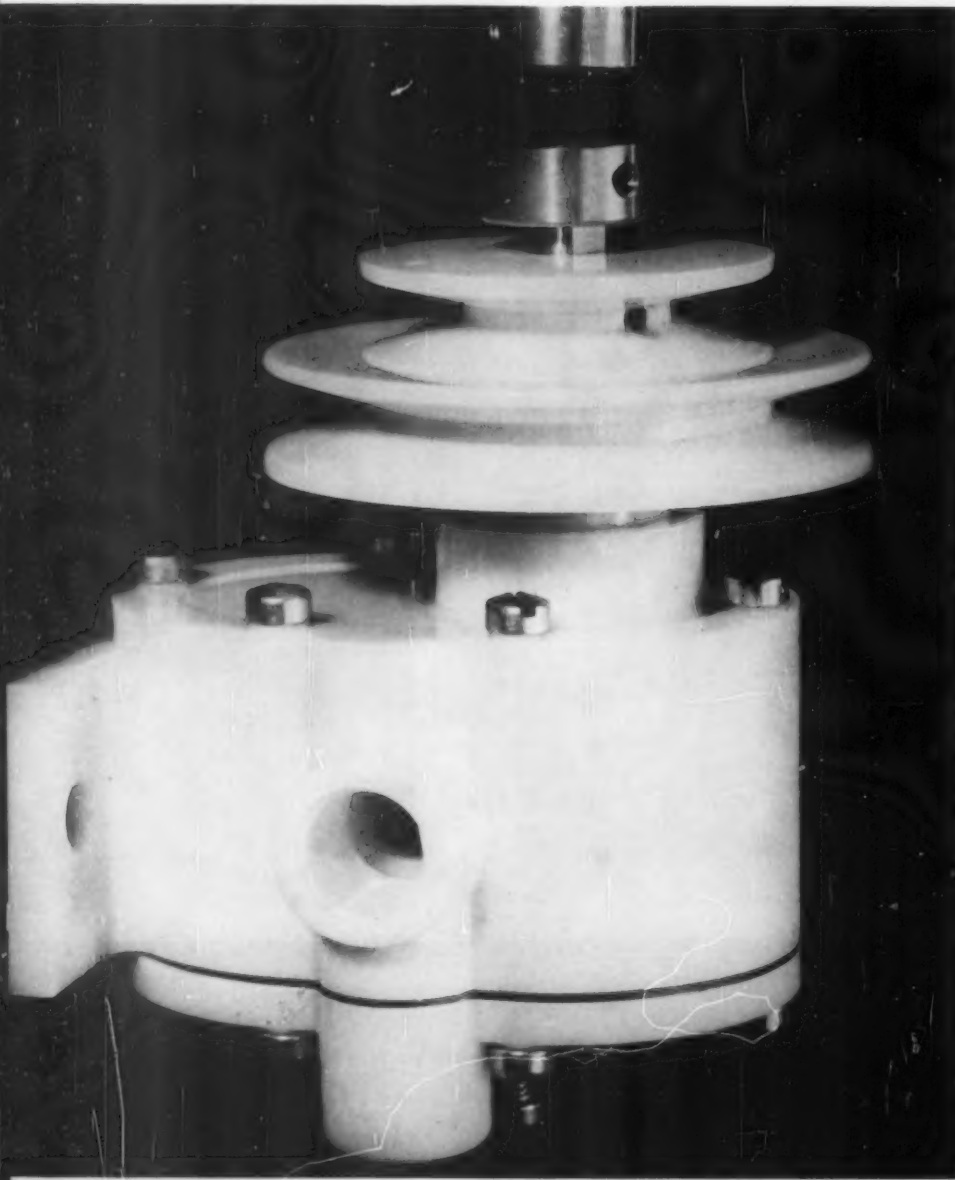
5. Grinding machine, Cincinnati Milling Machine Co.



6. Cutter and tool grinder, Norton Co.

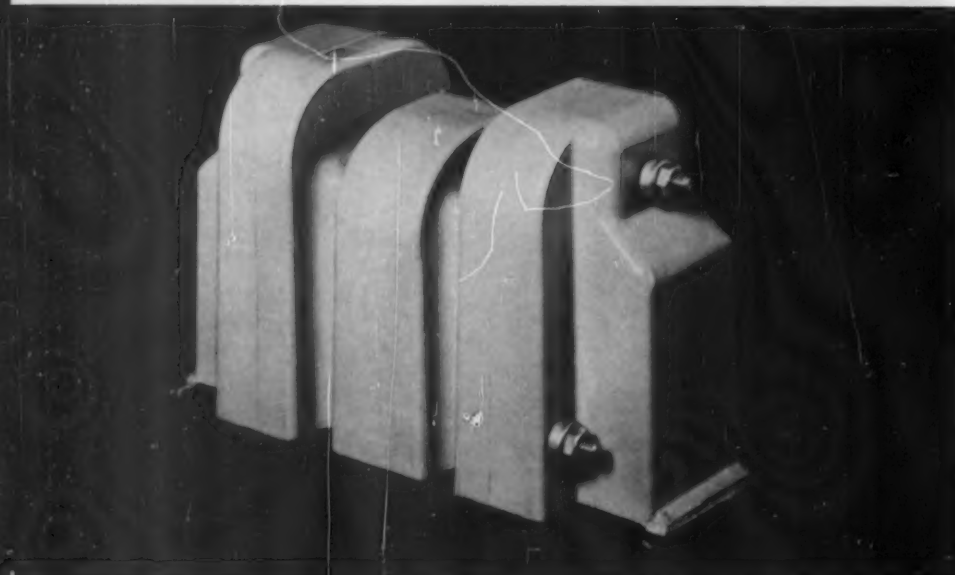


8. Milling machine, Kearney & Trecker Corp.



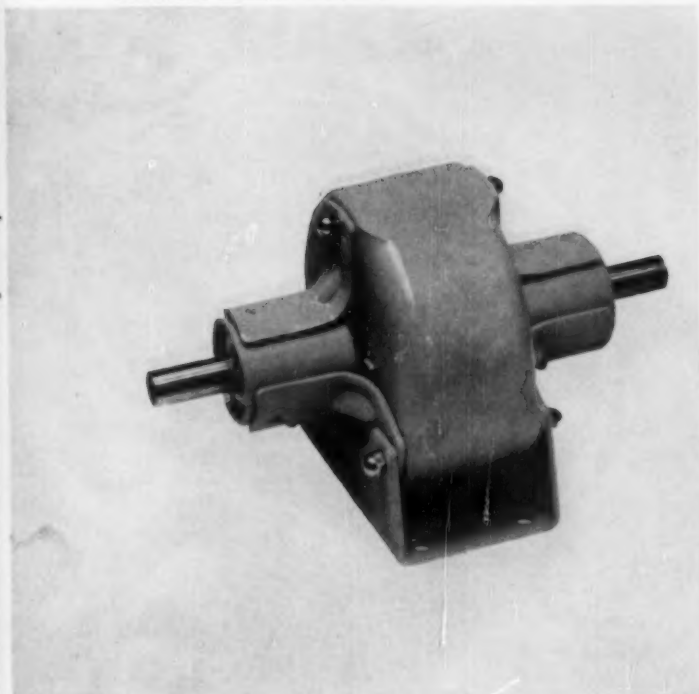
Tools

1. Planet gear pump, molded in white Delrin, was not designed for "looks," but it comes by them naturally. Unit features low cost, smaller size, minimum maintenance, almost frictionless operation. Also looks good right side up. Designer: Oscar C. Blomgren.
2. Jefferson Electric Co. boasts that its new "Milestone" neon sign transformer is the first radical change in transformer design in 30 years. Components are encapsulated in epoxy compound that forms the molded housing. Designer: J. E. Budovic, staff; J. B. Finch, project engineer.
3. Sylvania "Flexi-core" transformer cores allow degree of design flexibility not permitted by the standard "EI" stacked laminations or "C"-type wound cores. "Flexicore" cores are stacked simply by pressing the two half sections, which come already staggered, together. Designer: Sylvania staff.
4. Vickers "magneclutch," a dry magnetic particle clutch for cycling, tension, and speed control, is half the weight of its predecessor and costs one-third less to manufacture. Carbon steel base and supports. Three nuts assemble unit. Designer: Earl Claus Associates; Les Buechler, staff chief engineer.
5. Pines Engineering finishing machine (for deburring and chamfering the end of metal tubing) carries consumer product styling into a purely industrial product. Although there is repeated use of the vending-machine profile, the result is a commendable neatness. Designer: Palma-Knapp, Inc.
6. Thor concrete vibrator is a very carefully worked out piece of power tool design. Sand cast aluminum painted gray-green; steel tubing stamped and formed. Designer: William M. Schmidt Associates.
7. Skil heavy duty sander is designed to look heavy-duty. It features two-way motion (fore-and-aft and round-about), is made of die-cast aluminum alloy with a Neoprene drive belt. Designer: Frank Kuenzi, staff.

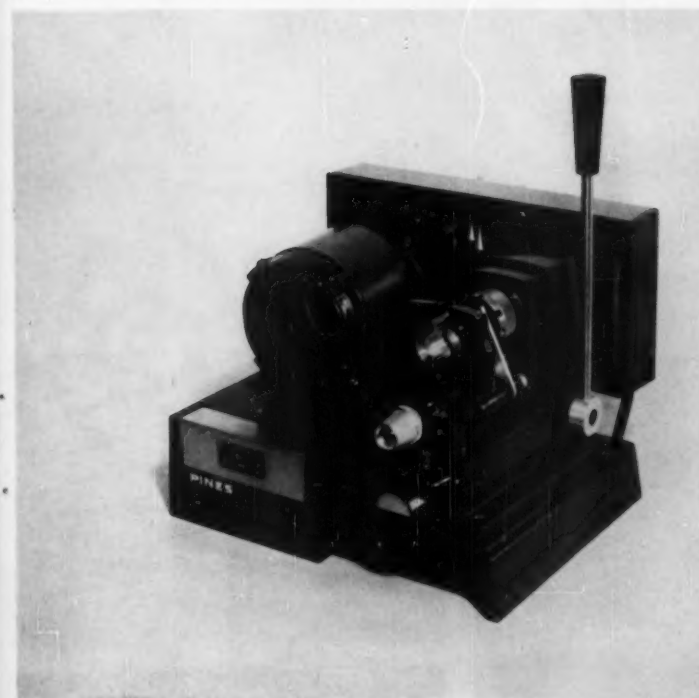
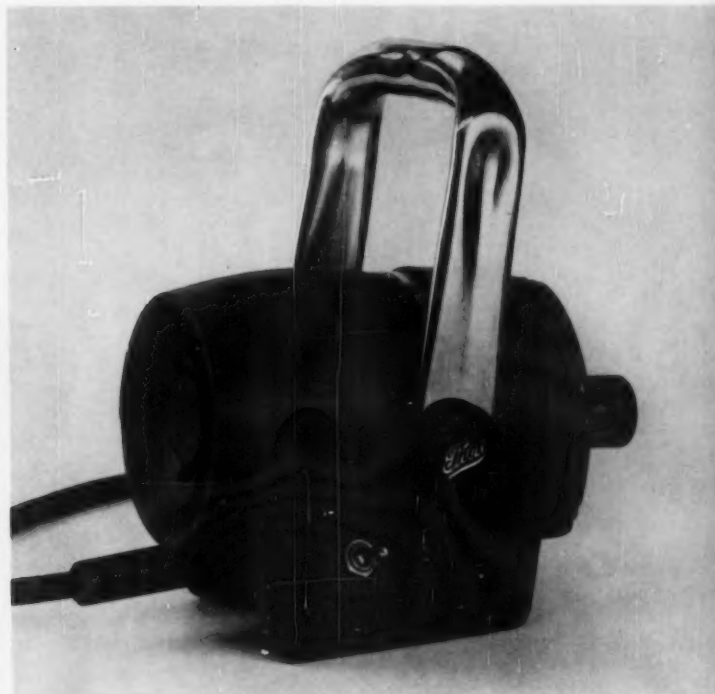


2. Neon transformer, Jefferson Electric Co.

4. Magnetic clutch, Vickers, Inc.



6. Concrete vibrator, Thor Power Tool Co.

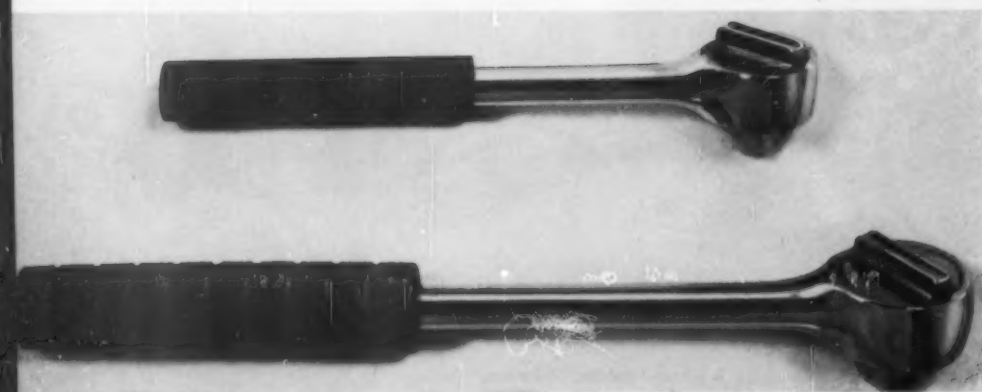


5. End finishing machine, Pines Engineering Co., Inc.

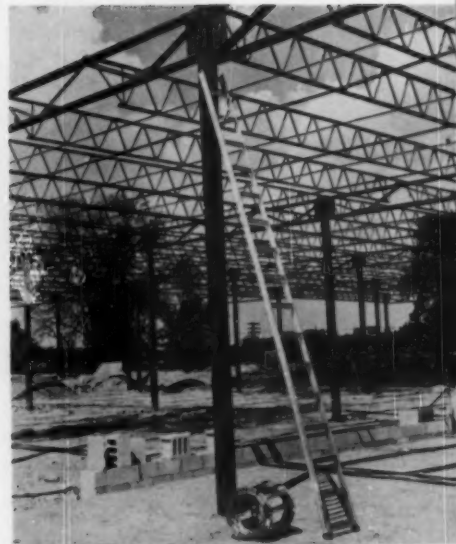


7. Electric sander, Skil Corp.

1. Stroboscope, General Radio Co.



2. Socket wrenches, Wright Tool & Forge Co.



3. Roll-up ladder, Aladdin Products, Inc.

Tools

1. General Radio stroboscope is housed in a compact flip-tilt case with a captive cover that protects instrument in transit and provides a base for use in tilted position. Handle locks over pins to hold it in open, closed, or tilted position. Strobe light has a hinged arm and swivel base so it travels 180 degrees on one axis, 360 degrees on the other.

Designers: H. C. Littlejohn and M. J. Fitzmorris, General Radio staff; M. C. Holtje, project head.

2. Wright socket wrenches are precision instruments with more ratchet teeth than most, and refinement of design is calculated to express superiority. Smaller drive wrench substitutes grooved extruded rubber grip for previous knurled grip; larger wrench has molded rubber grip designed to improve turning action — it also tapers to discourage the wrench's use as a hammer. Contrast between hard and soft cylinders of metal and rubber is effective, but joint between head and handle is not notable.

Designer: Greenlee-Hess.

3. Aladdin roll-up aluminum ladder unrolls, locks, supports 1000 pounds, and is a bright idea, although its appearance is more novel than beautiful.

Designer: Charles C. Scruby.

4. Realist surveying instrument includes a slanting hood over the front of the scope and a simplified base which is easier to clean and operate. But its sleekness is to some extent self-defeating, for the hard, sharp outlines seem to have little to do with the essential shapes and functions of the parts.

Designer: Roger Kelly, Jack Collins Associates.

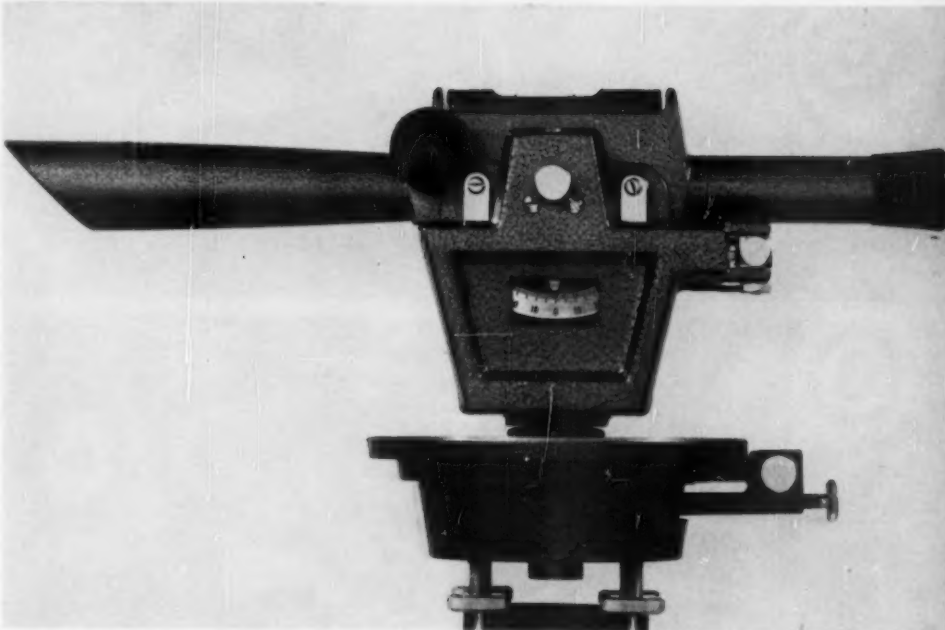
5. Jacobs lathe chuck and collet set is a fine example of how to redesign a machine part without robbing it of character. Chuck is steel and black Bakelite; collets are steel and black rubber. Beige polypropylene box with integral snap closing.

Designer: Peter Muller-Munk Associates.

6. Cenco field kit for laboratory-type analysis of air pollutants fits all the required paraphernalia into a compact box. The orderliness is admirable but there is also a tinge of unnecessary regimentation. Blue and beige vinyl-covered plywood case with enamelled and stainless steel fittings.

Designer: Stowe Myers.

4. Surveying instrument, Realist, Inc.



5. Chuck and collet set, Jacobs Manufacturing



6. Field kit, Central Scientific Co.

1. Combine, Oliver Corp.



Heavy equipment

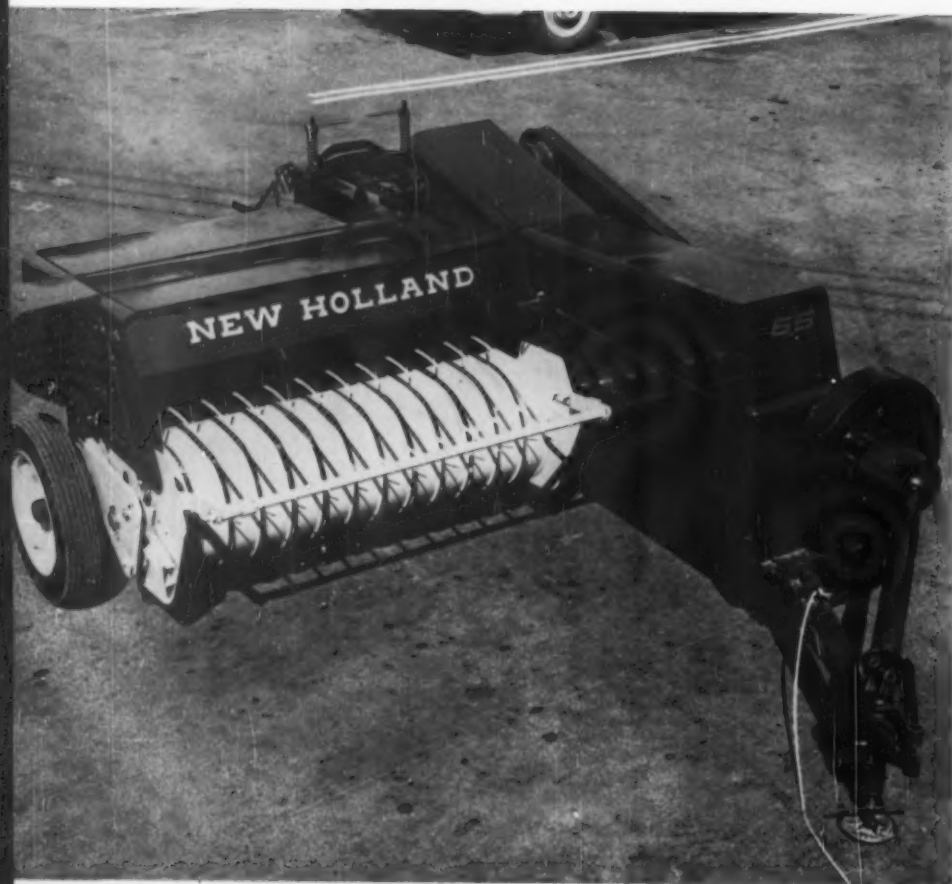
1. Oliver combine, model 25, eschews the perpendicular and does it the hard way with truncated, triangulated forms that go every which way, but add up to a good, un-stylized job. Steel with green and white enamel finish.
Designer: W. Droegemueller, Oliver staff; Cecil Wolsey, chief engineer.

2/3. New Holland low-profile hay baler rakes and baler in sleekly angled shapes which join and intersect pleasantly but are slightly over-styled. Sheet metal in red and yellow.
Designer: C. J. Kermes, New Holland staff.

4. Caterpillar Traxcavator places lift arms forward of driver for safety, and tapers them for maximum visibility. Rear of body is stacked-up cubes, front is swooping curves. Yellow; optional fiberglass operator's cab.
Designer: Caterpillar staff.

5. Allis-Chalmers motor scraper, with its long, low, dished, double-jointed silhouette, seems fantastic—but the unequivocal simplicity of the windshield and mud guard shows that the designers were sticking to essentials.
Designer: Allis-Chalmers staff.

6. Willard front-discharge concrete mixer looks as revolutionary as the concept of front-discharging itself — a huge carafe in a steel cradle, with a jointed spout that folds around its neck.
Designer: Willard staff.



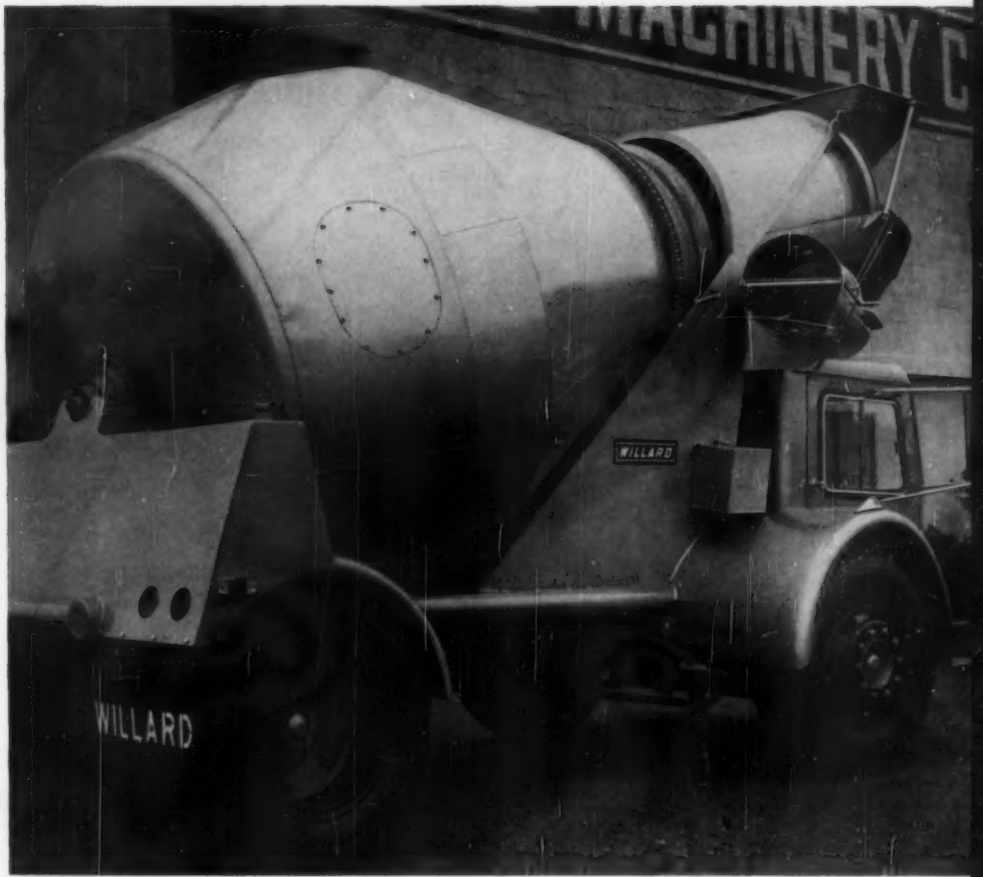
2/3. Hay baler, New Holland Machine Co.



4. Traxcavator loader, Caterpillar

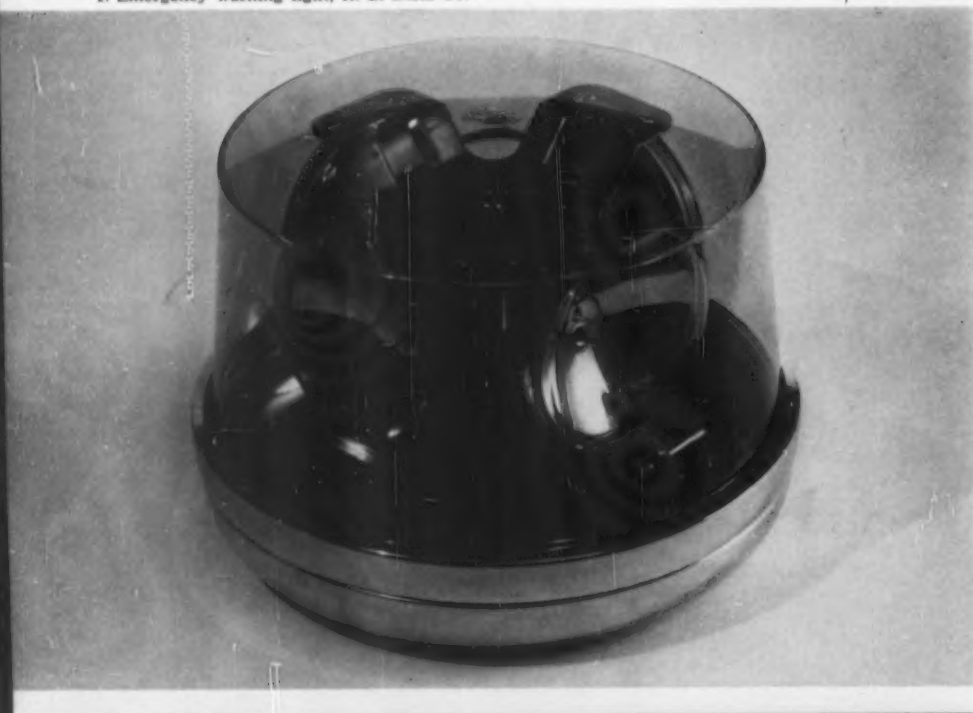


5. Motor scraper, Allis-Chalmers



6. Concrete mixer, Willard Concrete Machinery Co.

1. Emergency warning light, R. E. Dietz Co.



Heavy equipment

1. Dietz emergency warning light rotates for 360° visibility from police cars, ambulances, tow trucks, etc. Lens is Lucite; lens rim is chrome on brass. A tidy package.

Designer: Stevens-Chase; Armand Cardarelli, project engineer.

2. ESNA omnidirectional marine lantern features an acrylic lens system which the company claims is the largest precision plastic element ever molded. Cost and weight are considerably less, although the light output is equivalent to polished glass lenses. Metal parts (aluminum and steel) are unfinished.

Designers: A. M. Troccoli, R. Nagel.

3. Budd subway cars were built for Philadelphia transit system. Primary structural members are of stainless steel; contoured front ends are molded Fiberglas. Interiors finished in melamine, stainless steel, and anodized aluminum. Flooring (plywood faced with aluminum) is covered with mottled black rubber.

Designers: Budd engineering staff; Harbeson, Hough, Livingston & Larson, interior design consultants.

4. Grumman's new A2F attack plane is a perfect example of how closely the aircraft industry follows the trends in Detroit. This plane adopts all the automobile industry's clichés: swept-back wings, dramatic jet intake scoops, stylized bumper bowsprit, sleek rocket trim, dual exhausts—the whole bit. Grumman has named it the "Intruder," but for some reason it hasn't yet called this plane "a classic." It is.

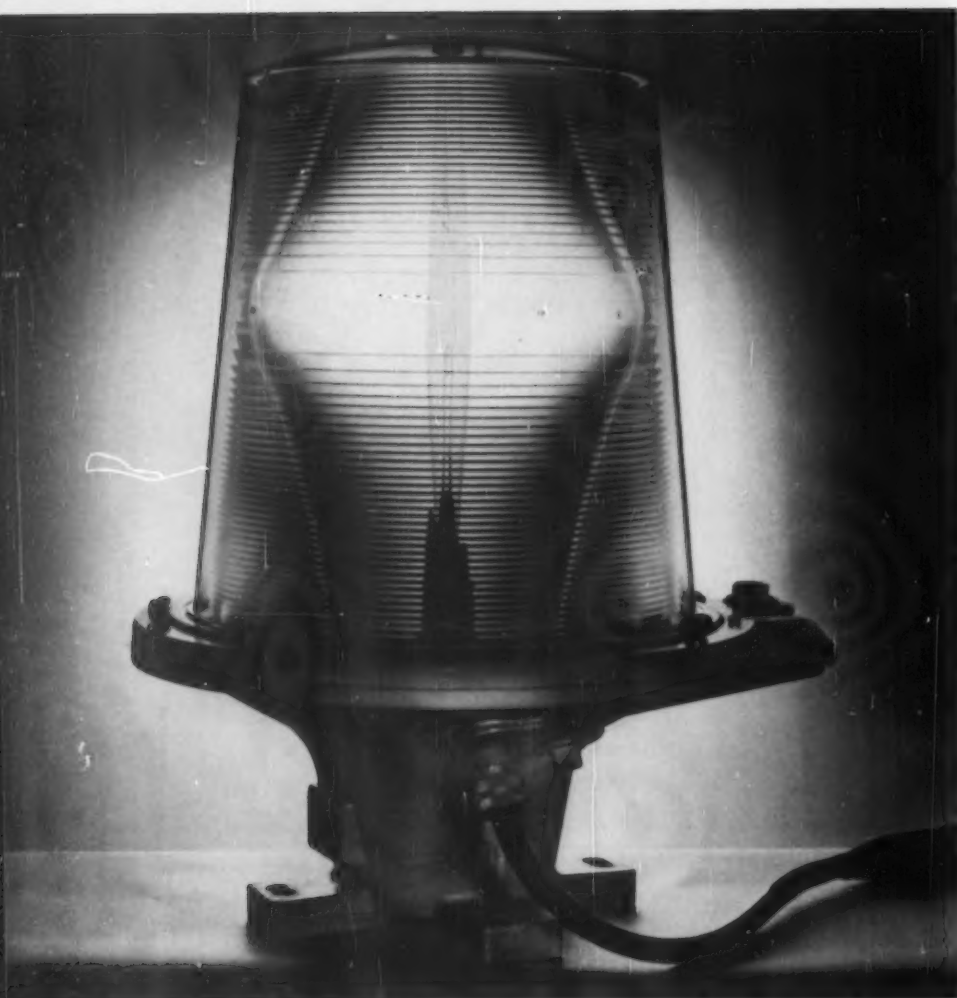
Designers: Bruce Tuttle, Larry Mead, Grumman project heads.

5. Metal-Cladding's "Kabe-O-Rap" tank is a glass reinforced polyester storage tank, reinforced with helically wound stainless steel cables. Since the steel cables carry the load (instead of the plastic), there is no limit to the size of tank that can be constructed.

Designer: F. H. Humphrey, chief engineer.

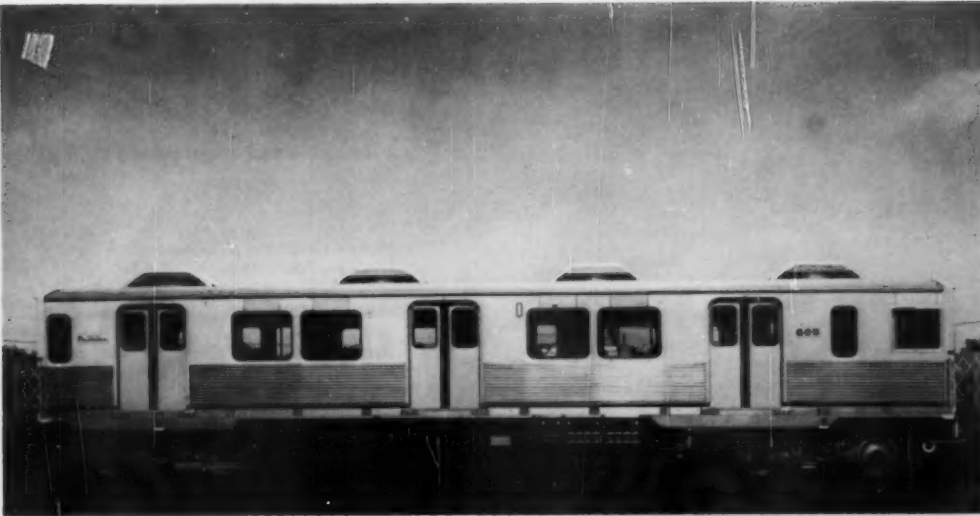
6. Le Tourneau power-rotated jib crane will handle up to 20 tons. Such high capacity with minimum mounting-space requirements and economical design is made possible by a new high-strength alloy steel being produced by the company's steel division.

Designer: Le Tourneau Staff.



2. Marine Lantern, Elastic Stop Nut Corp. of America

3. Subway cars, The Budd Co.



5. Storage tank, Metal-Cladding, Inc.

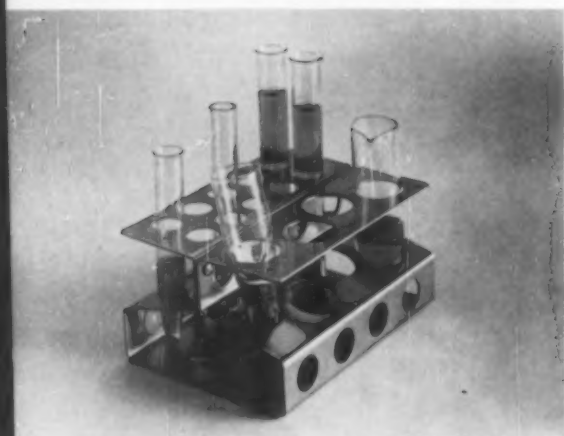
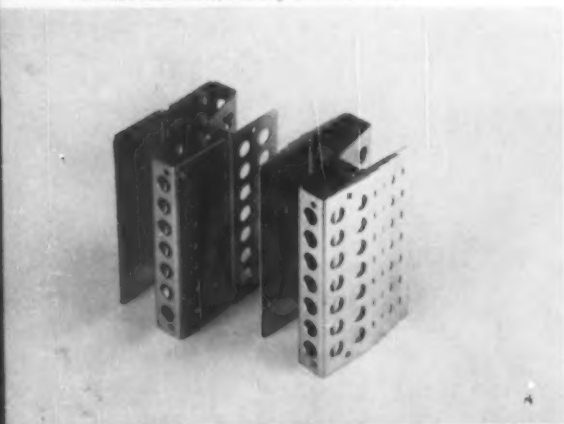


4. Attack aircraft, Grumman Aircraft

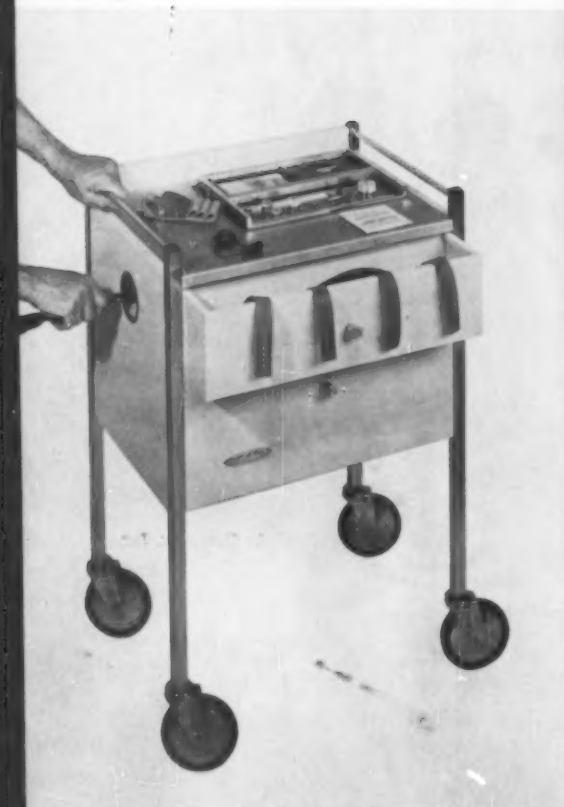
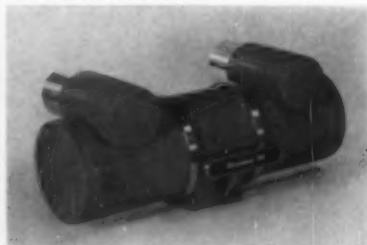


6. Jib crane, R. G. Le Tourneau, Inc.

1. Test tube rack, Massey Dickinson Co.



3. Housing for X-ray tube, Machlett Laboratory, Inc.



2. Electrocardiograph cabinet, Burdick Corp.



4. Analytical system, Beckman Instruments

NON-CONSUMER

Medical and educational equipment

1. Massey Dickinson stainless steel Z rack for test tubes is cheaper, sturdier, and more versatile than existing racks. A simple, perfect design.

Designer: Milton W. Grela, Massey Dickinson staff.

2. Burdick mobile electrocardiograph cabinet is well-organized: lift-out instrument is off-center to provide usable top surface; drawers hold accessories, a concealed reel holds retractable cord. White-painted steel, aluminum top, chrome legs.

Designer: Don Doman Associates.

3. Machlett Dynamax 50 aluminum and lead housing for X-ray tube is beautiful, but the beauty is all in subtleties: the mild radii of corners and joints, the curving penetration of the small cylinders into the large one.

Designer: Eliot Noyes & Assoc.

4. Beckman analytical system for drop-size samples consists of two testing devices, a miniature centrifuge, and a clever styrene rack-and-lid storage unit which stacks upon itself.

Designer: Melvin Best-Fujioka.

5. Honeywell schoolroom clock has uncomplicated face, legible graphics. Light and medium gray; red and black calibrations.

Designer: Henry Dreyfuss.

6. Montag flip-top binder, has magnetic pencil holder, comes in high-style colors—coral, turquoise, yellow, tan.

Designer: Walter Dorwin Teague Associates.

7. Cenco re-designed teaching machine demonstrates principle of static electricity. Modernized version uses carefully selected stock parts and a standard Cenco base.

Designer: Stowe Myers.

8. Sico folding-rolling table and stool unit is a lot less complicated to look at and operate than most similar equipment. Plated steel frame with plastic-faced tops.

Designer: Kermit H. Wilson.

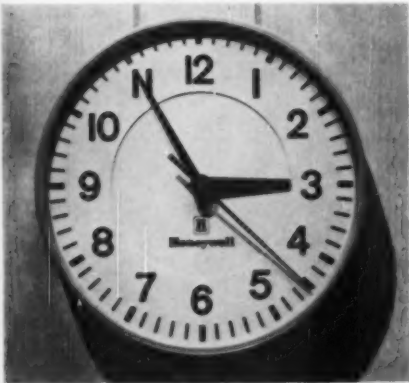
9. Polyrods are enameled wood dowels with injection-molded, snap-together polyethylene tips, rings, connectors, and wheels.

Designer: Don Gellert, Modular Fabrications staff.

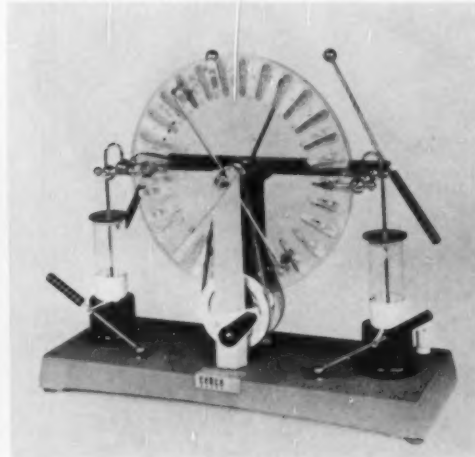
10. Flexagons are scored cardboard triangles, squares, and hexagons assembled with rubber bands.

Designer: Fred Bassetti.

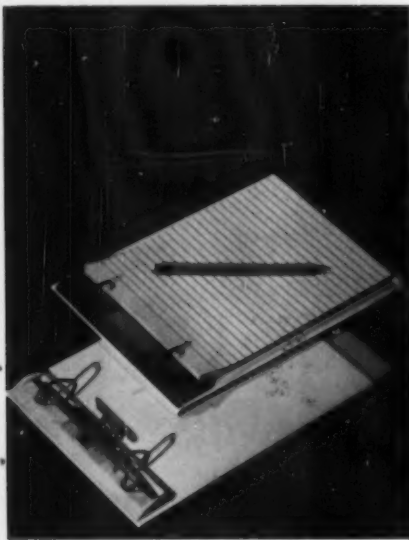
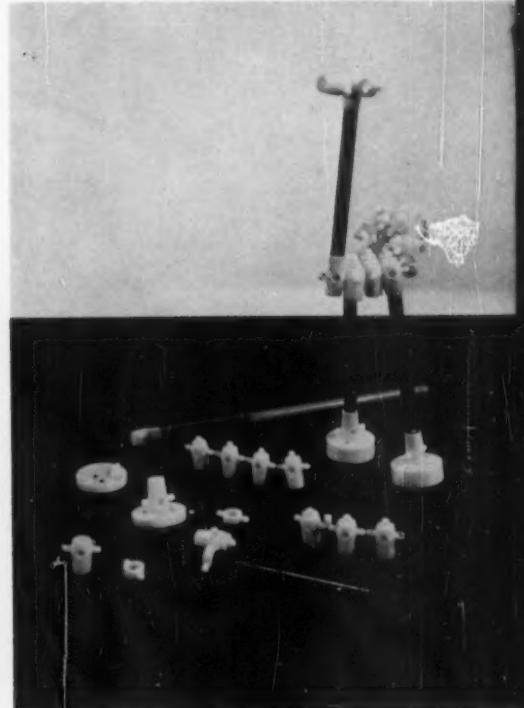
5. Schoolroom clock,
Minneapolis-Honeywell Regulator



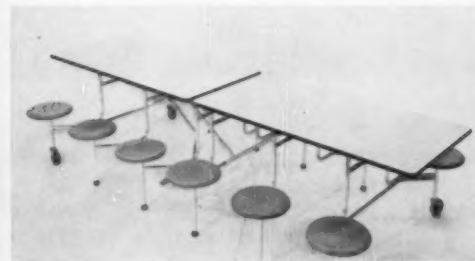
7. Teaching machine, Central Scientific Co.



9. Construction toy, Modular Fabrications, Inc.



6. Students' binder,
Montag Brothers, Inc.

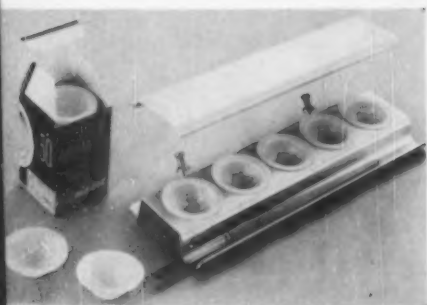


8. Folding table/stool unit, Sico Manufacturing Co.

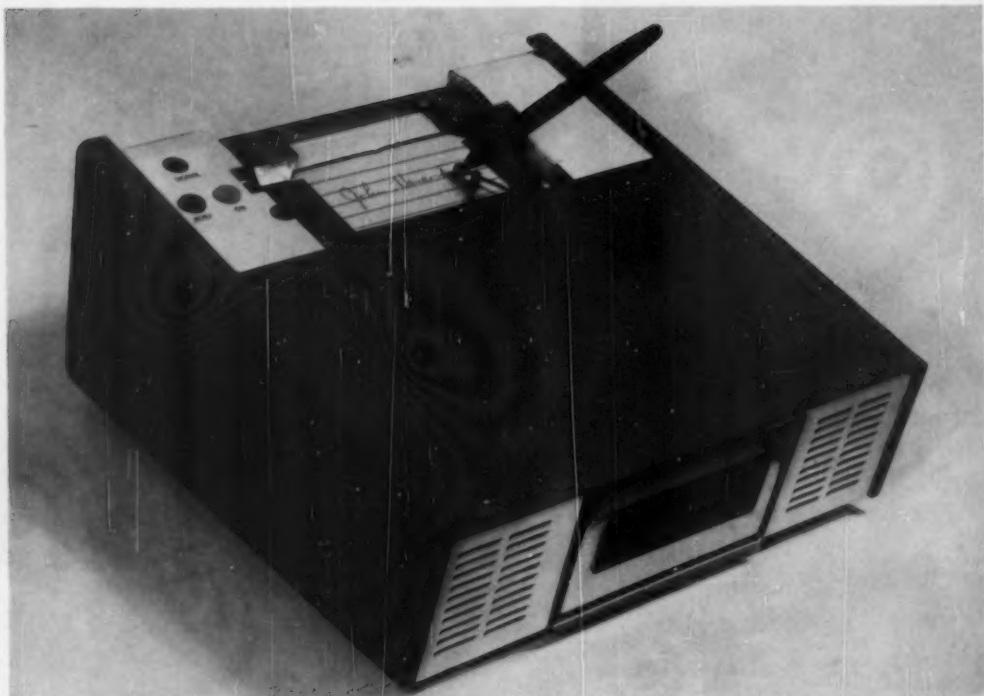


10. Construction toy, Forde Corp.

1. Binding machine, American Photocopy Equipment Co.



2. Color mixing palette, Regush Product

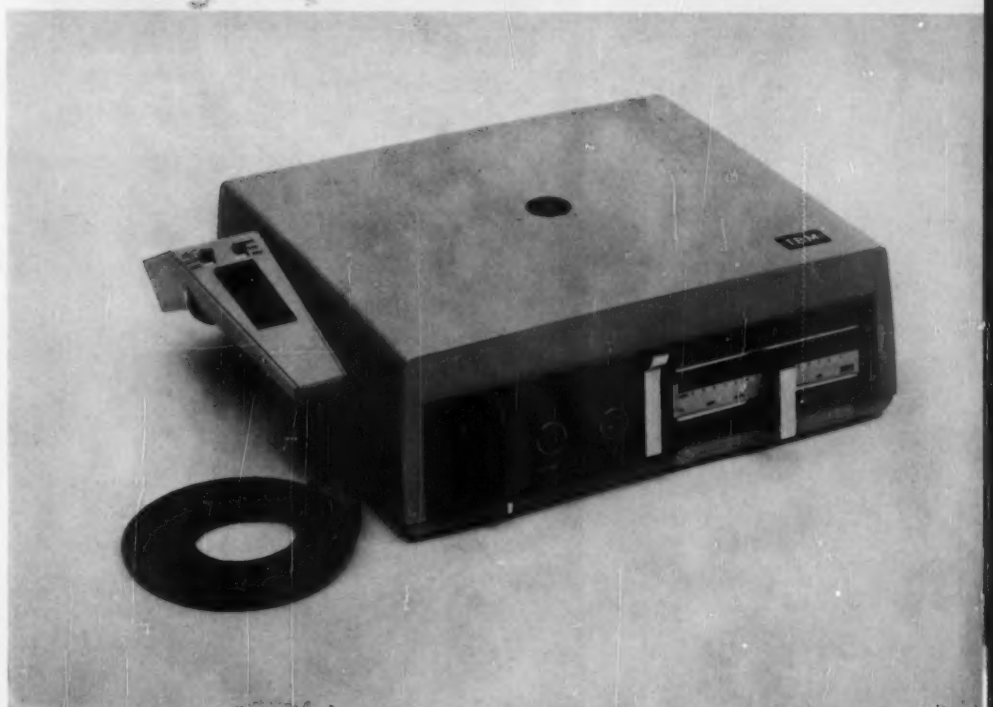


3. Handwriting machine, Telautograph Corp.



**Business and
professional equipment**

1. APECO "Combind" plastic binding machine is unusually restrained for an office product. Functional details are incidentally decorative. Designer: Charles E. Jones & Associates.
2. Regush color mixing palette for commercial artists features an aluminum extrusion cup-holder and snap-on top, disposable plastic cups. What could be simpler? Designer: Regush staff.
3. Telautograph handwriting machine would have been less awkward if front had been cut at a different angle with respect to the sloping top. Otherwise, a very neat jacket. Designer: Thomas B. Quinn, manager of industrial design.
4. IBM dictation machine and mobile stand integrates purely geometric forms of the controls into basically non-geometric form of the case. Designer: Eliot Noyes Associates.

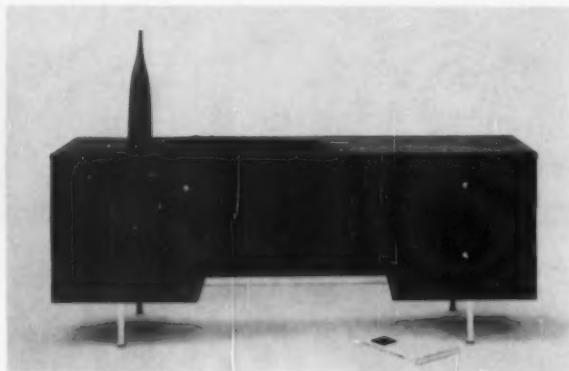


4. Dictation equipment (top and bottom), IBM

1. Office desk, General Fireproofing Co.



2. Desk, Peerless Steel



3. Office wall unit and chair, Domore Chair Co.

NON-CONSUMER

Business furniture

1. General Fireproofing office desk offers nothing but nearly perfect architectural proportions. Designer rejected the post-war "floating" effect with drawer unit separated from top and legs; instead he re-interpreted an older method with remarkable freshness.

Designer: J. H. McCarthy, design and development group head.

2. Peerless steel desk is not epoch-making, just a good job in a standard idiom. Various finishes.

Designer: H. W. Crane, project head.

3. Domore wall unit and secretary's chair are part of an extensive line of office furniture called "Group X." Different designers contributed to the line, but all the pieces go together. Their main feature is a commendable restraint. Note the understated knobs on the walnut wall unit.

Designers: Skidmore, Owings & Merrill, and Coty & Wagner Design Associates (chair); Burt Andrews and Ray Robins, Domore staff (wall unit).

4. B. L. Marble executive desk is designed from human factors research, incorporates such practical features as prominent pulls and aluminum tambour door (to cover drawers). Looks as though it might cost \$1,000; it does.

Designer: William H. Sullivan.

5. I. V. Chair Corp. office armchair is nothing less than lyrical by comparison with the Bauhaus austerity of modern office furniture. The curves of the brushed Tenzloy base are remarkably delicate, and the exposed Seng chair control is a plain, honest statement. It might be called modern Victorian, but there is nothing florid about it. Plasticized fibrous laminate shell, urethane foam padding, vinyl or leather upholstery.

Designer: John Yellen.

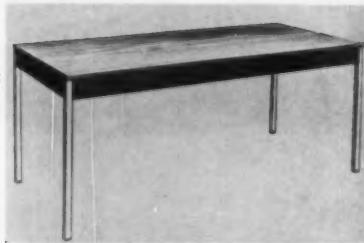
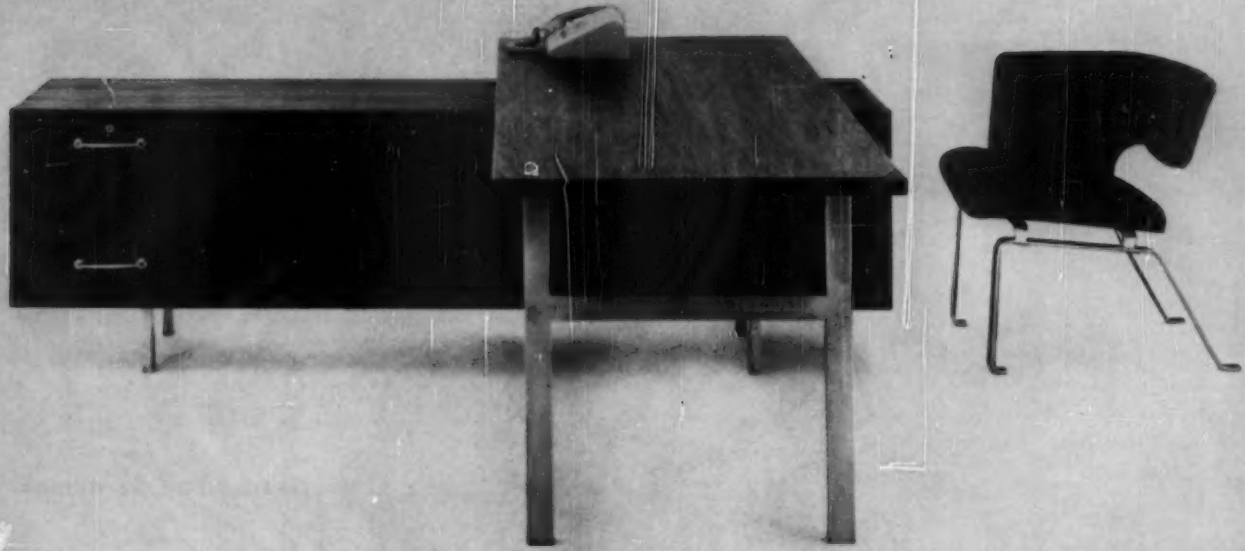
6. Howe folding table was purposefully designed "to eliminate the 'institutional' look," but although the leg braces have been concealed it is still an "institutional" table. Top is Formica, skirt is steel tubing and channel steel, legs are of square welded steel tubing.

Designer: Howe staff.

7. Harvey Propper secretarial "el" desk is a massive piece of mahogany on stainless steel legs.

Designer: Harvey Propper.

4. Executive desk, B. L. Marble Furniture, Inc.



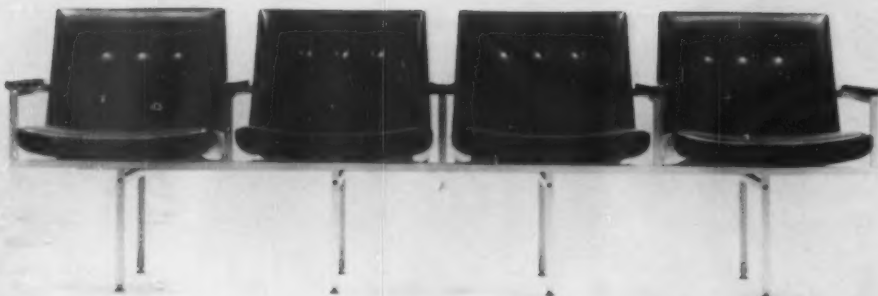
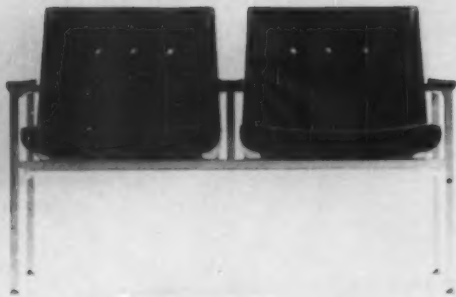
6. Folding table, Howe Folding Furniture



7. Secretarial desk, Harvey Propper



8. Office arm chair, I. V. Chair Corp.

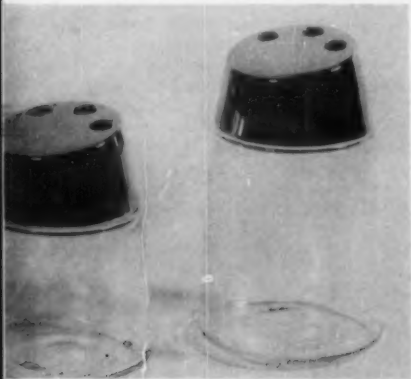


Institutional equipment

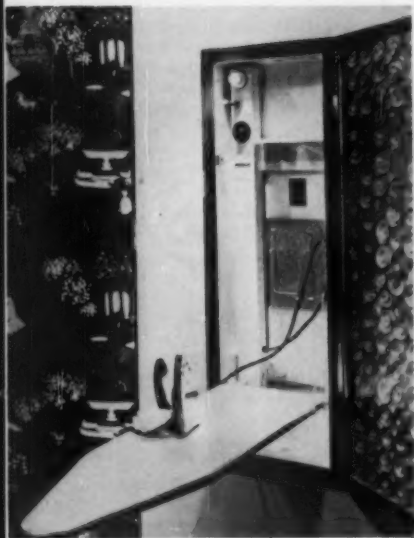
1. Kasparians "Multalum" line provides interchangeable seats (and tables) in basic aluminum frame. Blue leather upholstery, hand-rubbed, slightly sculptured walnut arms, brushed aluminum frame. Designer: George Kasparian.
2. Dispensers, Inc. cheese shakers are designed to match company's sugar and creamer set. A handsome design that will no doubt be used for still other table accessories. Chrome-plated die-cast zinc top, blow-molded glass jar. Designer: Henry Keck Associates.
3. Iron-A-Way "Handi-press" is a fold-down electric ironing cabinet in walnut or oak, with a Tropiceel door and steel ironing board. Unpretentious, neat. Designer: E. D. Miller.
4. Thonet Industries side chair is remarkable for its design economies: minimum materials in an upholstered chair; leg support collected along centerline, leaving plywood wings unsupported; absence of compound curves. All parts finished separately, assembled at last stage of manufacture. Designer: Roland Carter, staff.
5. Directional moderately-priced "basic" chair (made by Timber-Line) is notable for its craftsman-like touches: combination of slashing lines and curved back, visible tenon joints. Solid walnut. Armed and armless chairs combine to make a settee. Designer: Kenneth Chorley, Jr.
6. California Bank's new offices in Los Angeles feature such details as a built-in telephone console (the hand-set is in a shallow niche) and teak paneled screens backed with Curon to provide high acoustical properties and some privacy on an open management floor. Designer: Henry Dreyfus.

1. Institutional seating, Kasparians

2. Cheese shakers, *Dispensers, Inc.*



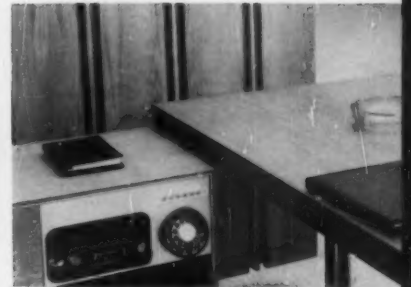
5. Institutional seating, *Directional*



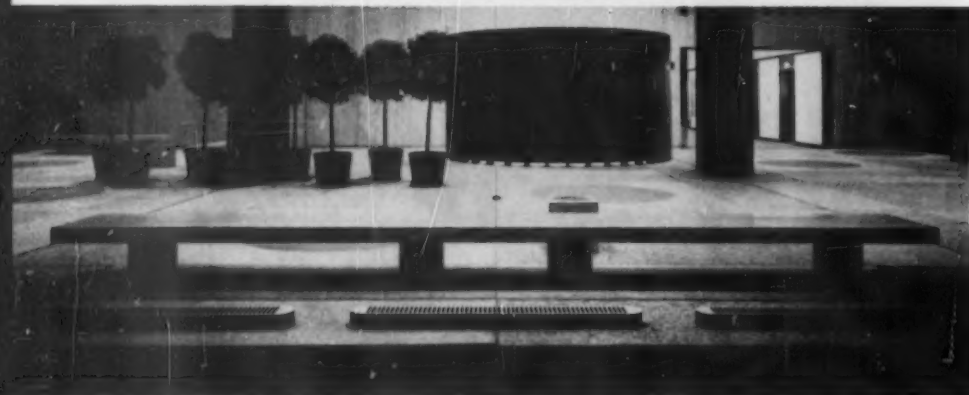
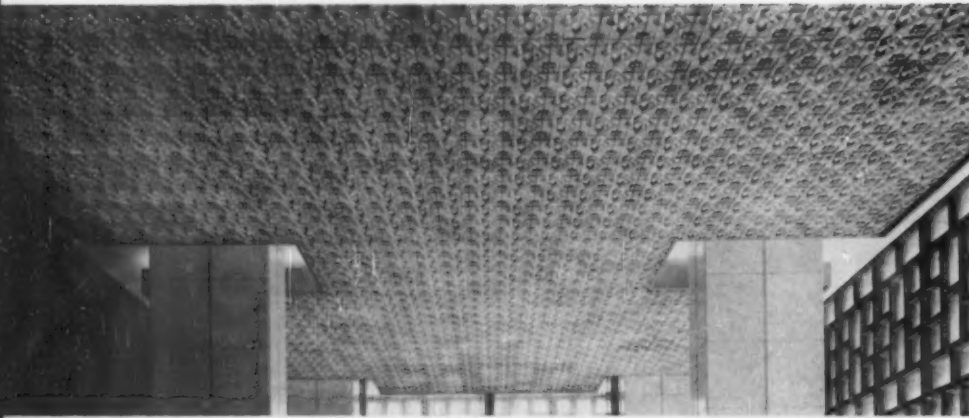
3. Fold-down ironing board, *Iron-A-Way Co., Inc.*



4. Side chair, *Thonet Industries, Inc.*



6. Office detail, *California Bank*



NON-CONSUMER

Institutional equipment

1 2 3. Denver Hilton hotel is full of circles, squares, cylinders, and triangles in simple but endlessly interesting combinations. Luminous ceiling, from an idea by Alexander Girard, is vacuum-formed plastic with faceted surfaces sprayed in three shades of yellow ochre; handwoven rug in brilliant colors, designed by Girard, is reminiscent of old, geometrically-patterned Persian rugs. Benches are slabs and cylinders of concrete; ashtray is a scooped-out cube.

Designer: I. M. Pei & Associates.

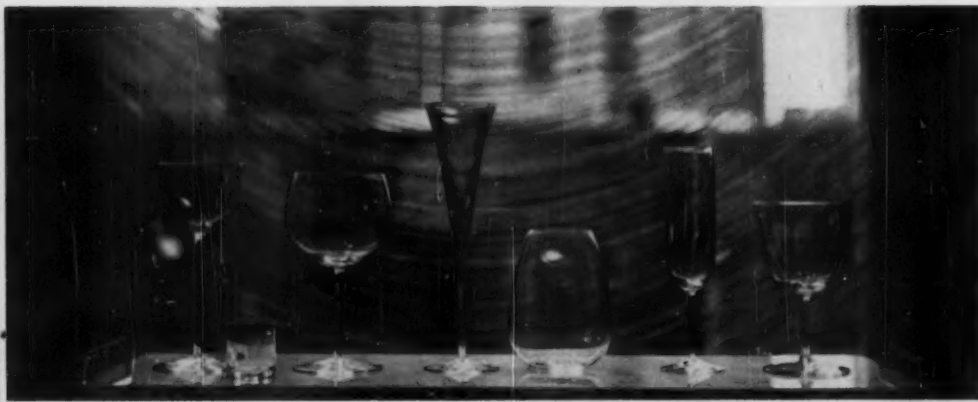
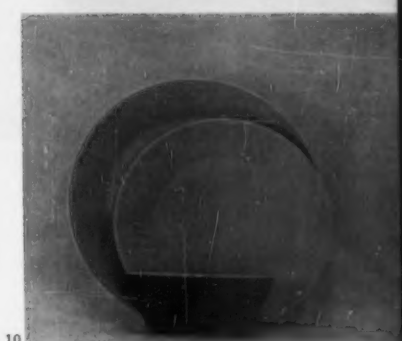
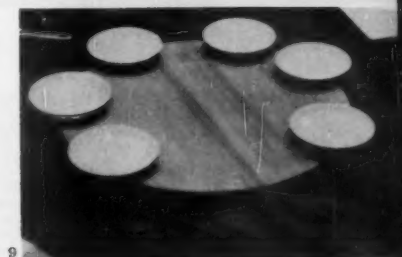
4-11. Four Seasons restaurant serving pieces satisfy two diametrically opposed ends: to glorify a virtuoso menu and still remain in character with a patrician setting. The line is composed of some foreign and domestic stock pieces, some modified stock pieces, and some specially designed pieces. Pastry cart is stainless steel with walnut storage shelf and black glass or walnut display shelves. Suspended silver compotes at both ends have glass liners. Glassware, mostly from Bryce Brothers Co., combines blown top with molded stem to achieve a look of quality with a degree of strength and economy. Like the other equipment, it is generously proportioned. Four Seasons insignia appears only on the shot and water glasses so that at a single place setting no more than two pieces of glassware will be marked. Serving pots are low, straight-sided, derived from the shapes of classic cookery; they have modest handles and knobs. Material is nickel silver with heavy silver plate. Silver coffee service plays tapered shapes against opposing tapers of cups, saucers, and rest of china (most of the silver pieces are from International Silver Co.). Oval cheese tray of white Carrara is suspended between silver wire handles. Steak tartare board can be used with or without specially designed clips to hold condiment dishes. China has flared sides, no insignia; from Sterling China. Reversible stand holds ramekins for cold desserts or becomes the support for a candleholder under a sauceboat. Sauceboat has captive cover; long prong slips through hole in base of handle and is grasped with handle, holding cover in place.

Designers: Garth and Ada Louise Huxtable.

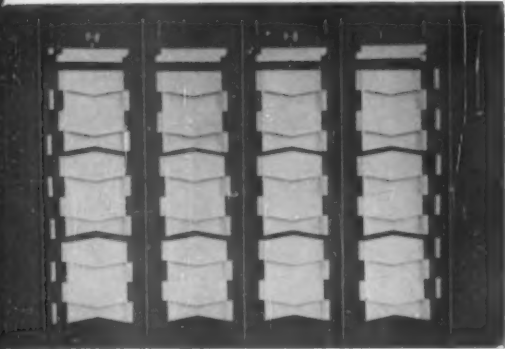
4/5/6. Pastry cart, glassware, serving pots, *Four Seasons*



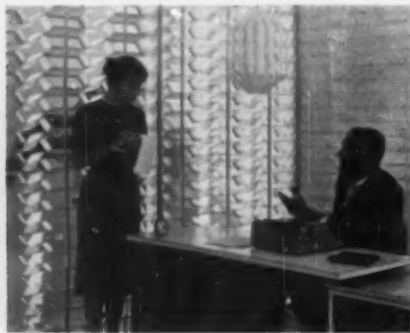
- 7. Coffee service, *Four Seasons*
- 8. Cheese tray, *Four Seasons*
- 9. Steak tartare board, *Four Seasons*
- 10. China, *Four Seasons*
- 11. Reversible stand, *Four Seasons*



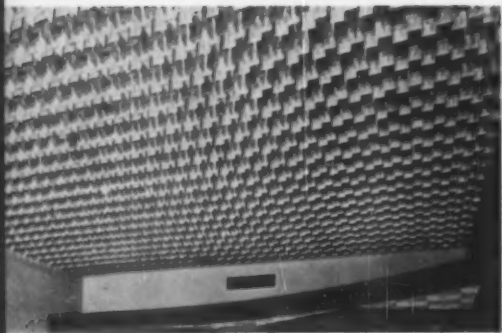
1. Window treatment, Jaylis Sales Corp.



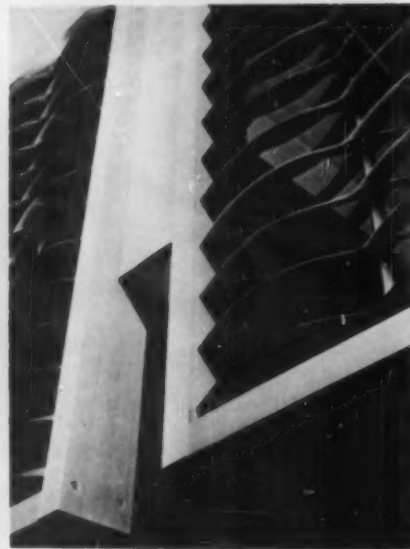
3. Brise-soleil, Arcadia Metal Products, Inc.



4. Ceiling system, Union Carbide Corp.



2. Ceiling treatment, Luminous Ceilings, Inc.



5. GLP partition system, Aetna Steel Co.

Building systems

1. Jaylis claims that its patented "sculptured draperies" constitute the first new development in window covering in 100 years (last basic patent in this field was for the spring return mechanism on the common window shade). Modular units of Dow Styron 672 polystyrene are vertically interlocked with steel rods; sections are then joined by a nylon hinging mechanism. Available in many non-fading tints.
Designer: James Hirashiki.

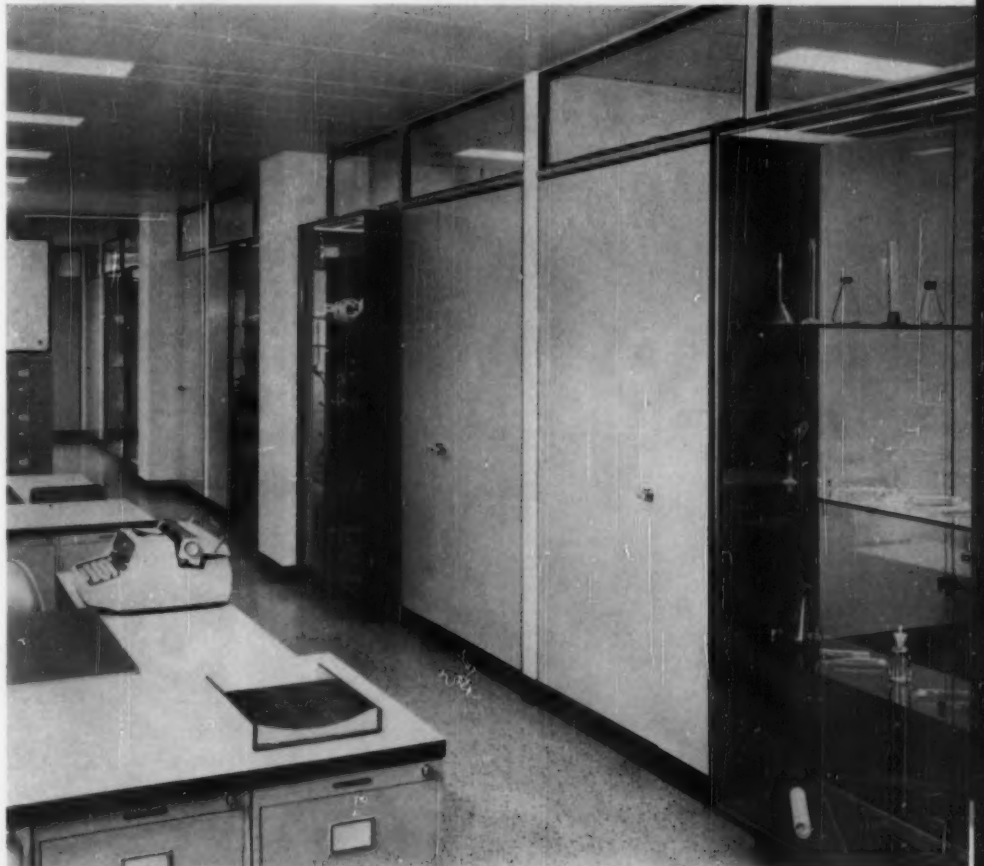
2. Luminous Ceilings Inc. poetically admits that technology cannot reproduce "the leafy dance of sunlight through the shimmering branch of an aspen tree," but with its "Leaf-Lite" ceiling system it has tried. The system consists of six-inch steel or aluminum leaves hung on runners below the light source, each leaf perpendicular to adjacent leaves, alternate leaves of different colors. It provides unusual textures, dimensions, color.
Designer: Charles Deaton.

3. Arcadia brise-soleil system is made of aluminum in any of several possible finishes, provides flexibility of opacity or transparency through screen as well as varying degrees of sun control, panel widths, cell scale, and cell configuration—all while using one parent system of tooling for mass production.
Designers: Robert A. Gelert, staff; A. Quincy Jones.

4. Union Carbide New York headquarters building ceiling system looks like any other luminous ceiling in a glass office tower, but it isn't. It includes lighting, air conditioning, heating, acoustical treatment, and partition connections, all in one neat package. White enamel metal deflectors, faceted to spread light to edges of vinyl and bakelite diffusers, makes one fluorescent tube do the work of several, will save Carbide an appreciable amount in electric bills.
Designer: Skidmore, Owings & Merrill.

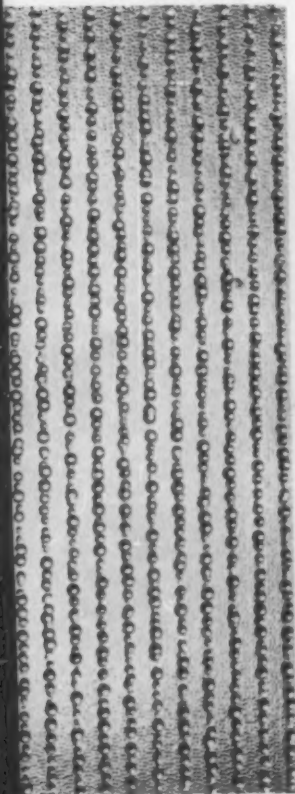
5. Aetna GLP partition system from Time, Inc. New York headquarters features a "universal" post that can receive mullion bars at any point without special preparation and eliminates nuts and bolts and other small parts in receiving insert materials. Assembly and disassembly is faster.
Designer: Designs for Business.

6. Aetna partition system for Corning Glass Fifth Avenue skyscraper is a good example of modified version of standard systems.
Designer: Designs for Business.

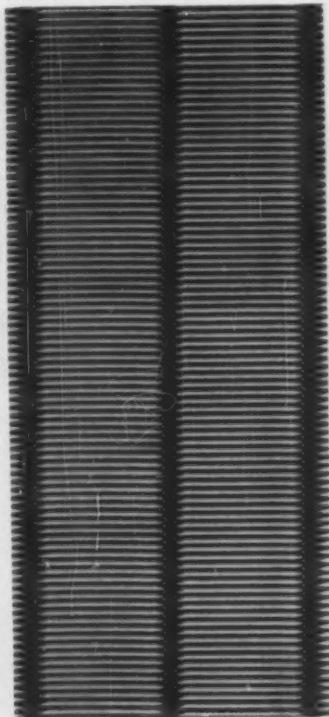


6. Standard system, Aetna Steel Co

1. Patterned glass
American-St. Gobain



2. Sun screen, Multiplate Glass Corp.



3. Vinyl cork tile, Armstrong Cork Co.



Building products

1. American - St. Gobain patterned glass comes ribbed, beaded on clear, and beaded on matte-finish. Designer: Paul McCobb.
2. Multiplate Glass Sans-Sol screen laminates louver - patterned aluminum between glass; cuts sunlight but not visibility. Designer: Multiplate staff.
3. Armstrong parquetry tile is slices of cork sealed under clear vinyl—a new and, if anything, corkier look in cork. Designer: Richard Flanders Smith, Armstrong staff.
4. Pittsburgh Corning "Geocoustic" acoustical cellular glass tiles use concept of "patch" sound absorption, allow greater freedom in placement; tiles are mounted individually, sit away from wall on small pads. Designer: Pittsburgh Corning staff.
5. Ceramaflex ceramic tiles are mounted on rubber matrix which makes a long-wearing material easier to walk on. Designers: Research staff, Romany-Spartan division, U.S. Ceramic Tile Co.
6. Cutler - Hammer circuit breaker does away with door handle by depressing nameplate area so door can be gripped at edge. Phenolic and urea plastics; enameled metal. Designer: Jack Collins Associates.
7. Russell & Erwin "Beaulev" lockset is from factory-assembled Uniloc line designed for quick installation; this necessitates a visible latch frame, and solution is nicely handled. Cast brass or bronze trim. Designer: Leo Maffei, Russell & Erwin staff.
8. Corning Pyrex drainline resists everything but massive doses of highly corrosive materials; pre-assembled one-piece coupling with rubber sleeve and Teflon X-100 liner is equally corrosion-resistant. Designer: Corning staff, William M. Baldwin, project head.
9. Stewart-Warner oil furnace, redesigned for showroom appeal, has more compact parts, encloses them in cast iron and sheet steel enameled red and black; and provides a wrapper of textured aluminum for one component. Designer: Dave Chapman, Inc., Paul Specht, project head.
10. Airtemp furnace offers choice of color on front panel. Dimensional framing is architectural — unusual in a furnace, but not obtrusive. Designer: Styling section, Chrysler Corp.

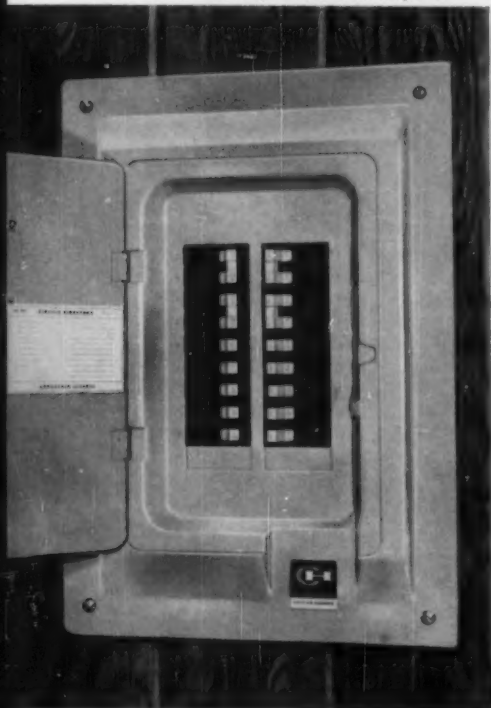


4. Cellular glass tile, Pittsburgh Corning Corp.



5. Ceramic floor tile, U. S. Ceramic Tile Co.

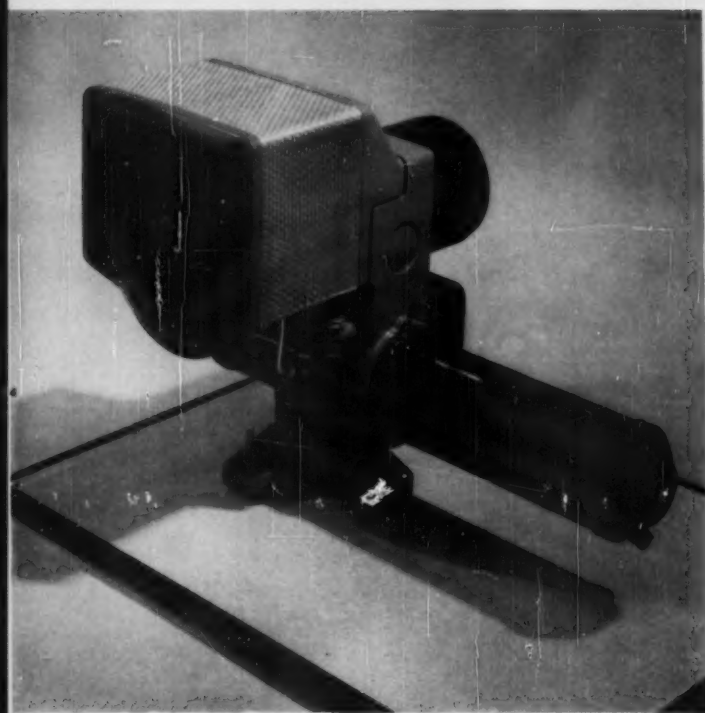
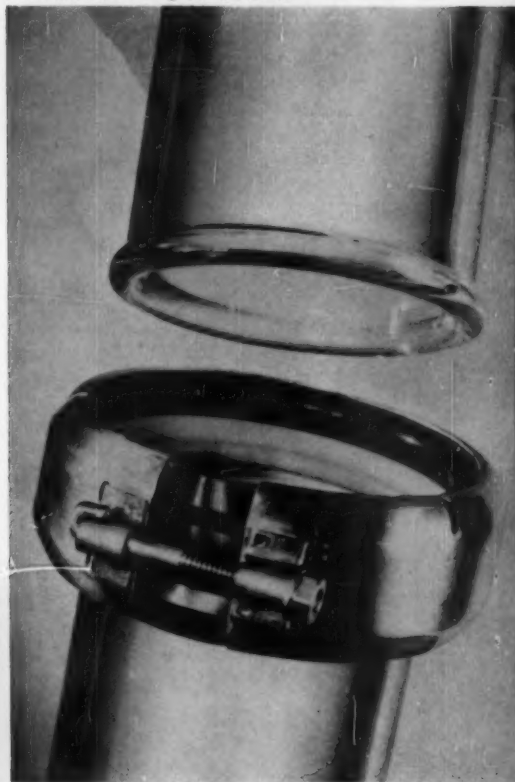
6. Circuit breaker, Cutler-Hammer, Inc.



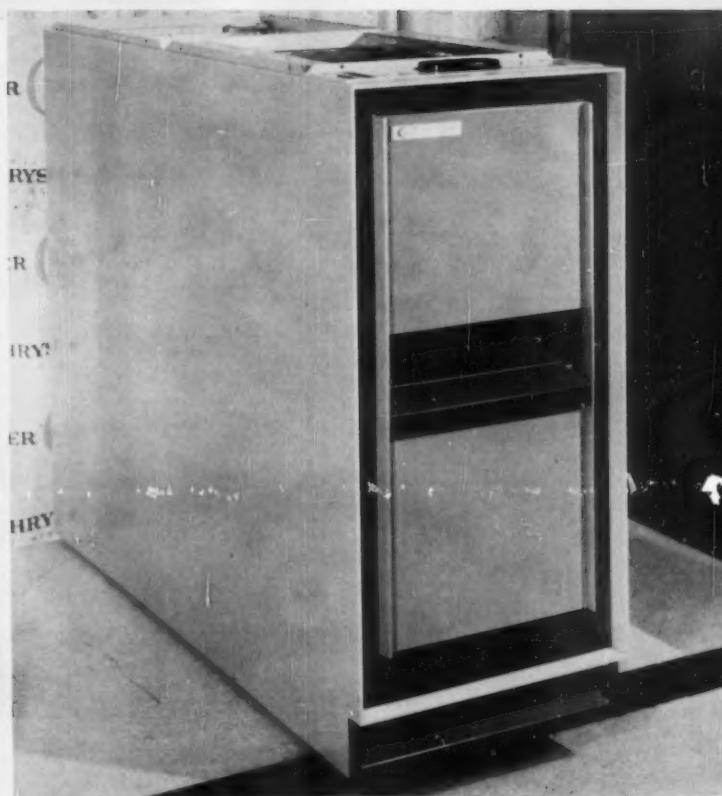
7. Lock set, Russell & Erwin



8. Drainline, Corning Glass Works



9. Oil burner, Stewart-Warner Corp.



10. Gas furnace, Chrysler Airtemp



SELLING: There was certainly more packaging design in 1960 than ever before, and some of it was better than ever. Since package design is sold as a form of advertisement, it is not surprising that such advertising techniques as the "lifelike" halftone should increasingly find their way onto packages, too.

Cigarette packaging in the U. S. has been characterized more by caution than imagination, but the new Benson & Hedges pack (page 117) is that rare thing — a cigarette case that a grown man can carry on his person with satisfaction. Of course it has always been easier to turn out acceptable designs for luxury goods than for soap flakes, but this year's work included the unusually tasteful treatment of such inexpensive items as stationery and chalk (page 118).

If 1960's pharmaceutical packaging appears unexciting, it is at least partly because almost everyone in the field has now reached the same high level of design, since drug companies think (or at least know that doctors think) that doctors are unusually sophisticated. This curious situation is one of the few cases in which fierce competition is the reason for good design, rather than the excuse for bad.

For the inclusion of many of the packages on the following pages, we are indebted to the American Institute of Graphic Arts, which first presented them in its Packaging, 1960 exhibition.

Food

1. Hap's parakeet seed package features photograph of parakeets, with superimposed lines suggesting bars of cage. Design was limited to two colors and a large rubber stamp was prominently placed to emphasize economy.
Designer: Vance Jonson; photographer, Joe Maddocks.

2. Lawson's ice cream package uses several planes of sharpness to create a background for the product. All four panels use similar photographic treatment.
Designers: Roy H. Johnson and Robert Stoming, KVP Sutherland Paper Company.

3. International Mineral's A'ccent sample box takes hexagonal form from IM's hexagonal corporate trademark, symbolizing a crystal. Blue, green, and gold colors are three basic ones used in all company promotion.
Designer: Morton Goldsholl Design Associates.

4. Hap's canary mix label is printed in luxuriant greens and yellows, uses photographic realism, as does rest of line.
Designer: Vance Jonson; photographer, Joe Maddocks.

5. Barton's foil-on-paper candy packages come in sophisticated blue-green or yellow-orange, employ a contemporary design approach still unusual in candy field.
Designer: Jaap Penraat.

6. Spring Kist uses a tied-top, polyethylene sack for its individually-quick-frozen berries and vegetables. Light resistant bags come in intense colors which complement the product within and prevent color loss.
Designer: Circuit and Eddington.

7. KVP Sutherland Paper Company's egg carton uses a realistic and attractive photograph in an area usually lacking in color and attractiveness.
Designer: Roy H. Johnson, KVP Sutherland staff.



1. Parakeet seed package, Hap Pet Food Co.



2. Ice cream package, Lawson Milk Co.

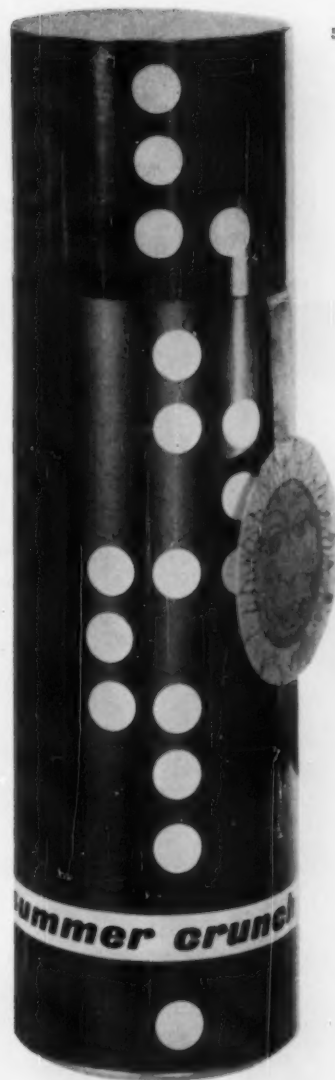


3. A'ccent sample box, International Mineral and Chemical Co.

4. Canary mix package, Hap Pet Food Co.



5. Novelty package, Barton's Candy Corp.



6. Polyethylene food sack, Spring Kist Sales, Inc.



7. Egg Carton, KVP Sutherland Paper Co.

Food

1. Paul Masson wine cartons look elegant, though printed in only two colors. Limited color system, plus repeat patterns of design, allows variety of store display arrangements.

Designer: Jerome Gould & Associates.

2. Gallo wine labels for Sauterne, Marsala, Tokay are tinted to suggest color of each beverage itself and to blend with deep green shade of glass bottles. Use of two-piece label, though common in Europe, is unusual on domestic wines, and gives this low-priced line a quality look.

Designer: Walter Landor & Associates.

3. Manischewitz wine carton is printed in black, purple, and red on corrugated board.

Designer: Harry and Marion Zelenko Associates.

4. Consolidated Cigar's plastic and aluminum display rack is a neat-looking, flexible modular unit which accommodates five-pack cigar cartons of any width and height, can be built up or rearranged as the merchant chooses.

Designers: Irv Koons in association with Ben Rosen; development supervision by Jack Mogulescu, vice-president of Consolidated Cigar Co.

5. Consolidated Cigar's Harvester box comes in sophisticated combination of blue, gold, red, and orange stripes, is one of a redesigned line.

Designers: Irv Koons in association with Ben Rosen

6. Benson & Hedges uses bold blue-lettered overwrap for over-the-counter purposes, but when consumer strips overwrap away he has an attractively understated and elegant "cigarette case" with small gold lettering against tan, woodgrain background.

Designer: Walter Landor & Associates.

7. Imperial Tobacco Company of Canada presents new Gold Crest cigarettes in a package featuring an off-center gold crest against three tones of gold on white. Three shades are achieved simply by overlapping two colors in the vertical stripes.

Designer: Lippincott & Margulies.

8. U. S. Tobacco Company's stylish package stresses quality tobacco. Tan "cork" band on white; blind-embossed oval encircles gold lion and brand name.

Designer: Lippincott & Margulies.

1. Wine carton, Paul Masson Vineyards



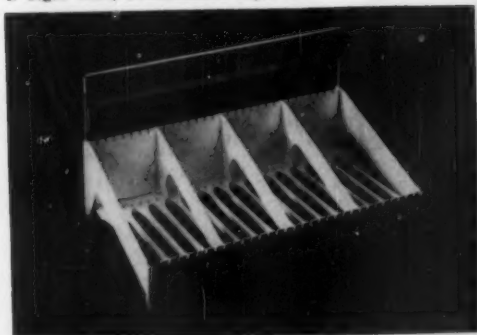
2. Wine labels, E. & J. Gallo Winery



3. Wine carton, Manischewitz Wine Co.



4. Cigar rack, Consolidated Cigar Co.



5. Cigar box, Consolidated Cigar Co.



6. Cigarette package, Benson and Hedges



7. Cigarette package, Imperial Tobacco Co.

8. Cigarette package, U. S. Tobacco Co.

Business and recreation

1. Kimberly-Clark business paper carton features, for first time, the corporate name rather than the name of subsidiary.

Designers: Morton Goldsholl Design Associates, and Saul Bass & Associates.

2. Ditto Masterfex offset carbon incorporates company trademark as main design element. More than 190 other containers, wrappers, and labels follow a similar scheme. Printing for the line is done in a single color on a paper stock available in the company's four basic colors.

Designer: John Stena, Morton Goldsholl Design Associates.

3. Butler Brothers Thistle envelopes employ stylized green and blue thistle device, as do other items in the line.

Designer: John Weber, Morton Goldsholl Design Associates.

4. Art Crayon Company's white chalk package is bright red and white. Chalk stick design is used for unity both in white and colored line.

Designer: Ben Rosen in association with Irv Koons.

5. Healthways underwater diving suit comes in both ready-to-wear (as here) and kit form. By making only a change of color on its background plate and a minor change on the black plate, the designer established an immediate distinction between the two packages at minimum cost.

Designer: David Goodman and Ray Engle; Porter, Steiner and Associates.

6. Tropical Air Pump shipping carton for fish tank pumps uses fish motif to establish a strong image in a highly competitive field. Symbol also appears on product name plate and stationery.

Designer: Eckstein-Stone, Inc.

7. Shiro Linmark movie camera box comes in blue, green and black on a white background. Designers worked with bright colors, Standard Medium type face for maximum attention on dealer's shelf. Product number appears on all side faces of package for easy identification when stacked.

Designer: Tobias O'Mara of Gerald Gulotta, Industrial Design.

8. Rek-O-Kut micropoise stereo tone-arm package is printed with white letters on a black background; abstraction of tone arm is printed in red. Product number appears on all side faces of package for easy identification when stacked.

Designer: Richard Schiffer, George Nelson & Company.

1. Business paper carton, Kimberly-Clark Corp.



2. Offset carbon paper, Ditto, Inc.



3. Thistle envelope package, Butler Brothers



4. Chalk box, Art Crayon Co.

5. Carton for underwater diving suit. Healthways, Inc.



6. Fish tank pump shipping carton, Tropical Air Pump Mfg. Co.



7. Linmark movie camera box, Shiro, Inc.



8. Stereo tonearm, Rek-O-Kut Co.

1. Clover seed bag, Teweles Seed Co.



2. Seed package, Asgrow Seed Co.



Hardware

1. Teweles clover sack is part of family line of fifteen products. For each package, the black and red is constant, while the background color changes for specific identification.

Designers: Kenji Yoshizumi and Bud Knight, Robert Sidney Dickens, Inc.

2. Asgrow seed package design represents part of a corporate identity program in which designers developed a new corporate name (necessitated by the merger of Associated Seed Growers with H. F. Woodruff & Sons), a new trademark and logotype, and new corporate colors. The new mark is an "a" formed by a stylized seed and pod, and executed in earth brown and leaf green.

Designers: Lippincott & Margulies.

3. Farm Bureau Cooperative Landmark alsike seed bag was designed with a feminine market in mind after research indicated that frequently this product is bought by women. The designers tried to build a "sophisticated suburban flair" into a product usually marketed with a much more agricultural character.

Designer: William Stark, Raymond Loewy Associates.

4. Baldwin packaging for paint thinner and solvent line limits number of type styles to two faces and features a simplified "B" on all letterheads as well as on packages. Each of the nine products now uses a different color against white.

Designer: Don Blauweiss.

5. Burgess sponge package features a large "B" against checker-board pattern printed in two colors of transparent ink plus opaque white. Tinted sponges themselves extend the color range of the packages.

Designers: Dave Chapman, Inc.

6. Aluminium Limited of Canada household foil emphasizes a new corporate symbol now used by all associated Alcan companies. Printed with glossy, transparent inks on laminated aluminum foil, the package is silver, turquoise, and white.

Designer: Raymond Loewy Assoc.

7. Ekco Products Flint cook-and-serve tool set package emphasizes a gourmet look to promote the Pennsylvania Dutch decoration on the handles of the tools. Photographic cover makes the box attractive as a gift carton.

Designer: Don Smith, Latham, Tyler, Jensen.

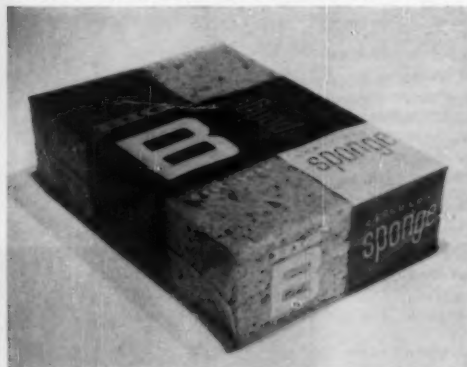


4. Paint thinner and solvent line, Baldwin Oils & Commodities, Inc.

3. Alsike seed bag, Farm Bureau Cooperative Associates.

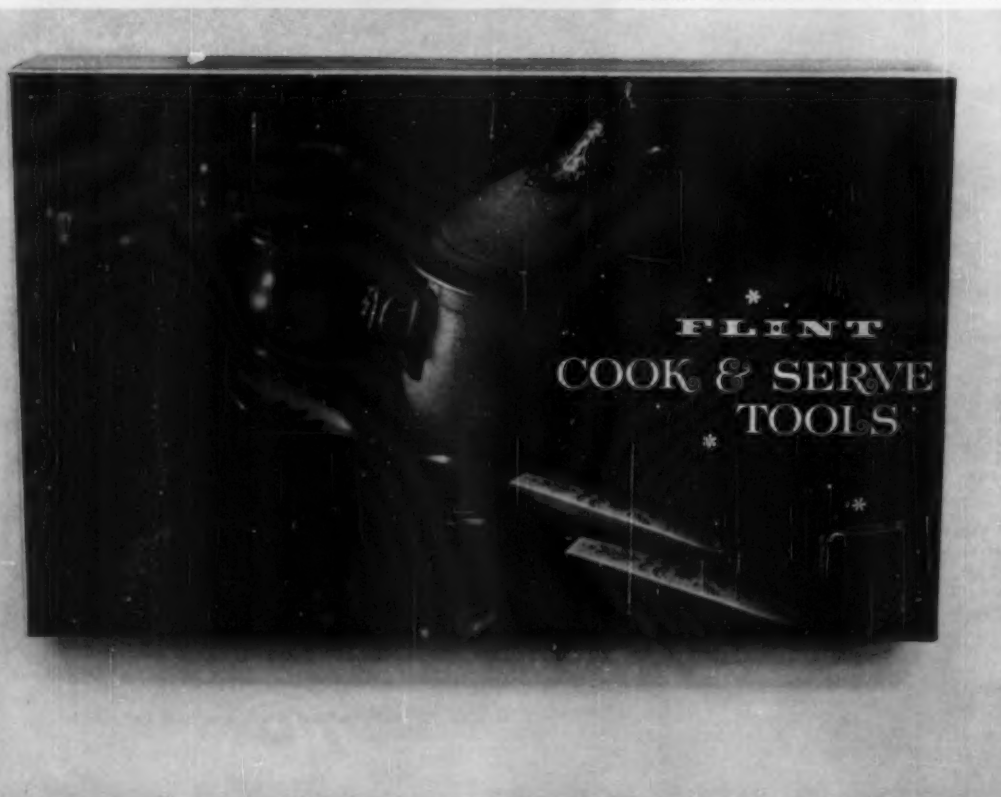


5. Heavy duty sponge, Burgess Cellulose Co.



6. Household foil package, Aluminium Ltd. of Canada

7. Box for Flint cook and serve tools, Ekco Products Co.



Promotion and corporate identity

1. Montgomery Ward corporate bags, boxes, and wrapping paper are blue and white on charcoal gray, vat-dyed stock.
Designers: F. W. Priest, product and package design manager; William Farr, package design manager; Lee Ferrara, staff designer.

2. Torrington Blower Wheel promotion is printed in blue and black against white.
Designer: Lester Beall, Inc.

3. Mona Winstrup, women's retail shop, uses a repeat butterfly pattern on its bags.
Designer: Tor Winstrup.

4. Container Corporation promotion piece is a hexagonal box printed in letterpress. Coasters inside repeat box designs.
Designer: Massimo Vignelli, Container Corporation staff; art director, Ralph Eckerstrom.

5. IMCO Precision Products trademark repeats semi-circular forms to form a dotted "I."
Designer: Eckstein-Stone Inc.

6. Chase Manhattan Bank symbol.
Designer: Chermayeff & Geismar.

7. Hemisphere Club trademark.
Designer: Carl Ramirez for George Nelson & Co.

8. Kelly & Gruzen trademark.
Designer: Chermayeff & Geismar Assoc.

9. New World Art utilizes in its logo a concept which appears frequently in pre-Columbian art.
Designer: Kenneth Resen.

10. International Paper Company trademark.
Designer: Lester Beall.

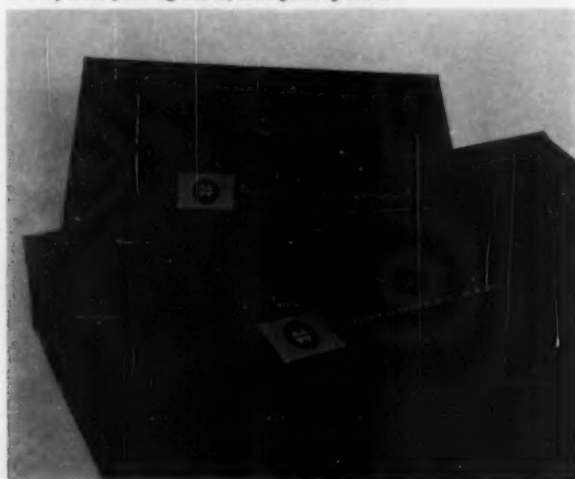
11. U.S.I.A. book symbol for exhibition on university presses uses minimum number of lines, with edge of each book forming part of adjacent one.
Designer: Norman Ives.

12. "Dimension" trademark.
Designer: Frank Wagner, Sudler & Hennessey, Inc.

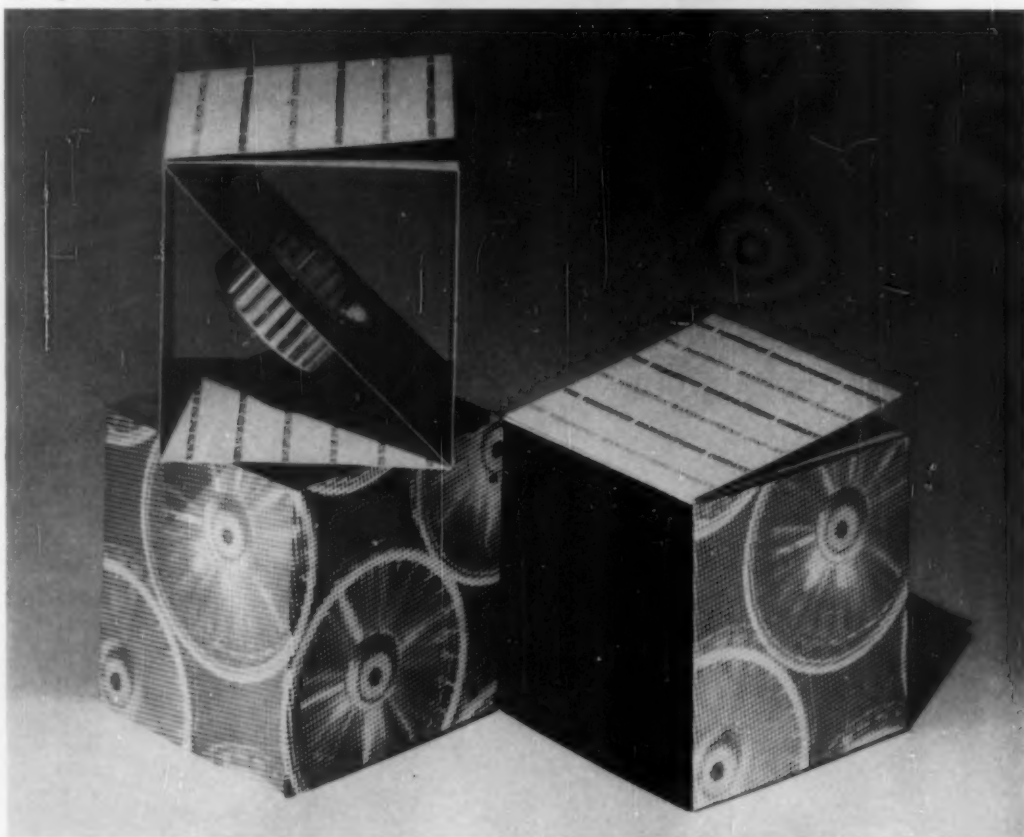
13. Australia Square, business and shopping area in the heart of Sydney, uses a logo based on A and S letter forms.
Designer: I. M. Pei and Assoc.

14. Brentwood shopping center in Vancouver, uses double B.
Designer: I. M. Pei and Assoc.

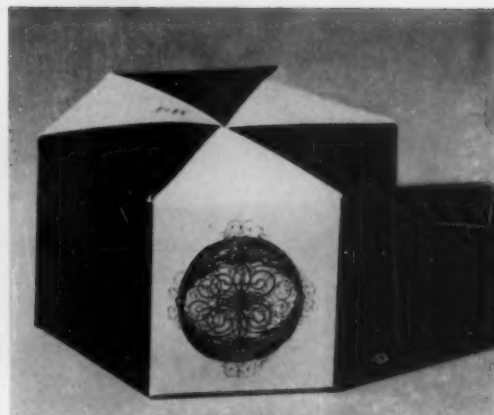
1. Corporate packing boxes, Montgomery Ward



2. Promotion piece, Torrington Manufacturing Co.

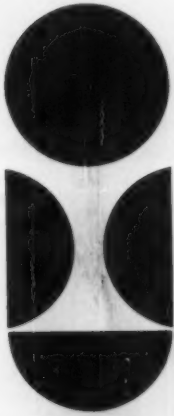


3. Merchandise bag, Mona Winstrup

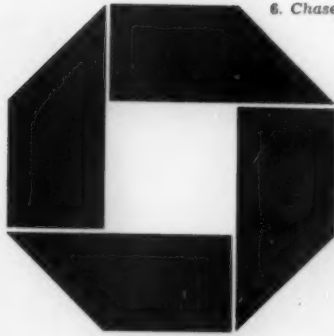


4. Promotion piece, Container Corporation

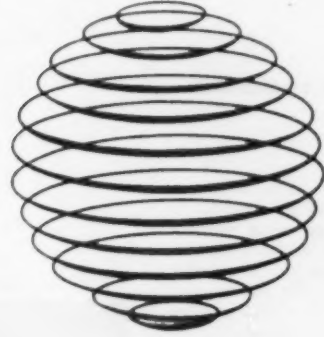
5. IMCO Precision Products



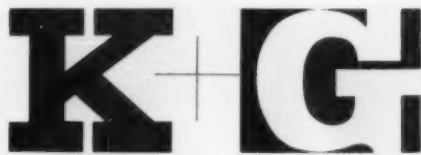
6. Chase Manhattan Bank



7. Hemisphere Club, restaurant, Time and Life Building



8. Kelly & Gruzen, architects



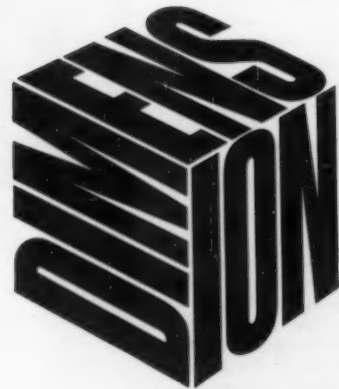
10. International Paper Company



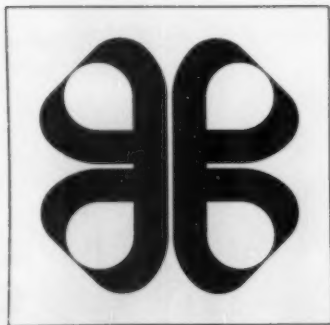
9. New World Arts, pre-Columbian art gallery



11. USIA exhibition of university press books



12. Dimension, a program service for CBS radio stations



brentwood



13. Australia Square, housing development

14. Brentwood Village, shopping center

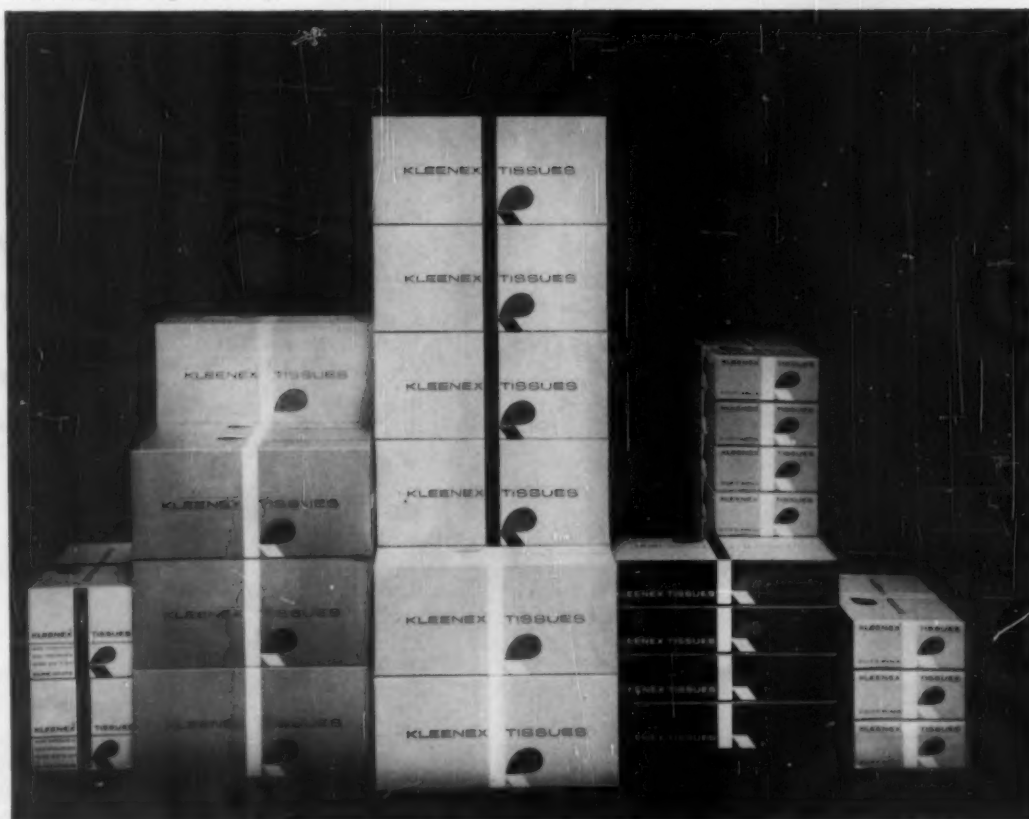
Drugs and cosmetics

1. Packages for men's toiletries, Stephan Co.



1. Stephan Company's completely unified packaging program for its line of men's grooming products is sold only in barbershops, and the new packages aim at the most captive of all audiences: the man in the barber's chair. This package is less blatant than most.
Designer: Jim Nash Associates.

2. Kleenex, Kimberly-Clark Corp.



2. Kimberly-Clark, after more than 30 years, has a new package for Kleenex. Large, decorative "K" is only element on top panel of package after it is opened, since name of product is removed with perforated section.
Designer: Saul Bass & Associates.

3. Q-Tips cotton ball package features a hamper lid which makes one-hand opening easy. Design retains company logo and two-tone blue color scheme, features white cotton balls on three sides for effectiveness in mass displays.
Designer: Robert Zeidman Associates.

4. Johnson & Johnson high-impact styrene first-aid kit has raised pattern hot-stamped in red and blue against a white background.
Designer: Donald Deskey Assoc.

5. Mennen's Citation line of premium-priced men's toiletries comes in squat, flint glass bottles with walnut-toned caps of polypropylene. The labels come in three colors: smoky green for the after-shave, champagne for the cologne, and pale sea blue for the pre-shave lotion. The bald eagle emblem helps convey an "early American" aura for the line.
Designer: Francis Blod Design Associates.

3. Cotton ball package, Q-Tips Corp.



6. B. F. Goodrich Company feminine syringe uses "studio photograph" of a young woman, soft feminine colors to appeal directly to customers in drug stores, which are rapidly becoming self-service. Package adapts easily for display purposes and allows customer to examine product without taking it from the package.
Designer: Smith, Scherr, McDermott.

7. Warner's Free-for-All girdle packages are united with display and shipper sleeve by playfully repeated forms.
Designer: Edward C. Kozlowski, Warner Bros. packaging division.



4. First aid kit, Johnson & Johnson



5. After-shave lotion package, Mennen Co.



6. Feminine syringe package, B. F. Goodrich Co.

7. Girdle package, Warner Brothers Co.

Drugs

1. Jordan, Sieber & Corbett sample mailer for Otic solution, a medicine for the ear, immediately localizes the area for which its contents are intended. Companion package, featuring a large eye, advertises Ophthalmic ointment for the eye.

Designers: Ed and Jane Bedno; W. Yale Wilson, Jordan, Sieber & Corbett art director.

2. Abbott's hospital series carries corporate symbol against a blue background.

Designer: Tony Zamora, George Nelson & Company.

3. Warner-Chilcott Laboratories Peritrate sample mailer repeats tree-like artery and heart used in general advertising campaign.

Designer: Dave Epstein, William Douglas McAdams, Inc.

4. Ciba Esidrix sample mailer uses urine bottle to symbolize the nature of this new diuretic. Miniature urine flask inside box contains sample tablets.

Designers: Ernest Smith and Al Amate, Sudler and Hennessey; Jack Marmaras, Ciba art director.

5. Ciba standard mailers for 1960 use a photographic treatment of laboratory equipment and are printed in two different metallic inks, such as cool gold on warm gold, gold on silver, or green on metallic blue. Boxes have no promotional copy, can be used for different products.

Designer: Harry and Marion Zelenko, with Ciba design staff.

6. Eaton Laboratories veterinary sample box uses highly realistic black and white photographs. Orabols, the medication which the sample promotes, is used for small animals.

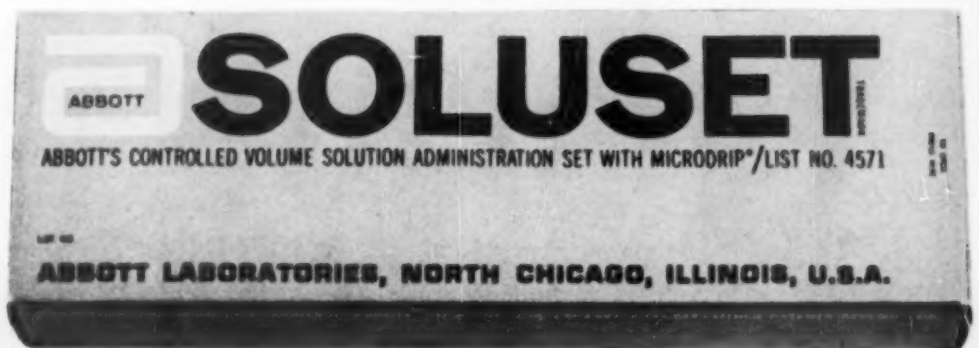
Designer: Abe Seltzer

7. Ciba's well-known logo is incorporated into red and blue rectangles on a white background for the company's line of plastic products. Same design and color scheme has been carried into all aspects of this division's identity program, including tank cars and trucks.

Designer: Brownjohn, Chermayeff and Geismar, with Ciba design staff.



1. Neo-Polycin Otic mailer, Jordan, Sieber & Corbett



2. Hospital series, Abbott Laboratories

3. Peritrate sample mailer, Warner-Chilcott Laboratories





4. Esidrix sample mailer, Ciba Pharmaceutical Products



7. Epoxy resin package line, Ciba Products Corp.



5. Ciba standard mailer, Ciba Pharmaceutical Products



6. Veterinary sample box, Eaton Laboratories

Manufacturers' Literature Supplement

Technical brochures—now available from manufacturers—on materials, methods, components, and machines

Materials—Metals

Decorative metallic chips. Dobeckmun Company, division of Dow Chemical Company, Box 6417, Cleveland 1, Ohio. Folder describes three new Metalflake patterns which are precision cut metallic chips for decorative use on floor and wall coverings, upholstery, apparel, paper products, etc. The patterns are offered in diamonds, comets, squares, rectangles, hexagons, stars, and a variety of random cuts.

Pre-colored aluminum sheet. Reynolds Metals Company, Department PRD-39, Box 2346, Richmond 18, Va. 8 pp. Ill. Brochure describes Colorweld 60, a pre-colored aluminum sheet used in commercial and industrial building products. It also contains color swatches of all 20 standard colors.

Methods

Industrial power systems. General Electric Company, Schenectady 5, N. Y. 48 pp. Ill. Bulletin GEA-7139 outlines the principles of planning industrial power distribution systems. Chapters include choosing voltages, short circuit calculations, protective relaying, selection of unit substations, power factor corrections, and groundings.

Computer service. The Service Bureau Corporation, subsidiary of IBM, 425 Park Avenue, New York 22, N. Y. 12 pp. Ill. Brochure describes a case history of how a computer service program for the analysis of piping flexibility is handled.

Electroplating. Hanson-Van Winkle-Munning Company, Church St., Matawan, N. J. 24 pp. Ill. Bulletin describes 18 electroplating processes, and also includes a description of the company's laboratory, and testing and field services.

Components and Machines

Wire construction. E. H. Titchener & Company, 57 Clinton St., Binghamton, N. Y. 24 pp. Ill. Manual gives case histories of how design engineers were able to cut costs and improve the quality of products through the use of wire and strip metal components. It also describes principal types of wire available, finishes, sizes, and threading and forming treatments.

Magnetic reed switches. Hamlin, Inc., Lake Mills, Wis. 6 pp. Ill. Brochure describes the magnetic reed switch, which can operate in any position, and is hermetically sealed for safe operation in any atmosphere.

Static control components. General Electric Company, Schenectady 5, N. Y. 8 pp. Ill. Bulletin GEA-6578-A shows how static control components simplify panel design and operation. These components are said to provide effective means of electrically controlling the over-all operation of a machine or a process by control devices that have no moving parts and are not subject to wear and erosion.

Wiring installation equipment. Keystone Manufacturing Company, 23328 Sherwood Rd., Warren, Mich. 16 pp. Ill. Catalog 159-D describes line of wireways, fittings and enclosures for applications where wiring must be protected against dust, dirt, oil, water and other substances.

Screw nomenclature. Active Screw and Manufacturing Company, 4250 N. Pulaski Rd., Chicago 41, Ill. "Screw Descriptor," two overlapping dials, 10 inches in diameter, supplies all necessary information for properly identifying heads, washers and threads when ordering screws. It also illustrates all the various types of threads and screw heads.

Data processing machines. Friden, Inc., Promotion Planning Dept., 1 Leighton Ave., Rochester 2, N. Y. 28 pp. Ill. Brochure gives step-by-step illustrations and concise explanations of the applications of a dozen major data processing systems. Machines discussed include: Flexowriter for document writing; Compuwriter for invoicing; Teledata for code transmission; Collectadata for collecting work data; and Selectadata for data selection-readout.

Instrumentation and control tubing. Crescent Insulated Wire & Cable Company, Trenton 5, N. J. 12 pp. Ill. Technical bulletin gives information on spiral-cabled tubes for instrument and control systems. Complete details are given on types of tubing, protective sheaths available, and instructions for installation.

Mounting equipment for hole punching and notching. Punch Products Corporation, 370 Babcock St., Buffalo 6, N. Y. 12 pp. Ill. Catalog M illustrates and describes the application of the complete line of mounting accessories available for use with Unipunch hole punching and notching units for setup in stamping presses and press brakes.

Proximity switches. Electro Products Laboratories, Inc., 4501 Ravenswood Ave., Chicago 40, Ill. 8 pp. Ill. Catalog describes line of proximity switches as well as basic technical information to enable a prospective user to determine the model best suited to his needs. These switches consist of a control amplifier, sensing head (actuated by all metals), and connecting cable; they can be used as limit switches, detection devices and sensing elements for all types of counters, and in many other types of industrial applications.

Industrial cutting units. S. S. White Industrial Division, 10 East 40th St., New York 16, N. Y. 16 pp. Ill. Bulletin 6006 describes Airbrasive units which employ a controlled, high-speed stream of abrasive particles or propellant gases to cut or abrade hard, brittle materials such as germanium, silicon, mica, glass, fragile crystals and ceramics. Data provided includes cutting techniques, applications, performance charts, new cutting powders and new accessories.

Crawler crane/excavator. American Hoist & Derrick Company, St. Paul 7, Minn. 8 pp. Ill. Brochure 790-CG-1 describes the new American 900 Series crawler crane/excavator. It has a rated lifting capacity of 110 tons, and is capable of handling boom lengths to 270 feet, plus jibs.

Infrared heaters. Edwin L. Wiegand Company, 7500 Thomas Blvd., Pittsburgh 8, Pa. 4 pp. Ill. Bulletin describes applications and features of the Chromalox Far-Infrared electric radiant comfort heaters. These units produce localized electric radiant heat in commercial and industrial establishments.

Square head cylinder. Tomkins-Johnson Company, Jackson, Mich. 16 pp. Ill. Bulletin SH-6-60 presents technical information, including mounting dimensions and specifications, for a new high pressure, square head hydraulic cylinder.

(Continued on Page 129)

Mechanical power transmission equipment. T. B. Wood's Sons Company, Chambersburg, Pa. 8 pp. Ill. Catalog 23103 presents information on line of mechanical power transmission equipment. Products covered include variable speed drives of both motion and stationary types, conventional V-belt drives, flat belt pulleys, flexible and rigid couplings, etc.

Welded steel tubing. Armco Steel Corporation, Middletown, Ohio. 4 pp. Ill. Folder describes welded steel tubing available as fabricated or semi-fabricated items in five different steels. Typical uses for this type of tubing include venturi tubes, picnic table frames, transformer cooling tubes, exhaust pipes, furniture parts, and handles for industrial and consumer items.

Hydraulic compacting press. K. R. Wilson, Inc. Arcade, N. Y. 8 pp. Ill. Bulletin 65 gives data on a one hundred ton ram compacting press which is used for compacting or briquetting of refractory materials, abrasives, powder metals, etc. The machine is designed for continuous, automatic, high-speed operation, with the operator taking care of piece removal and filling the hopper.

Facsimile recorder. Westrex Communications Equipment Corporation, division of Litton Industries, 540 West 58 St., New York 19, N. Y. 8 pp. Ill. Brochure describes the Weatherfax Model RJ continuous (120 hours) facsimile recorder for weather maps, charts, and other pictorial data sent by radio. The unit is self-contained and may be operated by unskilled personnel.

Miniature power inserting tool. Heli-Coil Corporation, Danbury, Conn. 4 pp. Ill. Folder 770 discusses a new power-driven inserting tool which is designed to install a range of small sizes of stainless steel wire screw thread and screw-lock inserts. Information given includes operation, disassembly, and care of tool.

Barrel finishing machine. Syntron Company, 1278 Lexington Avenue, Homer City, Pa. 4 pp. Ill. Brochure describes a vibratory barrel finishing machine which is used for deburring, deflashing, grinding, descaling, polishing, burnishing, or drying of unfinished parts.

Electronic tubes. Amperex Electronic Corporation, 230 Duffy Avenue, Hicksville, N. Y. 25 pp. Catalog contains descriptions and basic specifications on a full line of tubes including cold cathode trigger tubes, entertainment audio tubes, ignitrons, klystrons, magnetrons, noise diodes, photomultiplier tubes, traveling wave tubes, etc.

Push buttons. Clark Controller Company, 1146 East 152 St., Cleveland 10, Ohio. 8 pp. Ill. Brochure gives design information on push button units, selector switch units, standard pilot lights, and push-to-test pilot lights. A color selection chart shows available combinations of seven colors for color coding.

Lifting slings, rings, and links. Jones & Laughlin Steel Corporation, Wire Rope Division, Muncy, Pa. 16 pp. Ill. Brochure gives specifications and working load limits of line of alloy chain slings, rings, links and hooks for use in various lifting applications. Operation and maintenance are also explained.

Fasteners. Chase Brass & Copper Company, Waterbury 20, Conn. 28 pp. Ill. Catalog CK-17 lists line of bolts and nuts, cap and machine screws, washers, cotter pins, nails and tacks, rivets, etc. These fasteners are available in most commonly used

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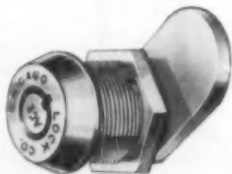


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Spring fasteners. George K. Garrett Company, Department 216, Torresdale Ave. at Tolbut St., Philadelphia 36, Pa. 14 pp. Ill. Catalog describes standard and special spring fasteners in twin-prong or cone impressions, and push-on types.

Band clamps and couplings. Aeroquip Corporation, Marman Division, 11214 Exposition Blvd., Los Angeles 64, Calif. 44 pp. Ill. Catalog 803 contains full product information on line of industrial band clamps, hose clamps, couplings, and flanges.

Metal lath partitions. Metal Lath Manufacturers Association, Engineers Bldg., Cleveland 14, Ohio. 8 pp. Ill. Brochure describes a number of applications of metal lath and plaster partitions and discusses the advantages of this type of installation.

Speed measurement. Jones Motrola Corporation, 432 Fairfield Ave., Stamford, Conn. 12 pp. Ill. Catalog 62 presents technical descriptions of 19 types of tachometers, together with drawings of various types of flexible shafts and drives.

Web belt slings. Jones & Laughlin Steel Corporation, Wire Rope Division, Muncy, Pa. 6 pp. Ill. Brochure presents a new line of synthetic web belt slings used in lifting.

Miscellaneous

Vinyl wallcoverings. L. E. Carpenter & Company, Empire State Building, New York 1, N. Y. 12 pp. Ill. Brochure is a guide to the specification, selection, and use of vinyl wallcoverings. Chapter titles include: physical requirements; where to use; how to select; fire-resistant qualities; how to hang; how to test; and suggested applications.

Machine shop. Mechanical Specialties Company, 5700 West 96 St., Los Angeles 45, Calif. Illustrated folder describes tool and special machine work done by company.

Porcelain enamel curtain wall panels. Caloric Architectural Porcelain Division, Caloric Appliance Corporation, Topton, Pa. 8 pp. Ill. Booklet describes 16 standard types of panels and discusses the advantages of curtain wall construction. The booklet also describes Ridgi-Cal building material, a porcelain enameled corrugated steel.

Glass blocks and sculptured glass modules. Pittsburgh Corning Corporation, 1 Gateway Center, Pittsburgh 22, Pa. 20 pp. Ill. Bulletin GB-115 discusses the design flexibility and functional advantages of glass blocks and modules, and presents a full color spectrum showing the 11 colors in which they are available. Also included is technical data on light transmission, insulation value, physical performance, and selection of block.

Nuclear power station. General Electric Company, Schenectady 5, N. Y. 12 pp. Ill. Brochure GED-4275 tells the story of how the Dresden, Illinois, nuclear power generating station was built.

Phosphorescent molecules. American Instrument Company, 8030 Georgia Ave., Silver Spring, Md. 16 pp. Bibliography of phosphorescent compounds serves as a guide to identifying solutions through their phosphorescent properties.

(Continued on Page 132)



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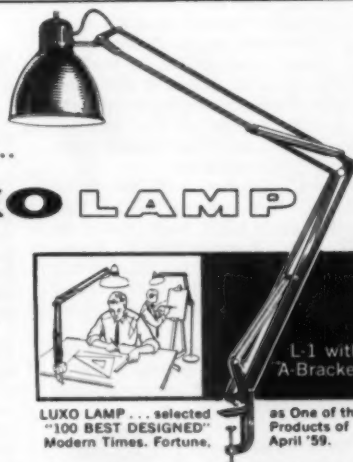
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Manufacturers' Literature, cont.

Pile hammers. McKiernan-Terry Corporation, 100 Richards Ave., Dover, N. J. 6 pp. Ill. Bulletin 691 describes six single-acting pile hammers which are used to drive heavy piles with low velocity blows above or below water. Accompanying data covers standard attachments, bearing calculation charts, and hammer operation.

Ribbon and wire forming machines. Baird Machine Company, 1700 Stratford Ave., Stratford, Conn. 8 pp. Ill. Catalog describes engineering features and production capabilities of line of automatic high-speed ribbon and wire forming machines.

Flat power springs. Sandvik Steel, Inc., 1702 Nevins Road, Fair Lawn, N. J. 12 pp. Ill. Booklet presents properties and application information on spiral, cross-curved, stainless, and integral band spring screws. Also included is data on spring nomenclature.

Traction motor. General Electric Company, Schenectady 5, N. Y. 8 pp. Ill. Bulletin GEA-7046 describes the GE-752-E5 traction motor which is used in four-axle diesel electric locomotives for high-speed, high-horsepower service.

Miniature lamps. Chicago Miniature Lamp Works, Dept. ID-1, 1500 N. Ogden Ave., Chicago 10, Ill. 8 pp. Ill. Bulletin 1106-R contains complete specifications of many specially engineered miniature lamps. These lamps are used in instrumentation, computers, electronic equipment, surgical instruments, and in other specialized functions.

Electric car. Birdie Company, 393 Springfield Ave., Summit, N. J. 2 pp. Ill. Catalog sheet describes the Birdie one-man, one-battery electric car which is designed for use in factories, warehouses, airports, parks, etc. The car weighs 181 pounds, and travels 10 full miles on a single charge. It is said to be able to carry one man and 100 pounds of cargo.

Electrical switches. McGill Manufacturing Company, Valparaiso, Ind. 12 pp. Ill. Catalog 60 presents design details, and data on construction and operation of a line of electrical switches for consumer, industrial, and military products. Switches described include toggle, rocker type, momentary contact, push button, and special types.

Flexible metal connectors. Cobra Metal Hose, 5059 S. Kedzie Ave., Chicago 32, Ill. Catalog 539 illustrates and describes an extensive selection of flexible metal connectors in carbon steel and stainless steel. Specifications presented include pressures, working temperatures, and installation methods.

END

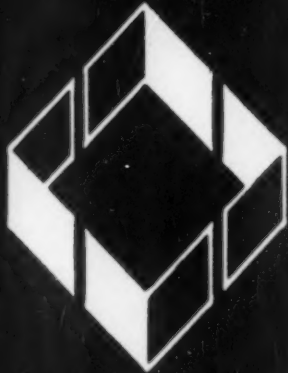
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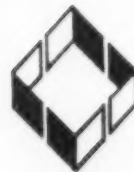
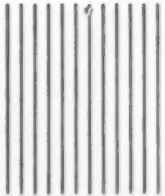
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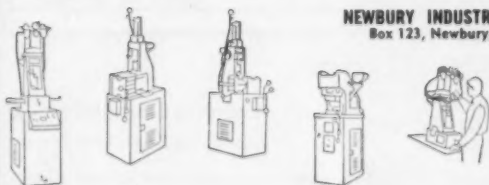
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January 6-14. International home furnishings market. Merchandise Mart, Chicago.

January 6-14. Decorative Accessories Show. Merchandise Mart, 15th floor, Chicago.

January 6-20. Toy market. Merchandise Mart, Chicago.

January 8-12. National Retail Merchants Association annual convention. Hotel Statler, New York.

January 11-February 19. "Art Treasures of Thailand." Historical exhibition including metalwork, stoneware, silk, and woodwork from that country, assembled with the help of the Thai government. Metropolitan Museum of Art, New York.

January 14-22. National motor boat show. New York Coliseum.

January 16-19. The Instrument Society of America's winter instrument-automation conference and exhibit. Sheraton-Jefferson Hotel, Kiel Auditorium, St. Louis.

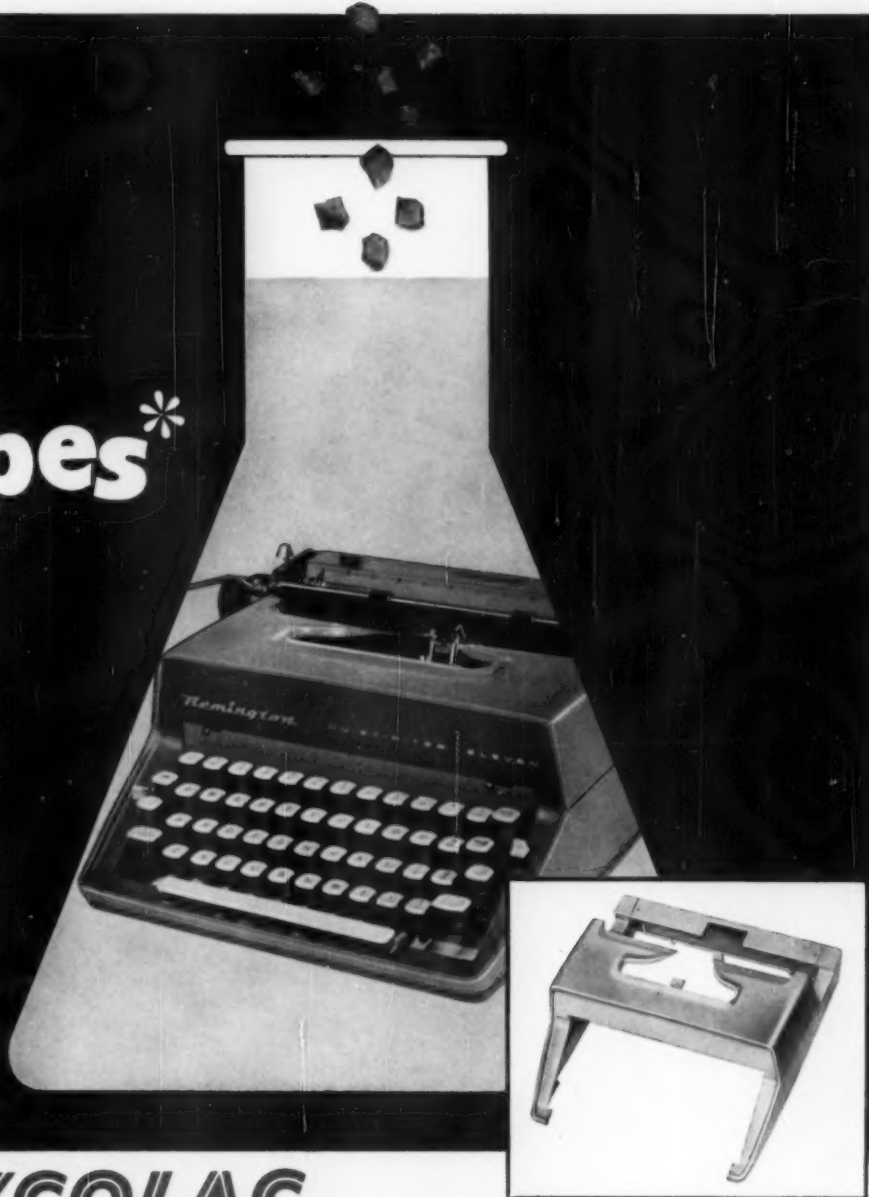
January 16-20. National housewares exhibit, sponsored by the National Housewares Manufacturers Association. McCormick Place, Chicago.

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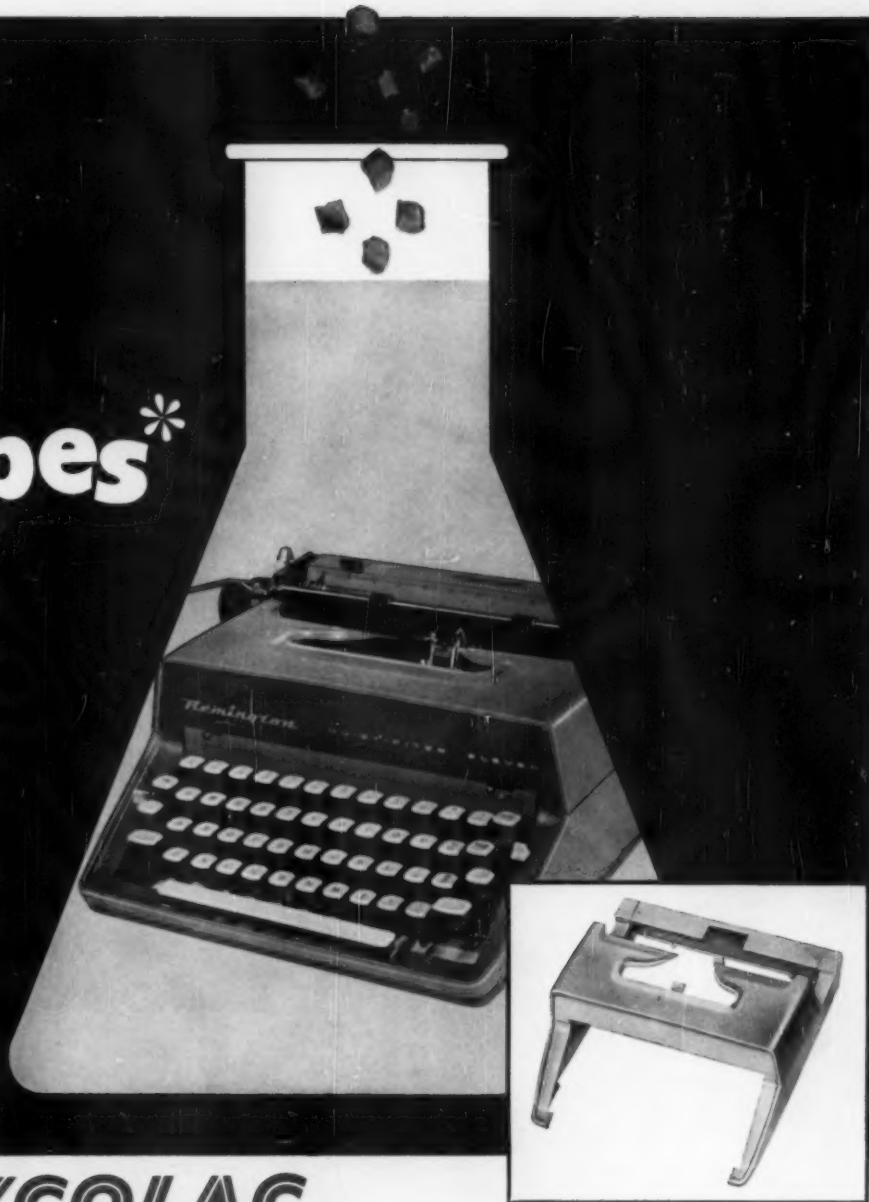
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