ART DESIGN

annual

review

December 1955
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INDUSTRIAL ART EXHIBITION

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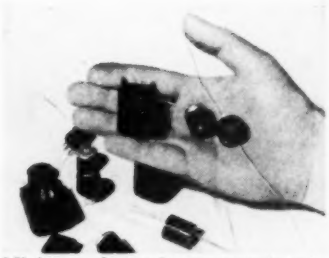
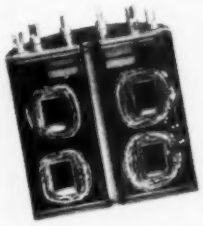
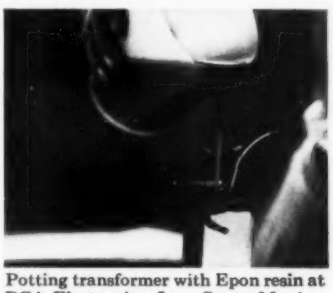


Miniature electronic components potted in Epon resin by Freed Transformer Company, Brooklyn, New York.



Section of magnetic amplifier coils embedded in Epon resin by Westinghouse Electric Corporation, Pittsburgh, Pennsylvania.



Potting transformer with Epon resin at PCA Electronics, Inc., Santa Monica, California.

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VOLUME 2, NUMBER 6

INDUSTRIAL DESIGN

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

CONTENTS FOR DECEMBER, 1955:

Frontispiece:

The scene of frenzied consumer activity, captured by Hank Parker, is the ground floor of Macy's, New York—which also happens to be the scene of ID's investigation into the year's best-selling products reported on pages 84-86.

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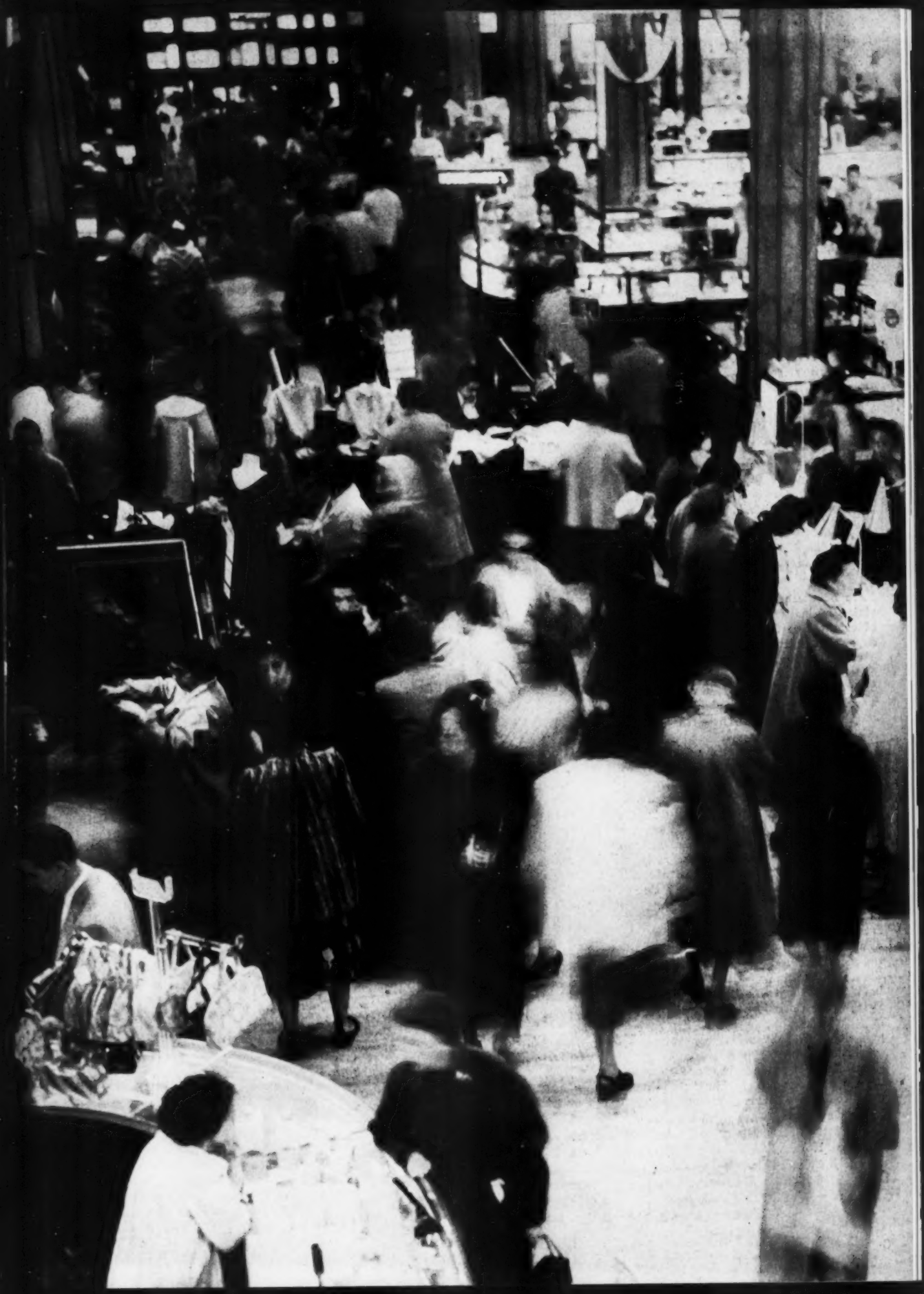

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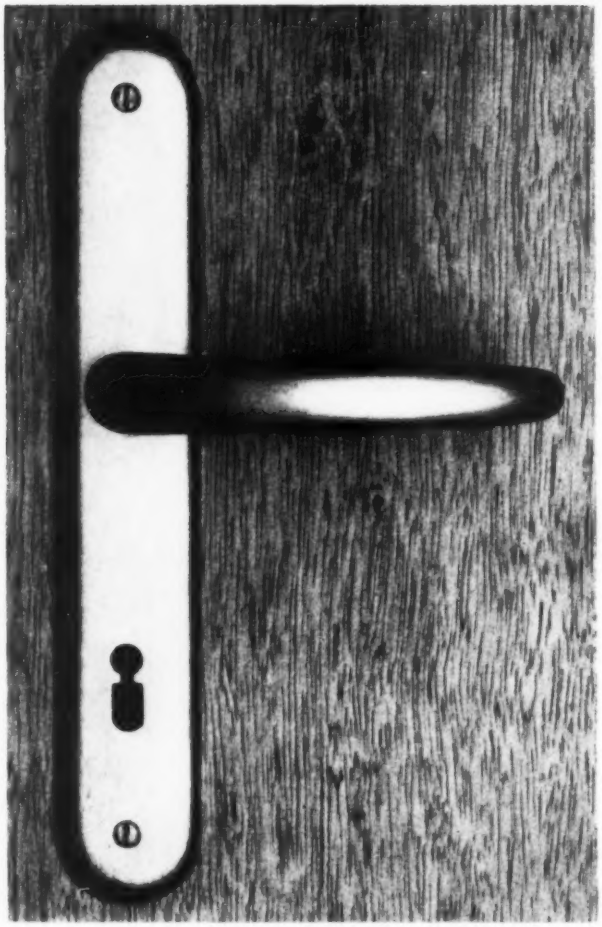


Door handle designed by Max Bill with Ernst Möckl for college at Ulm, Germany. Photo reprinted from Idea 55, *George Wittenborn, Inc.* (*reviewed on page* 8).

Design in Germany and Britain

GESTALTETE INDUSTRIEFORM (*Design in Germany*), *by Heinrich König and Wilhelm Wagenfeld.* 158 *pages,* 192 *illustrations and English translation. Econ Verlag, Dusseldorf.*

DESIGN IN BRITISH INDUSTRY, *by Michael Farr, with foreword and postscript by Nikolaus Pevsner.* 332 *pages,* 244 *illustrations. Cambridge University Press, London and New York.* $11.00.

Reviewed by John Pile.
Instructor at Pratt Institute and an associate of George Nelson.

Each of these books is a survey of the status of industrial design in its country of origin. The German book is somewhat superficial, a report of the exhibits in a particular show; the English book is exhaustive to the last degree. Nonetheless each gives a quite clear idea of the design world in its own country and makes inevitable some comparisons with the situation in this country.

The German book is really a catalog of the design exhibits selected in connection with the 1954 Hanover Fair, to which is added a short historical essay and a few random notes by Prof. Wagenfeld. The illustrations, beautifully printed, are the meat of the book, making up a German "Good Design" show. The notes make it clear that this is not an inclusive crosssection but rather a report of the particular items that happened to be entered by manfacturers in a particular show and selected for design merit by a particular jury. In comparison, the English book is one of the most thorough surveys imaginable of the design profession as it exists in England. The text is systematic and detailed. Design in each major industry is explored in great detail; professional organizations, publicity and publications are reviewed; conclusions are drawn and recommendations offered for the future; and then, as if to insure double checking, the entire work contains a kind of review of itself by Nikolaus Pevsner, in which the possible faults of the main texts are explored and corrected. No one book could possibly give a more judicially balanced account of the status of design in a country than this thick and well-illustrated work does.

Despite the differences between the purposes and magnitudes of these books, it is impossible to avoid comparisons between the national pictures that they disclose. The disastrous effects of Hitler Nazism and the war cannot be missed in glancing through the German report. The finest work shown here equals that of the Germany of the early 1930s, when the Bauhaus influence was at its peak. There is no trace of progress beyond this level; rather, evidence of hard struggle to get back to this peak. The selection of objects shown is poorly balanced with heavy emphasis on industrial machinery and on china, glass and flatware. There are some home appliances, very little furniture and no examples at all of transportation equipment. Some areas of design (books and advertising, packaging and fabrics) seem to have been excluded from the show. By far the best work is in heavy machinery, instruments and tools; here the traditional German sense of craftsmanship shows up in superbly austere and finished units. The household appliances have as their chief virtue an austere absence of superficial stylistic excesses, but caution leaves them dry and dull. The china and glassware, at its best, is at the old Bauhaus level, but in no case rises above that point. The furniture shown is depressingly dull. In general, there is a sense that the best German design is not design at all but rather skilled technology. The efforts to "style" such objects as adding machines, toasters, or vacuum cleaners make the efforts in this country seem excellent by comparison. There seems to be a sense of timidity and fear in any activity that moves out of the area of pure technology, and it is not surprising to note that the design in most cases is credited to the anonymous source "Factory Designed," or not credited at all.

Farr's English survey ranges more widely and includes many more fields of design activity, including some that are rarely thought about as being industrial design in this country. Sections are devoted to carpets, textiles and wallpapers, for example, as well as to leather goods and jewelry. Certain other areas that are important in this country, such as packaging and transportation design, are not discussed at all. Automobiles receive some attention, but such important fields of British activity as railways, shipbuilding and aircraft design are not mentioned. It is implied (although never mentioned) that design in England is still tied to its origins in the Arts and Crafts movement and ideas of "applied ornament" to such a degree that any work including a major component of engineering is excluded from discussion.

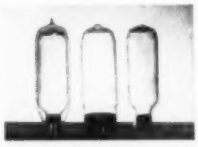
The areas under discussion are covered with great thoroughness, including full exploration of both strong and weak points, and there is much to be learned from both. We are told of interviews with factory owners, given histories of design projects, told of their commercial success or failure, and given the details of the average income of the British designer in each field (always unbelievably low). The text suggests that England is advancing far ahead of anything that we know in this country. The words are of the very best; it is only when one gets to the visual example that the contrary

(*continued on page* 8)

Something for nothing

In 1643 Evangelista Torricelli started studying causes and effects of vacuum. Two hundred years later, Sir James Dewar applied the principle of *insulation by nothing* to the vacuum jacketed vessel for storing liquid gases.

Up-dating on the vacuum vessel brings us to the ubiquitous bottles—useful companion of factory and office workers, picnickers, campers and school children. We play an inside role in this hot-cold game by making the inner-and-outer glass liners which are so important to the function of a vacuum bottle. Why glass? It's easy to clean, doesn't change taste of liquids and may be readily formed into shapes that hold a vacuum.



Component parts by Corning help keep vacuum bottlemakers happy and busy. From right to left—inner blank, outer blank and first assembly of glass liners for vacuum bottles.

Firms like Aladdin Industries, and Landers, Frary, & Clark buy these liners in great quantities. Then, with considerable ingenuity, and with the aid of automatic machinery, they seal the matched glass units, silver the outside of the inner and inside of the outer lining for more effective insulation, evacuate air between the walls, and tip to seal the vacuum permanently.

After 24 hours of testing, liners that make the grade are jacketed in attractive metal and/or plastic castings. Then, thousands of happy customers who want to keep food and drink both tasty, and at the right temperature, buy bottles in a wide variety of sizes, shapes, and styles.

Moral? If you want something for nothing—a vacuum that is—glass can be handy and profitable.

A more detailed story of Corning glass at work in both products and processes is unfolded in "Glass and You." A free copy is yours by request.

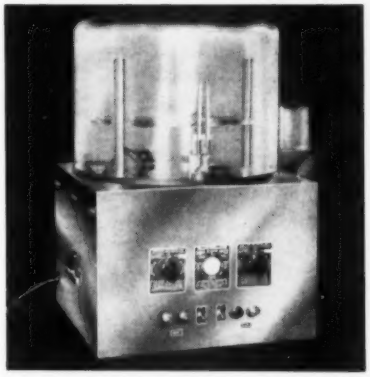
Also for your perusal Bulletin B-83, "Properties of Selected Commercial Glassware." It's a handy reference volume that will give you considerable insight into the amazing properties that can be custom-built into glass.

Handling humidity—with a moral for the cost-conscious designer

When it comes to handling and humoring humidity to fit experimental conditions, today's researchers demand precise control.

Toward this end, the Blue M Electric Company, of Blue Island, Illinois, has developed a relative humidity chamber that automatically controls humidity from 20% to near saturation, at any point, depending upon dry bulb temperature.

What interests us (aside from our curiosity about the precise handling of experimental conditions) is the use of a PYREX brand jar as the chamber. No small vessel this, it measures 16 inches in diameter, 12 inches in height.



Blue M's "Vapor-Temp" uses a large PYREX jar as a humidity chamber. Result—production costs and resultant prices go down.

Why a PYREX jar for this somewhat off-beat application?

The obvious answer lies in the full visibility the glass gives the lab technician who wants to observe test specimens from all angles. BUT . . . what *isn't* so obvious (except to Blue M) is the fact that, by using the PYREX jar they eliminate the expense of fabricating costly double wall alloy cabinets.

Blue M gets the jars in the quantities they need when they want them, and at a price that enables them to sell their product, "Vapor-Temp," at a figure in reach of more customers.

In turning to Corning for mass-produced glass components, you get utility *plus* economy—and Corning's capacity to cope with *both* materials and production problems.

Other examples of dollars-and-cents uses of glass components are spelled out in Bulletin IZ-1, "Glass . . . its increasing importance in product design."

How to engineer a continuing status quo

Status quo is the old Roman way of saying "the state existing."

Closely akin, and often of utmost importance to designers and engineers, is dimensional stability — a *continuing* status quo.

Dimensional stability, plus nonabrasive quality makes this glass ring a vital component in Sprague's planetary-valve gas meter.

Which leads us to the problem we ran into when the Sprague Meter people in Bridgeport were putting together their unique planetary-valve gas meter.

The valve ring was the stumper. It had to move continuously in a circular motion, sliding over a soft metal port in order to permit the measured flow of gas through successive orifices.

To be effective, the ring had to keep its shape, have an exceptionally flat finish, and neither wear (nor be worn down by) the metal part it moved against.

It may come as a surprise to discover that glass was selected as the material for the ring.

As mass-produced by Corning, this glass valve is precision flat finished by Sprague so smooth that it's nonabrasive to the metal it rubs against; it's hard enough not to be worn down, changing shape not a bit in operation.

Hundreds of material matters (other than Sprague meter valves) have found their successful solution in glass. Perhaps you can get your answer with it. Jot your problem down and send it along. We'll peer into our vault full of 50,000-odd glass formulas to see if we already have a glass to do your job. If not, we may be able to find just the right ingredients. We'd like to hear from you.

CORNING GLASS WORKS
CORNING, N. Y.
Corning means research in Glass

(*continued from page* 6)

is revealed: the English designer is not part of a lively and progressing profession. A few well-known British achievements (some cars, some hardware, a few radios) turn out to be exceptions in a picture of unending mediocrity. The fine standards set forth in the text, the obvious devotion with which the British designer attacks his task, are in strange contrast with the many dull and tasteless designs illustrated. It is hard to identify the nature of the faults of this design. It is invariably modern and intellectually conceived, but it seems to die under the weight of something that might be described as a "civil service" approach to designing, with all that that implies in the way of suffocating procedures, combined with a still surviving emphasis on stuffy coziness that has the poor qualities of Victorianism without any of its courageous bad taste. This is particularly evident in the designs that relate to home furnishing; furniture, fabrics, carpets and the like, even at their best are invariably pokey and dull. The illustrations showing exhibits arranged to educate the public in the difference between good and bad design show paired displays in which neither example has any particular superiority over the other.

The total effect of these two books taken together is to give to the American designer some considerable insight into the wide differences in the role of designers in different countries, to supply him with some illustrations of a few unfamiliar and stimulating designs (plus many less stimulating ones), but above all to impress him with a new realization that the United States is at the present time more of a utopia for the designer than it sometimes seems in the course of everyday practice.

Herbert Read assessed

THE GRASS ROOTS OF ART, *by Herbert Read.* 160 *pages, with illustrations. George Wittenborn, Inc., New York.* $2.50.

Reviewed by Hilton Kramer, Managing Editor of Arts

As a writer on the visual arts, Herbert Read suffers from two fundamental maladies: a tendency to retail ideas from history, philosophy, and the social sciences without really thinking through their application to art, and a lack of interest in the most literal aspects of the work of art itself. The latter, of course, supports the former abuse; for once the critic has shifted his focus away from the actual making of specific objects—whether they are easel paintings or skyscrapers—and contented himself with using them merely as symptomatic examples in the exposition of a cultural theory, their particularity no longer offers any resistance to the importation of irrelevant ideas.

The Grass Roots of Art represents such irrelevant (which is to say, unassimilated) ideas on a grand scale. This collection of essays, originally published in 1946 and now said to be "completely re-written," is sub-titled "Lectures on the Social Aspects of Art in an Industrial Age," and it ticks off some impressive themes—"The Roots of the Artist," Society and Culture," "The Social Basis of Great Architecture," "The Decentralization of Art," and so on. But one despairs at finding a straight-forward exposition of a single point of view; there is simply no place in the text where one can take hold and confront the development of a single idea. Instead we are treated to a constant rush of hunches, notions, digressions, suppositions, exhortations, quotations—everywhere quotations!—and bold, frequently misleading generalizations for the "proof" of which we are often referred to the author's other works.

To be sure, there are moments when Mr. Read seems on the verge of clarifying a specific issue. In his essay on "Society and Culture," for example, he takes up the positions of Marx and Ruskin on the problem of industrial culture and boldly announces that his aim is to reconcile them. For an instant we may feel that we are at the crux of the author's views, for this is the issue above all on which so many writers have been compromising and obscure. But alas, we find ourselves straightaway tangled up in the views of J. B. Yeats, T. S. Eliot, Jacob Burckhardt, and several biologists without ever learning what Mr. Read's position comes to. Ten pages later one reads that the condition he advocates is "An industrial system that gives the worker a direct responsibility for the quality of his work," but that is all we learn about it. What one had hoped for—what one has been expecting from Mr. Read for years—never comes to pass: a clear confrontation of the moral views of Ruskin and Morris, from which he derives, with the actualities of our machine culture.

There are, moreover, certain points in the text where one feels Mr. Read to lack a necessary candor. I would cite two instances. The first is his essay on "The Irrelevance of Realism" in which he assails the views of Marxists and philistines. It is obvious to practically everyone who thinks about it that the official "realism" that he attacks here is irrelevant to serious artistic goals. But Mr. Read is oblivious to the crucial, philosophic point here: whether or not a concern for visual, "real" appearances is not at bottom necessary to the creation of form, and, following this, whether the abstract forms which seem free of these appearances are not in reality living off the formal components of artists who have confronted them directly.

The other instance is of a different sort, and it may serve to point up another of Mr. Read's habits of mind. In his essay on "The Decentralization of Art" he is at pains to underscore the provincial cast of Cézanne's mind, believing it to be a source of the painter's greatness. In the process, however, he omits a crucial fact of Cézanne's biography: his immersion in Parisian art, and the art of the Paris museums, at the most critical moment in his life as an artist. Everything before that experience is a prelude to our interest in Cézanne; everything that follows is denouement. Yet Mr. Read has not hesitated to slide over the matter on his way to make a point, the point being that "centralization vulgarizes the artist." It is one of many details which lessens one's confidence in Mr. Read's capacities to deal with the truly enormous issues to which he is constantly addressing himself.

Two annual surveys

IDEA 55, *International Design Annual, edited by Gerd Hatje, bibliography by Bernard Karpel.* 189 *pages,* 410 *illustrations. George Wittenborn Inc., New York,* 1955. $8.50.

NEW FURNITURE. 3, *edited by Gerd Hatje, bibliography by Bernard Karpel.* 188 *pages,* 360 *illustrations. George Wittenborn Inc., New York.* $8.50.

Both these books on design have the same format and editor, Gerd Hatje, presiding over material which has been assembled by individual editors in eleven countries for *New Furniture*, in ten countries for *Idea* 55, with Yugoslavia not included. Both American sections have been compiled by John Peter, who introduces *Idea* 55 with a warning: "The shocking truth of it is, with machines turning out billions of products all over the world, the bulk of well-designed things are still handicraft or virtually handicraft objects produced in relatively limited numbers."

With this, which represents less of a conclusion than an underlying point of view, it is not surprising that after some statements by Raymond Loewy, Russel Wright and Misha Black, each defining a few of his own principles, the collection is keynoted by Max Bill's *Hochschule für Gestaltung* in Ulm, Germany, the "new Bauhaus" which, though still under construction, is actively educating students in a program of "visual training, handiwork and cultural integration." Students and faculty, according to the illustrations, have already equipped the college with austere fluorescent lighting, benches and lavatories and beds.

In both volumes, this standard of formal "purity" prevails *ad infinitum*, amply demonstrating that it is far more applicable to furniture than to products whose uses are not so static, whose engineering may be far more intricate. The Interna-

(*continued on page* 133)

The sheet fabricating material that turns designers' dreams into Practical Realities

Is the case, cabinet, cover or other part of your product now made of a material which leaves something to be desired in...

ECONOMY? Royalite economy entails low initial tooling costs and exact, inexpensive prototypes. Tooling may be of wood, resin or metal, depending on the production run. *It's both faster and lower in cost.*

BEAUTY? Royalite's beauty of integral colors, grained or smooth, makes *a more sales-appealing product, eliminates all finishing costs*... another economy.

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DETAIL? Royalite molds readily to *sharp detail and contour,* giving latitude to the designer.

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US RUBBER **United States Rubber**

LETTERS

"DETROIT" Mailbox

Sirs:
It is needless for me to say that you have done a wonderful job in presenting Detroit as a design center as well as a city on wheels.

However, as an ex-Detroiter who has worked with more than one major automobile manufacturer, I feel that a certain section of the design activity there has been some what neglected in your survey. This section is made up of the people who are not designers of products, but who devote their time and creative ability strictly to PRODUCT PROMOTIONAL work, i.e. exhibitions, auto shows, etc. Although their work may be overshadowed by the tremendous jobs their fellow designers are doing on automobiles and refrigerators, their significance in helping to sell these products to the consumers is not easily to be overlooked. I am sure, in terms of time, effort and dollar value, the work they are doing is also helping Detroit to be the leader in this particular field. May I commend these people and the work they perform.
Peter Quay Yang
New York

Thanks to reader Yang for highlighting one facet of Detroit that was neglected because of space limitations.—ed.

Sirs:
Let me congratulate you on a most comprehensive and masterful presentation—your story of Detroit. It represents a gigantic task of research and endless conferences, and yet it has not the slightest trace of belaboured effort. I always knew you were good—and this proves it. In addition you have presented the part that IDI played in uncovering a well-guarded and secret operation of the designer's story in Detroit. . . .
John Vassos
New York, N. Y.

Sirs:
Your coverage of the Detroit design picture is extremely comprehensive, and your reporting on the styling organization of American Motors is most factual.

However, your discussion, on pages 71 and 72, of unitized construction mentions two "stumbling blocks" that are objectionable to stylists. I am referring to the statement that a true convertible cannot be built with unitized construction, and the surprising statement that a unitized frame must have a high beltline for body rigidity. Actually nothing can be further from the truth.

The Metropolitan, with unitized construction, is available in both hard-top and soft-top convertible (with no overhead rails) body styles. It is also entirely possible to produce a rigid convertible in a longer wheelbase, providing that approximately 150 pounds of additional structure is incorporated in the underbody. This is exactly in accordance with the procedure followed in designing convertibles with a separate frame. The original Rambler convertible, introduced in 1950, utilized overhead rails because we desired to hold the car weight to a minimum and because we felt that the added protection afforded by overhead rails was an excellent sales feature.

In reference to the statement that unitized bodies must have high belt lines, I wish to assure you that this is absolutely not the case. In our experience, the unit type of construction has never been a limiting factor in determining the height of beltlines. The 1956 Rambler will completely support the foregoing statement.
James T. Moore
Technical Advisor
American Motors Corp.
Detroit, Michigan

CONGRATULATIONS FROM ALL THE STAFF FOR SPLENDID REPORTING JOB ON DETROIT.
E. A. Adams
Art Center School
Los Angeles

Sirs:
Your October issue seems to me to be such a remarkably fine editorial effort that I feel I must offer you congratulations from the North.

Industrial Design is an experience. It is also a discouraging (and valuable) yardstick to remind less luxuriously situated editors of what can be done.
Alexander Barrie, Managing Editor
Design Engineering
Toronto, Canada

Sirs:
Please allow me to congratulate you warmly on the splendid editorial job you are doing on INDUSTRIAL DESIGN. Editors, like us, that are trying to do a job, yet need guidance, really owe you a debt of thanks. I mean it.

A case in point was surely your treatment of the article on Sheet Forming Techniques, by Edward F. Bachner, Jr., in your August issue. I thought it was tremendous. The whole issue was.
Jim Pilditch, Managing Editor
Canadian Packaging
Toronto, Canada

Sirs:
After seeing several issues of INDUSTRIAL DESIGN last summer, I became what some magazines call a "dear reader." And I might add, a happy reader. And with the latest issue on Detroit, a highly impressed reader. With each issue your publication becomes more and more impressive.

My compliments and my thanks to you for putting out a magazine which is genuinely interested in design. And when I got to the comments on the Continental I had to fight against getting down on my knees. And the idea of including 9 or so pages on architecture was greatly appreciated and gave the issue substance. . . .
Richard Wheeler, architect
Cincinnati, Ohio

(Continued on page 14)

Eastern Airlines creates

beautiful interiors for their new "Golden Falcon" fleet with

CHROMEFLEX®

made with DuPont **"MYLAR"**
POLYESTER FILM

"Gold Metallic" Chromeflex is a creation of High Vacuum Metals, Inc. It was tailored for exclusive use in the Golden Falcon fleet of Eastern Airlines. Chromeflex, the miracle metal plastic made with DuPont Mylar Polyester Film, provides a brilliant metal finish that is non-corrosive, fade-proof, weather-proof, abrasion resistant and has unusually high tensile strength. It can be die-cut to your specifications, saving labor and installation costs.

Gold, silver, or metallic colors have been successfully used to enhance automotive interiors, appliances, shoes, belts and luggage.

Give your product a bright new look. A CHROMEFLEX design engineer will be glad to help you tailor Chromeflex into your product. Call or write to:

HIGH VACUUM METALS, INC.
40 WORTH STREET, NEW YORK
REctor 2-7734

See the "Golden Falcon" interiors on the following page

Luxurious interior décor

...in Eastern Airlines' new fleet of "Golden Falcons"

WITH NEW DU PONT

MYLAR*

POLYESTER FILM

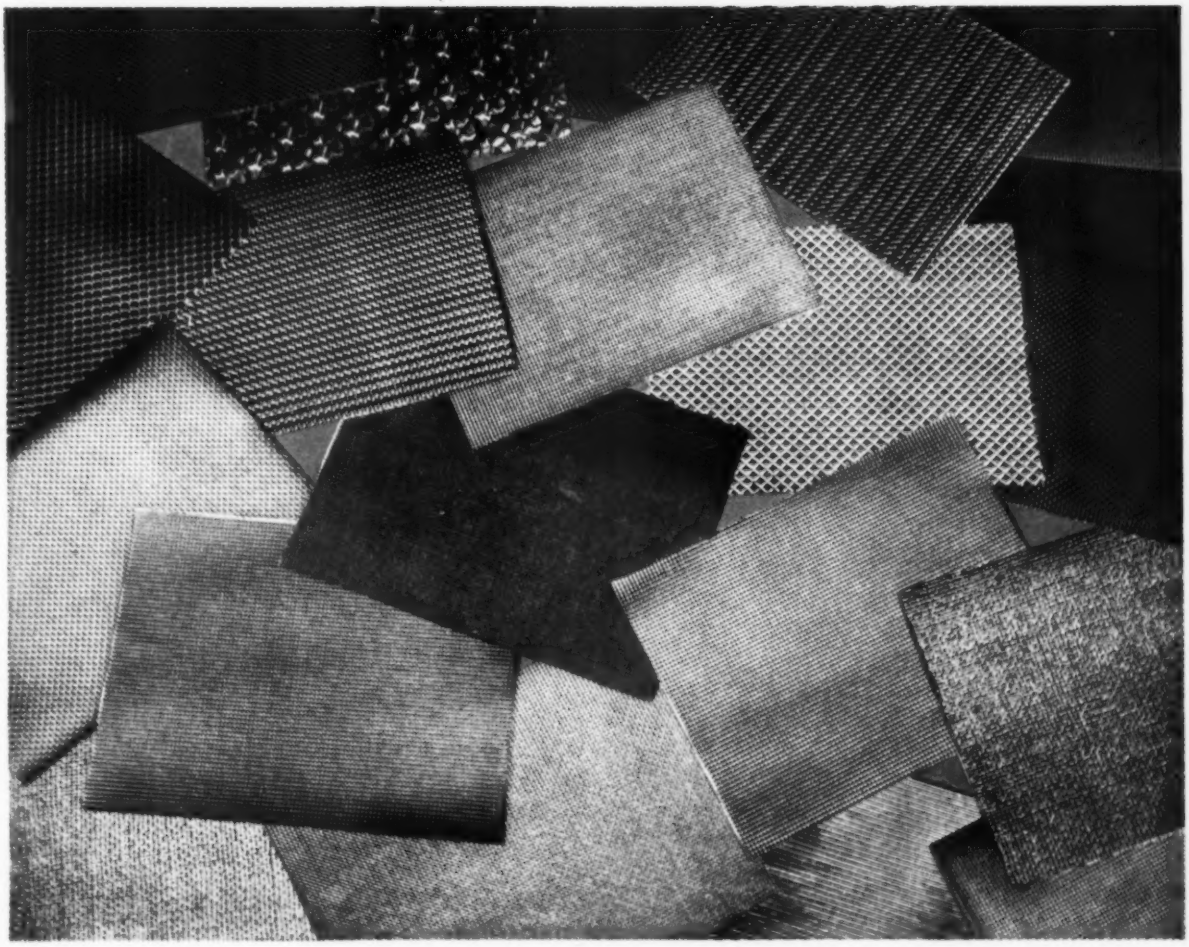
*Du Pont Trade-Mark REG. U. S. PAT. OFF.

"MYLAR," laminated to a perforated backing, gives illusions of open sky to lounge and cabin ceilings in the "Golden Falcon."

SCUFF PLATES throughout the plane use a silver sheet of durable metalized "Mylar"; this new material will not tarnish or embrittle.

BULKHEAD PANELS employ a sheet of gold "Mylar" laminated to rigid backing, which lends striking depth and sheen to cabin area.

VALANCES use decorative "Mylar" film that's smart, practical. Lighting troughs of metalized "Mylar" disperse light evenly.



New beauty...economy in decorative surfacing materials made possible by strongest plastic film

Decorative materials surfaced with Du Pont metalized "Mylar" polyester film highlights interior décor of Eastern Airlines' new fifty-million-dollar fleet of "Golden Falcons." This thin, remarkably strong transparent film—metalized in silver and gold—gives a dramatic new beauty and luxury look to ceilings, bulkheads, valances, seat frames, scuff plates and handrails.

Bonded to a backing material then embossed, metalized Du Pont "Mylar" can be used to create unusual styling effects in a wide range of colors. This decorative surfacing material has high abrasion resistance, is stainproof and wipes clean without smearing. The material also cuts costs in production . . . it's easily installed and can be shaped smoothly around corners and edges.

Metalized "Mylar" is also being used for interior trim in late-model cars. Other applications include leather goods, book covers, kitchen appliances, and apparel accessories.

How about your product? Interested in finding out how these decorative yet practical effects can help increase its over-all value? Mail the coupon today for swatches of laminations surfaced with "Mylar," and the names of manufacturers who sell the finished metalized material.

DU PONT **MYLAR**® POLYESTER FILM

DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

E. I. du Pont de Nemours & Co. (Inc.)
Film Department, Room 11B, Nemours Bldg., Wilmington, Del.

Please send me further information on Du Pont "Mylar" polyester film, including samples of metalized decorative surfacing materials with names of manufacturers.

Name_____

Company_____

Street_____

City_____ State_____

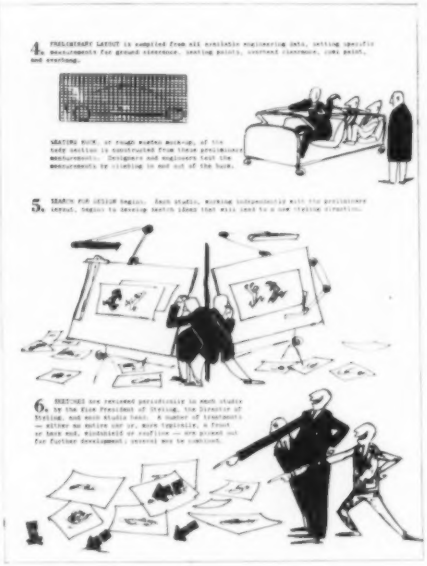
"DETROIT" postscripts

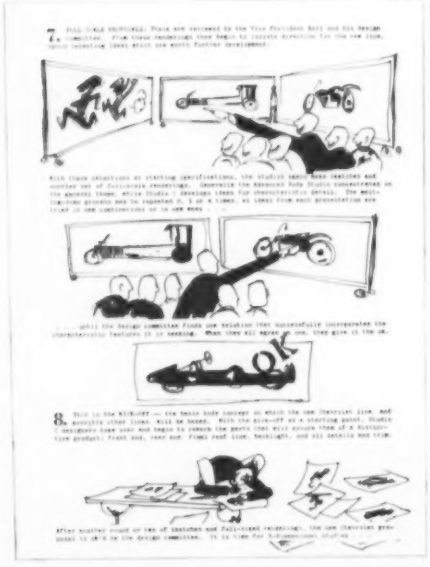
Sirs:
. . . This story makes all other writeups seem inferior. On behalf of all of us in Styling, we want to extend our highest compliments. . . .
G. T. Christiansen
Administrative Assistant, Styling
General Motors Corp.
Detroit, Michigan

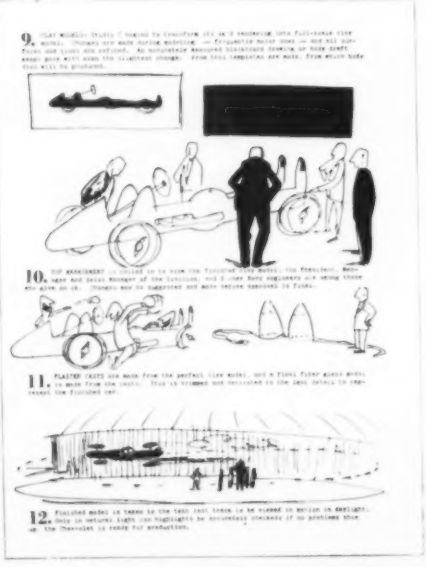
As much as the editors have enjoyed receiving many letters of appreciation like the foregoing ones, we equally enjoy controversy, comment, and even kidding. The author of the item below (received unsigned and mysteriously unpostmarked) has been exempted from our usual ban on publication of anonymous letters because of his courageous chiding of the tone of our October article. . . .

Sirs:
. . . It is certainly, in every sense of the word, a "high-class" publication and I was honored to be included. . . .
H. C. Brunn, Manager
Color & Trim Materials Dept.
Ford Motor Company
Dearborn, Michigan

Sirs:
The October issue of Industrial Design Magazine was an excellent one, giving complete coverage of the design situation in Detroit. I have a personal subscription to INDUSTRIAL DESIGN, as a matter of fact, and find myself looking forward to the arrival of each issue.
William M. Schmidt
Vice President & Director of Styling
Studebaker-Packard Corp.
Detroit, Michigan







Errata

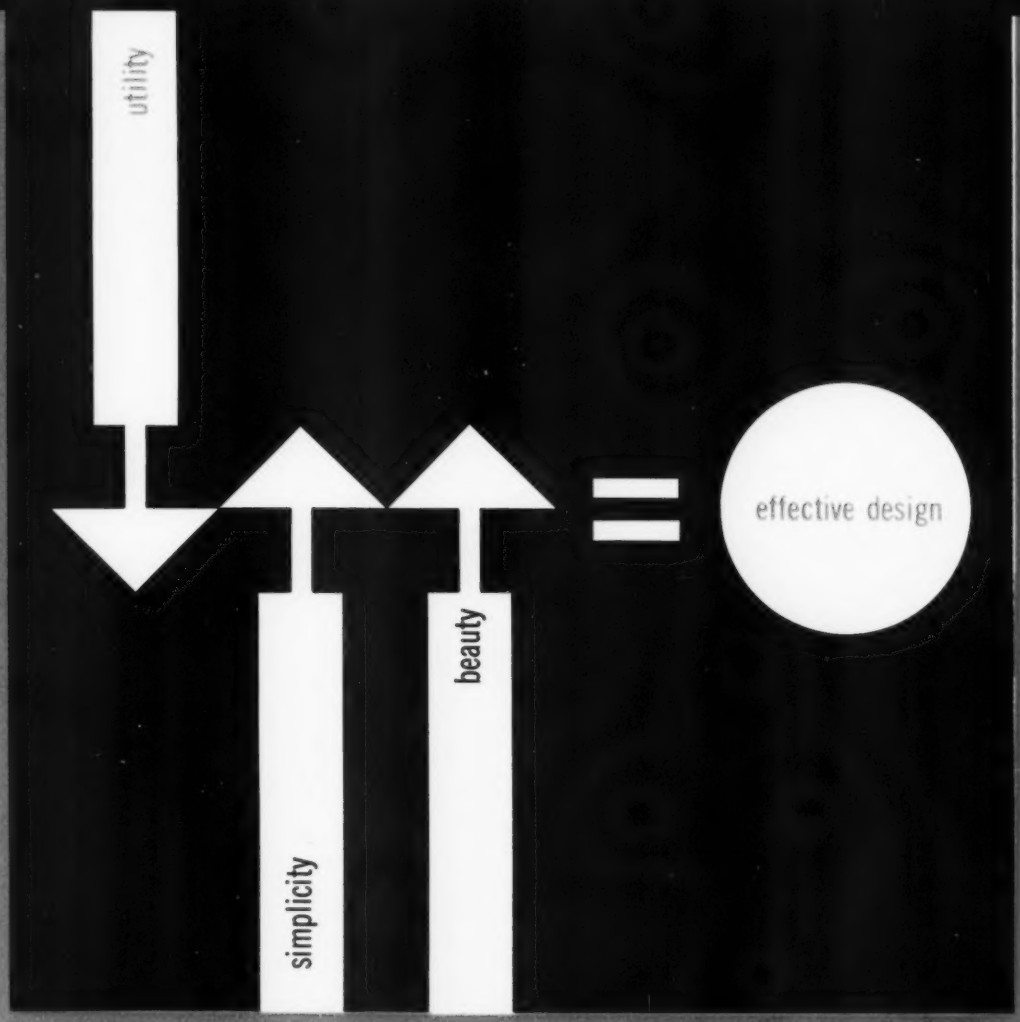
A number of my colleagues have commented on their disappointment with regard to the omission of the Mr. Taizo Miake's name in your article about the International Design Conference in August. Many people who attended the conference praised this man's generous spirit and contributions to the meeting, as interpretor to Mr. Kiyoshi Seike; in addition he tape recorded the speeches and made films. His services were volunteered and therefore it would have been rewarding to be identified in this national article. . . .
Edmund D. Lewandowski
Director, Layton School of Art
Milwaukee 2, Wisconsin

Sirs:
". . . In your October issue, in the Design Review, Housewares section, you present a group of bowls in four sizes on tripod stands, of which you say: ". . . the manufacturer deserves a nod for their bowls of Fiberglas with iron tripod bases . . ." and you go on to say that they are handsome, inexpensive, etc.

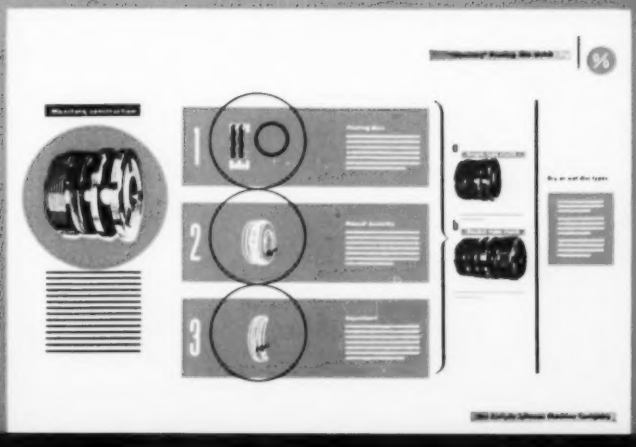
It is hard to believe that your staff is unaware of the fact that this design, created by Al Eggleston for Architectural Pottery, won the Good Design award issued by the Museum of Modern Art. It is further difficult to believe that they have been unaware of the international publicity and the wide public sales that this design has had through Architectural Pottery. Unfortunately for you, I know from our sales and inquiry records, a large portion of your designer-readers either own or are familiar with this design as a product of Architectural Pottery manufacture. They must surely be shocked to see a poor copy of this design praised in the columns of Industrial Design!

Not only have you presented a frank steal of a well-known and established design, but you have presented a copy in a medium poorly suited to its intended use. Your article says: "Primarily for plants. . . ." Architectural Pottery makes this planter out of a terra cotta clay that is sufficiently porous to allow for healthy plant growth. The copy you present is made of Fiberglas—an air-tight material that any nurseryman will tell you is an improper container for a growing plant.
Rita Lawrence
Architectural Pottery
Los Angeles

The editors regret that photographer's credit was not given to Leroy Winbush of Chicago for the series of pictures of the Aspen conference that appeared in August; and Lionel Freedman of New York for the color photo of the General Motors infirmary that appeared in October.



Product information should be designed, subject to the usual standards—utility, simplicity, beauty. The catalog design shown below, though but one visual unit of many in a manufacturer's catalog, illustrates the application of design principles to product information. For fifty years, Sweet's has pioneered in the field of product information that best suits the needs of buyers and sellers in industry. Sweet's Product Design File is a system which gets product information into buyers' offices in convenient bound collections of catalogs. Sweet's Catalog Service– designers, producers and distributors of manufacturers' catalogs, 119 West 40 Street, New York. Offices in principal cities. [Division of F.W.Dodge Corporation]



PUT THESE VALUABLE BOOKS TO WORK FOR YOU— TODAY

THEY BELONG IN THE REFERENCE LIBRARY OF EVERY ACTIVE DESIGNER

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No. **1**

in the Interiors Library

Contemporary interiors by 81 designers, including Finn Juhl, Le Corbusier, Mies van der Rohe, Richard J. Neutra. LIVING SPACES shows outstanding designs selected by the editors of *Interiors*. Edited, with an introduction by George Nelson. *Bound in full cloth*: 148 *pages*, 9 *x* 12 *inches, illustrated with* 232 *photographs. Price* $7.50.

CHAIRS

No. **2**

in the Interiors Library

This fine book of design examines chairs produced today in bentwood, laminated wood, moulded plastics, solid wood, metal and upholstery . . . by 137 top designers. Edited, with an introduction by George Nelson. *Bound in full cloth*: 176 *pages*, 9 *x* 12 *inches, with* 433 *illustrations. Price* $10.00.

Here are fresh ideas, hundreds of design applications . . . original source books for your own design assignments. You will find each volume a profitable investment.

DISPLAY

No. **3**

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Ingenious displays that set new patterns in interior design thinking and techniques . . . in shops, showrooms, exhibitions. Edited, with an introduction by George Nelson, DISPLAY features creations of 125 designers and architects of international note. *Bound in full cloth*: 192 *pages*, 9 *x* 12 *inches, with* 312 *illustrations. Price* $12.50.

STORAGE

No. **4**

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Here are the problem-solving storage ideas of 138 leading designers for facilities that can be bought or built in—shelf systems, storage walls, room dividers, unit furniture. STORAGE is edited with an introduction by George Nelson. *Bound in full cloth*: 176 *pages*, 9 *x* 12 *inches, with* 303 *illustrations. Price* $12.50

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1321 essential measurements every designer needs, in clear dimensional drawings that can save you many hours of research. Measurements that relate the human body to all interior furnishings and equipment. Text by Francis de N. Schroeder. *Bound in full cloth*: 96 *pages*, 9 *x* 10¼ *inches, full of sketches and diagrams. Price* $4.00.

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NEWS

photo: Suzanne Burrey

Paris plays host to autos

World premiere of new models brings visitors by land and sea

The forty-second automobile show in Paris opened on October 6 in the Grand-Palais, providing the season's first perspective on transportation 1956: trucks, buses, equipment; and 209 automobiles, European and American. There were some eagerly-awaited stars from several countries—Ford's Continental, the new MG from Britain, and France's 4-cylinder Citroen, the DS 19, which is the company's first entirely new design since 1933.

The Citroen was unquestionably the most popular of the debutantes; crowds were so thick it was impossible to get close to the pale yellow model on its revolving platform. The interior is distinctive: it seats five passengers, has two divided seats in front; the dashboard projects outward, is narrowly cantilevered, with glove compartment in the middle, air vents to the right, and instruments clearly organized in front of the driver. The outside is neat with a low-slung nose and a minimum of grille. The body, on a 123" wheel base, incorporates a plastic roof which is delineated by the traffic indicators.

Beyond its clean, compact appearance, the Citroen's revolutionary qualities reside in its engineering principles involving six hydraulic features: suspension, double circuit brakes (front and rear), transmission, automatic clutch, gear selection, steering and height correction. With a front-wheel drive, it also has automatically adjusted disc brakes, the first of their kind in mass production. All of this is accomplished by a 4-cylinder engine, of 75 horsepower, with a maximum speed of 90 miles per hour.

The chassis frame of the new MG sports car has a low center of gravity with the rear end of the chassis swept over the axle so that passengers sit within the frame. It represents a softer new look for the familiar square-cut MG classic which it replaces on the market.

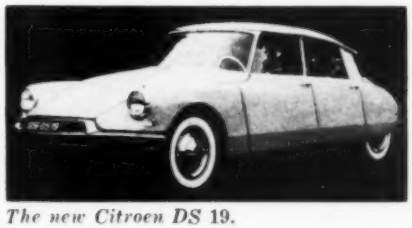
Three French automobiles are being manufactured with bodies of polyester resins and fiber glass: Favorelles 2 CV; Panhard's D.B.; and Renault-Alpine's 4 CV; and General Motors exhibited a prototype plastic Cadillac. These were in the minority, but the new Citroen heralds at least the partial use of plastic in auto bodies.

The increased horsepower of the lower and medium-priced American automobiles impressed foreign observers—200 for the new Ford, 185 for the Studebaker—since otherwise there were only superficial changes. The Jaguar Mark VII dominated the sports car field, and a novelty attraction was Raymond Loewy's personal car, black, ivory, chrome, only 50 inches high. It is a striking experiment in incorporating chrome trim flush with the body skin.

How to promote design

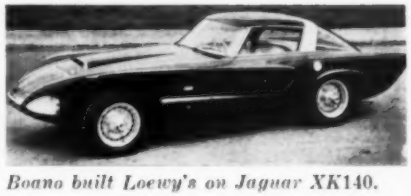
IDI discusses promotion techniques at New York chapter meeting

A lively investigation of the topic "How to promote the design office" took place at the Industrial Designers' Institute meeting on Wednesday, November 16, at the Beekman Tower Hotel. Alfred Auerbach advised small offices on a method of sales promotion and self-publicity, to concentrate upon certain areas and materials, "Lay a target plan and find the ammunition through research and direct mail to promote your talents." Public relations counselor Ray Josephs emphasized the individual: "Your personality is much more important than what any publicity agency can do for you. If you are dull and ordinary and run of the mill, the publicity created for you will be synthetic." John Peter, design editor for *Look*, suggested: "Since most small design offices have only a limited amount of time to devote to promotion, it is strongly advisable that they use teamwork and do more to help each other. This is important and very possible, and it not only promotes the activities of your organization, but raises the sights of the profession."



The new Citroen DS 19.

The MG model "A."



Boano built Loewy's on Jaguar XK140.

1885–1955


NEW YORK


CHICAGO


SAN FRANCISCO


LOS ANGELES


ST. LOUIS


ATLANTA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PORTLAND, Ore.


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ARABOL is still growing!

In our 70TH Anniversary Year

—**we** are privileged to serve the leaders in a hundred industries—with adhesives for a wide variety of uses . . . We are grateful to all the fine firms whose patronage has helped us to grow, year after year, for seventy years.

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Two designers are starred at the Museum of Modern Art

A fall exhibit combined Lustig and Munari as complementary talents

In a joint exhibition at the Museum of Modern Art, two designers — an Italian, Bruno Munari, and an American, Alvin Lustig—were represented by a few similar problems, the poster and the trademark, but otherwise the examples were as diverse as their temperaments.

Munari is drawn to maze-like forms, whether they are small-scale or large, two-dimensional or three, his monogram or the fountain he constructed for the Triennale in Milan last year. Exploiting spatial intricacy, the fountain is a network of metal troughs which make a meandering path for a jet of water—difficult to appreciate from an aerial photograph and a small model which lack the gleam and movement of the actual fountain. Lustig, by nature more two-dimensional, emphasizing planes and lines rather than texture, likes understatement clean and spare; he uses simply the thrust of distinctive typography against pure white for his Northland signs.

If Lustig finds eloquence in typography, Munari finds it in materials. His *libros illegibles* are books without words, simply colored pages with cut-out holes and bits of string, making a 3-dimensional experiment in spatial travel as the holes change. Behind a glass case, however, they were not nearly as accessible as were the glass slides projected on a screen. These also represent idea-germs for the artist, and the images made by scraps of color were like landscapes of the microscopic world. Considering these experiments, it is not surprising that Munari based his 1949 Eco Del Mondo poster on a polygon, and that the repeated maze underlies his poster for the exhibition "Arte Concreta."

There are no playful or purely artful examples in Lustig's showing—only consistently executed commercial problems. The meat of his contribution (certainly where his influence upon other designers is most keenly felt) was installed on a black wall: book jackets, book pages, record albums, magazine covers, including the first and third issues of INDUSTRIAL DESIGN. Just as the Vivaldi album through sharp-edged type and prismatic purples creates a visual vibration akin to the music, the book jackets are also keenly related to their contents. *Monsieur Teste* expresses ambiguity with the double image of a line drawing; and for a novel by Celine, Lustig uses two photographs of the author, large and again small, in the upper right hand corner, like an insinuating echo. Precise, sensitively related forms, as in all his best work, create a subtle personal style.

On December 4, as this review went to press, Alvin Lustig died at his New York home after several months' illness, at the age of 40. The exhibition assumes new significance as a retrospective which commemorates, better than any written tribute, his comprehensive accomplishments as an industrial, architectural and interior designer, and his unique contribution to the vitality of American graphic arts.

Model of Lustig's tower for Mondawmin.

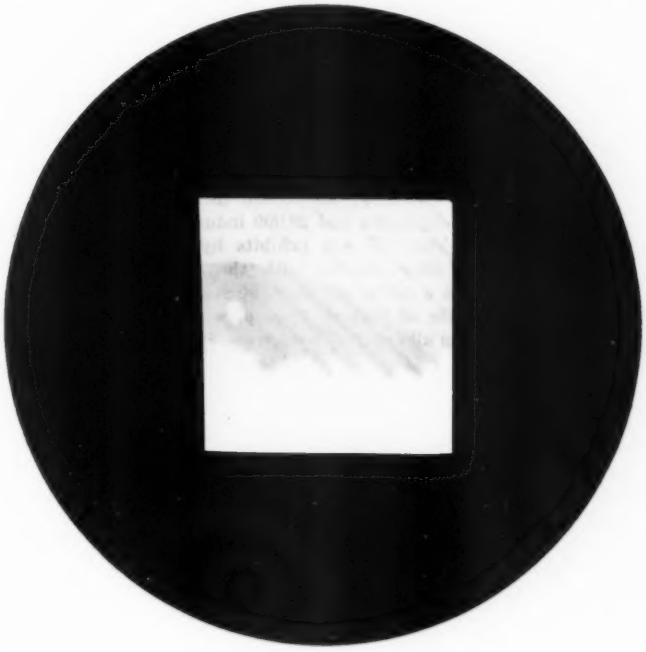
Munari's business card stresses a symbol.

Lustig emphasizes line and color.

One Munari ad is wall-size.

MIRRO-BRITE
LAMINATED AND METALLIZED
MYLAR*

is now available for unlimited industrial applications



Take a look at the attached sample. It represents a development you can't overlook . . . (half mil) .0005 gauge aluminized Mylar laminated to 14 gauge non-migratory vinyl and dimensionally embossed. Here is the newest entry in the materials supply field with a limitless potential for many usages.

Mylar, the miracle polyester film with amazing tensile strength, embodies an unusual combination of physical, electrical, chemical and thermal properties. Combined with metallization, it offers designers and manufacturers unlimited opportunities for novel effects and functions.

MIRRO-BRITE MYLAR can be furnished in laminations to paper, plastics, leather, board, textiles and other materials. It can be embossed, die-cut, printed and processed in many ways. A wide variety of color finishes, embossing patterns and special effects available in continuous rolls in 40 and 54" widths or cut-to-size sheets. Send for additional information, prices and data now. Samples upon request.

COATING PRODUCTS

101 WEST FOREST AVENUE ENGLEWOOD, N. J.

*Mylar is DuPont's registered trade mark for its brand of polyester film. See DuPont "Mylar" ad on pages 12-13

ALSO MIRRO-BRITE ACETATE, POLYSTYRENE, BUTYRATE AND ETHYLCELLULOSE

Electronics for the consumer

Tappan introduces a high-speed electronic oven in limited quantities

A household electronic oven that cooks a 5-pound roast in 30 minutes and broils bacon on a paper plate was introduced in November by the Tappan Stove Company. Developed in collaboration with Raytheon Manufacturing Company, producer of the first commercial electronic oven, and priced at $1200, it cooks by means of an electronic transmitter that sends out 2400-megacycle waves inside the oven. Because these waves are transmitted by most glass, china and paper products, and reflected by metal, heat is built up only in the food itself, which absorbs the rays. As the energy penetrates, it generates heat instantly to a depth of about 2½ inches, from the friction of food molecules rearranging themselves. This complex reaction, Tappan claims, does not cause any physical change other than those normally caused by heat. Because microwaves do not produce the surface browning necessary for an appetizing taste and appearance, the oven is equipped with an electric (infra-red) unit for browning.

General Electric has also announced that a high-speed electronic oven, cooking by a combination infra-red and low-frequency (950) megacycles, will be produced next year.

Conventions and conferences

The second **Chicago Area Industrial Design Exhibit** has been rescheduled from November to January 16 to 27 to coincide with the second week of the **Furniture and Home Furnishings Market Show.** The exhibit will feature mass-produced products designed by members of the Chicago chapters of the American Society of Industrial Design and Industrial Designers Institute, and will be held at Illinois Institute of Technology's new Architecture-Planning-Design building. A two-day symposium of the proper use of design will be staged on January 19 and 20 in the IIT Commons building. Another product exhibit, "Design for Industry and You," will be opened on February 14 at the **Akron Art Institute.** Luke Lietzke, curator of design, is in charge.

Anticipated attendance at the seventh annual **Plant Maintenance and Engineering Show,** to be held at Convention Hall, Philadelphia, January 23 to 26, includes some 2,500 engineers and 20,000 industrial executives who will see exhibits by 400 companies. Concurrently with the show there will be a conference with 50 sessions on 26 aspects of factory upkeep, with 45 experts from all types of industries leading discussions.

In Great Britain, the **British Industries Fair** will be held in two sessions: February 22 to March 2 at Earls Court, London, which will include the **British Toy Fair** and consumer goods, and April 23 to May 4 at Olympia Hall, London, with technical industries such as chemistry, printing, and electricity, and at Castle Bromwich, Birmingham, for heavy industry trades such as hardware, building and heating, and machinery.

"Tooling for Tomorrow" will be the theme of the **American Society of Tool Engineers Industrial Exposition,** March 19 to 23, at the International Amphitheatre, Chicago. The Exposition will be held in conjunction with the Society's 24th Annual Convention to provide tool engineers with the opportunity to compare advanced ideas of the latest in tooling. 60 technical papers will be presented and 2 plant tours are offered.

May 14 to 17 marks the **Design Engineering Show,** the first to be devoted exclusively to the needs of engineers who design products for consumer and industrial use. The exhibits at Convention Hall, Philadelphia, will be supplemented by a conference where papers will be presented on various applications of design engineering theory and practice.

To better consult consultants

A new kind of professional service is offered to top management

Technical Advisors, Inc., in Ann Arbor, Michigan, a group of scientists, engineers and administrators, has introduced a new kind of professional service for top management to help obtain the best solutions to technical and economic problems in connection with product development, process development, product diversification, industrial engineering, and applied research in science or engineering. Technical Advisors will not perform functions of other technical or economic consultants, but will serve as counsellor and client's representative in dealing with such consultants.

F. L. Wright tries mass production

Noted architect creates a line of home furnishings for three firms

Frank Lloyd Wright made his first venture into commercial production in October, at the age of 85, with a line of fabrics and furnishings. His drapery, casement and upholstery fabrics for F. Schumacher of New York include six printed fabrics, seven woven fabrics, and four coordinated wallpapers. Tying in with this "Taliesin Collection" are suites of living room, dining room, and bedroom furniture (Heritage Henredon), and rugs (Karastan Rug Mills), some of which are seen in the room setting above, designed by Virginia Conner Dick in the N. Y. Republican Club under Schumacher's sponsorship. Two of the fabrics are shown on page 66 of this issue. In the room above, the walls are kept brown, and printed mohair cloth in tan and turquoise has been used for both draperies and pillows.

Planning the second Chicago Area Industrial Design exhibit are, left to right: James Hvale, president Chicago chapter, IDI; Jay Doblin, director, I.I.T. Institute of Design; Herbert Carpenter, IDI representative; and Chairman Stowe Myers of Chicago's SID.

Plastic pump of

TENITE POLYETHYLENE

Pump manufactured by Gorman-Rupp Industries, Inc., Bellville, Ohio. Molding by Champion Molded Plastics, Inc., Bryan, Ohio.

cuts material and fabrication costs... is strong, inert, corrosion-resisting

Two plastic moldings plus a small stainless steel shaft form this compact, efficient, long-lasting pump. It's a pump that cuts costs for both maker and user.

Inexpensively molded of Tenite Polyethylene, it is simple to fabricate, assemble and attach to an electric motor. Any waste material can be almost completely salvaged.

And because Tenite Polyethylene is so corrosion resisting and so inert, users solve many tough jobs with these tough pumps. On vending machines they are handling sensitive beverages without impairing delicate flavor, color or clarity. In washing machines and other household appliances, they are showing long life despite daily exposure to the corrosive attack of detergents, bleaches and alkali. In photo developing units these pumps are handling water, hypo and acid solutions without affecting sensitive photographic fluids or emulsions. In another application, they are handling anti-freeze at minus 80° F.

Do you have a job for a tough, useful plastic like Tenite Polyethylene? Perhaps one of your products could be given more sales appeal, better performance or longer life if it were made of Polyethylene. If so, make it of *Tenite* Polyethylene.

For advice and more information about this versatile plastic, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

TENITE
POLYETHYLENE
an Eastman plastic

British Colour Council's Panel: left, Max Lock, John Farleigh, Chairman Henry G. Dowling, Maurice Wheatley, Graham Webster are discussing "A Quest for Colour."

Thoughts on design revised

Some recent conferences and speeches provided a few quotable quotes

The British Colour Council's 14th Designers' Conference consisted of a 4-day course at Oriel College, Oxford. Delegates from the textile and furnishing trades, designers and decorators heard six key speakers. Designer **John Farleigh** said: "I think it would be a good idea if employers were to allow their designers, say, three days a month in which to go out of the studio and do just what they like — perhaps nothing. Doing nothing can be the most productive activity of all, though as far as I know, this is not recognized in any western philosophy."

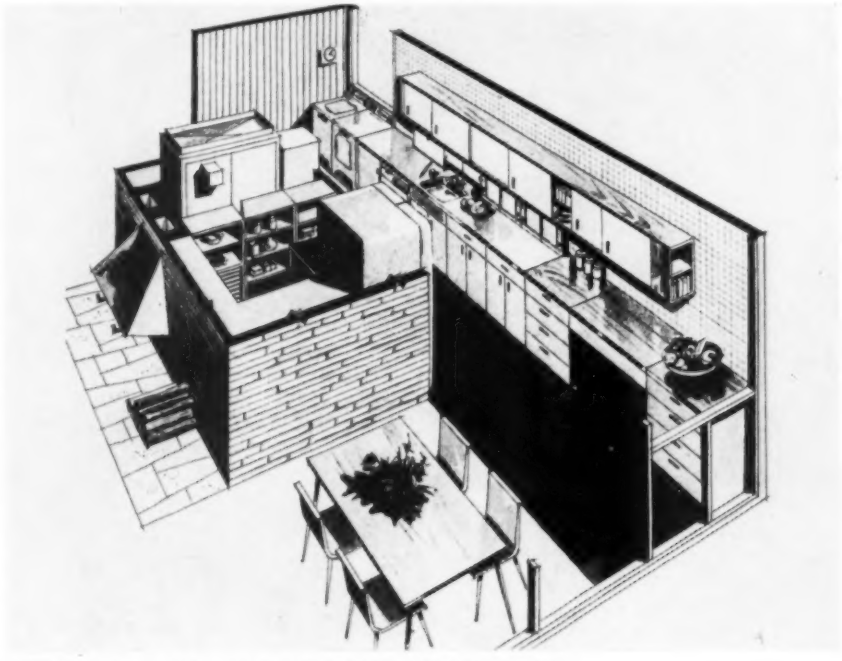
On September 29, **Dave Chapman** delivered a paper before the Home Fashion League of Chicago. His topic was "American Culture and the Punch Press" — the relation between mass production and a better life for the consumer. "In the process of making things in large volume, we have accepted a spurious philosophy of appealing to the 'average' intellect or emotional response. Following this approach to the point of diminishing returns we only reach a plateau of mediocrity."

To General George Doriot's class in Manufacturing at Harvard's Graduate School of Business Administration, **Henry Dreyfuss** spoke about "Industrial Design: profile of an organization." He said, "The successful operation of a complex business enterprise calls for an ensemble performance by a supporting team of specialists . . . The successful industrial designer is a man of many hats. He is a businessman of public taste and he has painstakingly cultivated his own taste. He has an understanding of merchandising, of how things are made, packed, distributed and displayed . . . he is a liaison linking management, engineering and the consumer. Today when we refer to an industrial designer we more often mean an industrial design organization than one individual."

Donald Deskey told the Institute for Safer Living Conference, which held a 2-day session on home safety at the end of September, "Designers will design dangers right out of the home of 1975. We will be introducing large quantities of electricity into that home, and while this means danger, we are learning more and more how to control electrical current. So there will be a wide safety margin." He predicted commercial use of heat pumps which extract warm air from the atmosphere.

"As a department," said **James Birnie**, General Director of Styling and Design for Reynolds Metal Company, to the Art Directors' Club of Chicago, "our only reason for being is to attempt to sell more aluminum through the use of good design." He cited four fields of application: "Packaging is a big business — bigger than steel. It amounts to better than ten billion dollars a year. Pure selling at the retail level is a thing of the past. The stores not only ask the customer to wait on herself but to sell herself . . . In graphic design we are working closely with our advertising agencies on the design and production of ads printed on foil and on a two-volume book entitled 'Aluminum in Modern Architecture' . . . Product design — in our opinion it is just as important to relate the base material to design, from the standpoint of consumer acceptance, as it is to show a comprehensive package sketch or layout of an advertisement to a client. . . And architectural design — buildings the world over are using increased amounts of aluminum."

Left to right, James Birnie; James Sherman, president, Art Directors Club, Chicago; Dr. R. Hunter Middleton, Ludlow Typograph Co.



Koch designs a home for Frigidaire kitchen units

With a kitchen as the control center of the house, architect Carl Koch has designed a small home featuring an enclosed inner court. One of a series emphasizing kitchen design for the Frigidaire Division of General Motors, Koch's house provides an island pantry with accessible storage space, heating and air conditioning.

By bending and folding a sheet of glass, Tiffany produced this orange vase, shaped like an open flower, around 1900.

From Art Nouveau to Modern Art

Glass from the Museum's collection is a cosmopolitan exhibition

From October 26 to January 15, the Museum of Modern Art is showing two dozen glass objects from the design collection. The selection illustrates a variety of techniques in glass, from Louis Tiffany's favrile vases to contemporary curving vases by Alvar Aalto and one by Venini in white glass with loose, irregular folds. There are some gems of pure transparency in stemware and a Lobmeyr bowl. Corning is represented by a perfectly square ash tray, of machine-cut precision.

Contests

Five scholarships in industrial design will be top awards in the 1956 Housewares Design Competition for Plastic Molders, sponsored by **Koppers Company**. This year's competition has been expanded to include polyethylene products, as well as polystyrene. Entries and inquiries should be directed to the Design Competition Administration Committee, 1313 Koppers Building, Pittsburgh 19, Pa. . . . For their annual Design Award competition, the **National Industrial Design Council** of Ottawa invites as entries any product manufactured in Canada after July 1, 1954. . . . To stimulate better designs for moderately priced furniture, **Blocksom & Company**, an Indiana manufacturer, has announced a contest with $2,000 awaiting the winning entries. Designs must be capable of being produced by normal production-line techniques at reasonable mass-market prices. Inquiries should be addressed to Design Contest Board, Blocksom & Co., Department PR, Michigan City, Ind. . . . A $1,000 contest for the best applications of thin-gauge strainless steel has been announced by the Chairman, Prize Awards Committee, **American Silver Company**, Flushing 54, N. Y.

People

C. L. McKichan, Chief Designer at Chevrolet, **George Pollard**, designer in charge of Frigidaire's "Kitchen of Tomorrow," and **Kenneth A. Hopkins** of Lawrence H. Wilson Associates were the principals at "Design in Detroit", a meeting in Syracuse on Nov. 29 suggested by the October issue of ID and co-sponsored by the Syracuse Chapter of I.D.I. and the School of Art of Syracuse University. **Becker & Becker Associates**, industrial designers, have moved their offices into the new Colgate-Palmolive Building, 300 Park Avenue, New York. **Dave Chapman** has been retained by Montgomery Ward & Co. as exclusive design consultant. Designers **Alfred Przybylowicz, Frank J. Lengyel** and **Roger C. Prince** have been added to the staff of Smith, Sherr & McDermott, Akron, Ohio. The merging of two major appliance firms, The Cory Corp. and the Mitchell Manufacturing Co., has been announced by **J. W. Alsdorf** (left), President of Cory. The W. A. Case & Son Manufacturing Co. has announced that **Wilbur Henry Adams**, Erie, Pa., has been retained as design consultant for their complete line of plumbing products. **George Tscherny**, formerly head of graphics at George Nelson & Associates, has opened his own graphics studio at 220 E. 46 St., New York. **Thomas M. Steinbach**, designer with Raymond Loewy Associates, Chicago, has been appointed lecturer in product design at the Institute of Design, Illinois Institute of Technology. Westinghouse has announced that **Chris J. Witting**, formerly President of the Westinghouse Broadcasting Company, has been designated general manager of consumer products. To direct the engineering division, **Hugh K. Hybarger** (left) has been added to the staff of J. M. Little & Associates, Toledo industrial design firm. The design offices of **Sam Chinkes Associates** have been consolidated at 95 Park Terrace East, New York. The newly created post of Associate Dean of the Yale School of Architecture and Design has been filled by **Boyd M. Smith**, former Chairman of the Yale Department of Drama. **Waltman Associates** of Chicago have been retained by the Decar Plastic Corp. to develop new patterns, techniques and color applications for the company's high-pressure plastic laminate. **William B. Hall** has joined Donald Deskey Associates, New York industrial designers, as Manager of Product Planning. **Donald Dailey** has been appointed consultant in product design for George Koch Metalcraft, producers of wrought-iron furniture and its accessories.

Frank P. Simmons (below), formerly of the Electronic Project Laboratories at General Dynamics, has joined the Research Center of the Burroughs Corporation in the Special Products Division. He will work in Systems Development and Research.

Awards

Winners of the fifth annual **Hess Brothers Versatility in Design and Use Contest** were announced on November 14 in New York. There were prizes in 52 different manufacturing fields. Prize-winning items, which ranged in price from $0.49 to $269.50 included a juvenile living unit by Austin Baer of Idea Technology, Inc. (p. 81), designed for use as crib, youth bed, blackboard, corkboard, work table, bookcase, or adult bed headboard. . . . The Grand Championship Design Award of the **Brewers' Association of America**, for the seventh consecutive year, has gone to Walter Landor & Associates, this time for their Minneapolis Brewing Company Grain Belt Beer label, singled out from several hundred entries.

Hans G. Knoll dies in Cuba

Automobile accident on October 8 fatal for furniture and textile manufacturer

Hans G. Knoll, 41, president of Knoll Associates, Knoll Textiles and Knoll International, died on the night of October 8 in an auto accident in Cuba. He was there on business with Knoll International Havana. Born in Stuttgart, Knoll came to the U. S. in 1937 and founded a furniture company which has since expanded into a worldwide concern. He is survived by his wife, Florence S. Knoll, who has assumed management of the business.

Foreign design group visits Pratt

Robert Kolli, Chairman of Pratt Institute's ID Department, demonstrates models to seven of 25 members of the Industrial Design Study Group, representing eight foreign countries, which is visiting the U. S. for six weeks to observe American design methods and curricula.

Celanese Corporation of America

Announces

the first commercial production of

FORTICEL*

(CELLULOSE PROPIONATE PLASTIC)

High Performance Thermoplastic Molding Material with Outstanding Range of Balanced Properties... Available in Choice of Colors and Formulations

Forticel is not a new plastic. It was first introduced on a semi-works basis a number of years ago by Celanese Corporation of America, and quickly won a favored position among thermoplastic molding materials. Its unique combination of great strength with form retention literally dictated its use in such standard consumer applications as the telephone set in black or colored, appliance housings, the fountain pen and other end uses subject to personal contact.

AN OVERNIGHT REPUTATION. Applications like these quickly put Forticel in the forefront position among thermoplastic molding materials. Forticel had the qualities needed by molder and manufacturer. In addition to its toughness and dimensional stability, this cellulosic plastic possesses unusual weatherability, surface beauty and permanence, color, and, perhaps as important as anything else, Forticel is free of objectionable odor.

A MOLDER'S PLASTIC. In molding performance, Forticel is outstanding. Flow temperatures are not as critical . . . welds are stronger . . . surface details of molded parts are superb . . . flash lines are all but invisible . . . molded surfaces are lustrous, and require little or no buffing or polishing . . . molded-in metal inserts hold firmly.

A FABRICATOR'S PLASTIC. Forticel also machines well. It can be sawed, cut, drilled, threaded and punched with far less danger of stress lines and crazing. This machinability is of vital importance in such applications as fountain pens and mechanical pencils, toothbrush handles and scale model trains, and appliance housings.

FIRST PRODUCTION OF FORTICEL STOPPED. When originally introduced, Forticel was produced in a pilot plant operation. And, because of the difficulty of obtaining raw materials of acceptable quality and cost, commercial production was delayed until such a time as raw materials could be produced in volume—at a price that would insure a competitive position for Forticel.

PRODUCTION OF THE NEW FORTICEL BEGUN. After continued development, the new Forticel is currently moving into full scale production. More important to molder and manufacturer is the news that the raw materials of Forticel are *Celanese produced*—and in volume!

NEW FACILITIES FOR FORTICEL. To be certain that the supply of Forticel raw materials will be adequate to meet the anticipated demand for this outstanding plastic, Celanese has installed new facilities for their production. This will insure a dependable source of supply. These facilities will produce Propionic Acid and other petrochemicals necessary to Forticel manufacture.

THE NEW FORTICEL. What about the new Forticel? What is it like? What makes it the right plastic for appliance housings, automotive steering wheels, accessories, scale models, sunglass frames, fountain pens, etc.? In the first place, today's Forticel is an even better plastic than its predecessor. This is the result of continued research into the development of new plasticizers, and improvements in processing.

A cellulosic, Forticel has *natural* impact strength or toughness. This is combined with a fine balance of desirable properties including, form retention, low mold shrinkage, weatherability and surface hardness. The new Forticel is available in a full color range, and supplied in uniform pellet size. Sample quantities are available for evaluation. The New Product Bulletin, NP-16 is ready for distribution. This bulletin covers the complete Forticel story from chemical and physical properties to molding and fabricating.

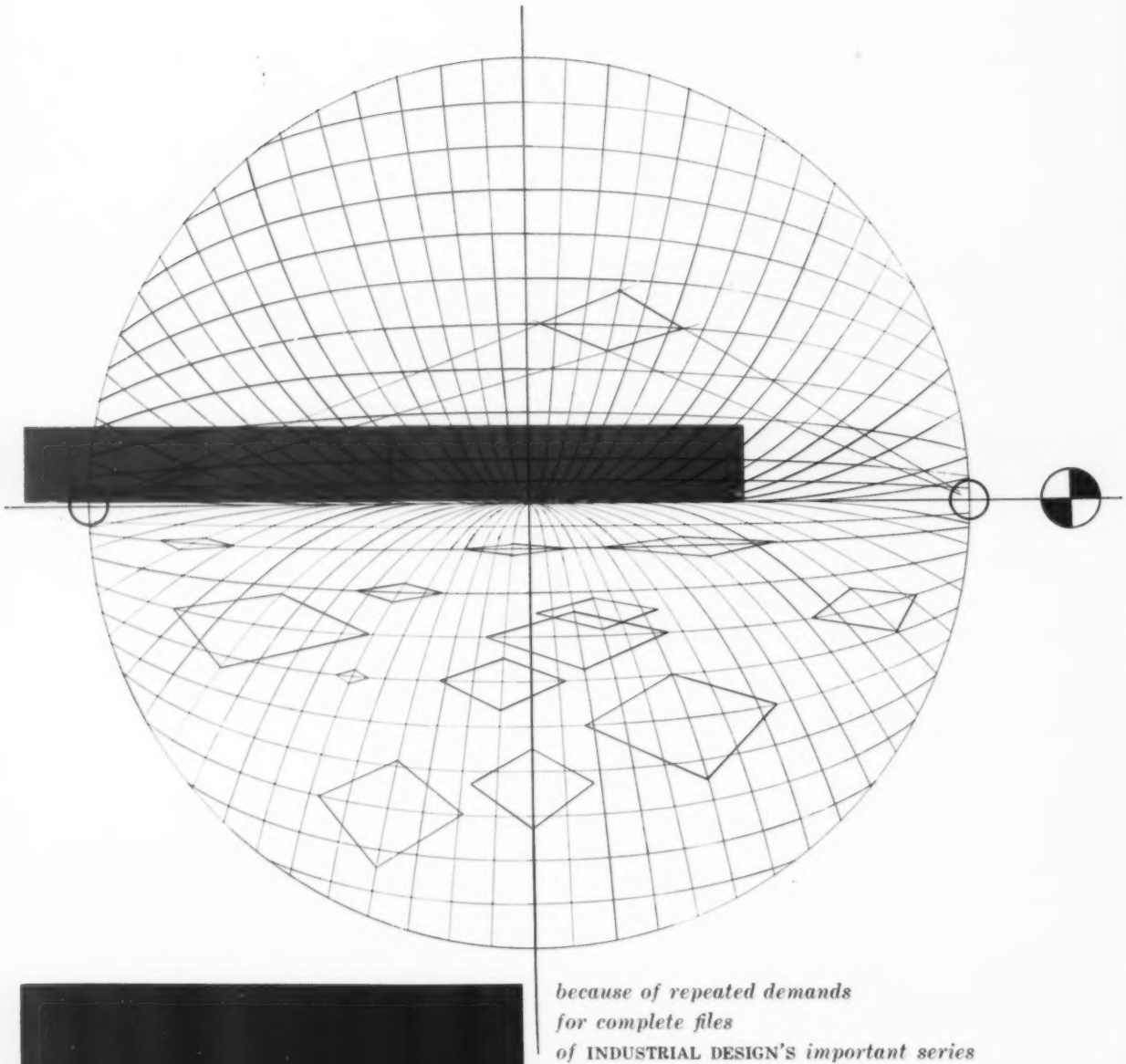
Celanese Corporation of America, Plastics Division, Dept. 152-L
290 Ferry Street, Newark 5, N. J. Canadian affiliate, Canadian Chemical Company, Limited, Montreal, Toronto and Vancouver.

*Reg. U. S. Pat. Off.

Celanese* PLASTICS

Typical Physical Properties of Forticel

Flow temperature	(°C.) (A.S.T.M.)	D569-48	167—178
Specific gravity		D176-42T	1.18—1.21
Tensile properties:	Yield (p.s.i.)	D638-52T	3380—5020
	Break (p.s.i.)	D638-52T	3470—5240
	Elongation (%)	D638-52T	56—66
Flexural properties:	Flexural strength (p.s.i. at break)	D790-49T	6400—8500
	Flexural modulus (10^5 p.s.i.)	D790-49T	0.23—0.30
Rockwell Hardness:	(R scale)	D785-51	62—94
Izod Impact	(ft. lb./in. notch)	D256-43T	2.7—11.0
Heat distortion	(°C.)	D648-45T	59—70
Water absorption—	% Sol. lost	D570-42	0.00—0.08
	% Moisture gain	D570-42	1.5—1.8
	% Water absorption	D570-42	1.6—1.8



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a new system for designers

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Illinois Institute of Technology

will be published in book form
revised and enlarged,
with new chapters on free-hand drawing
and the principles of vision.

Publication: early 1956
Watch for announcement of publication date

Whitney Publications, Inc.
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REYNOLDS ALUMINUM

styling and engineering service

DESIGNED IN ALUMINUM

...the larger profit dollar

Leaders in industry are learning their big profit dollars are designed in aluminum. They're finding, too, that the experts in Reynolds Styling and Engineering departments help increase the stature of their aluminum dollars.

Aluminum is relatively new. Aluminum is different. Its characteristics are unique. Its versatility is infinite. And an intimate knowledge of aluminum can save dollars...and earn them.

Reynolds Styling and Engineering departments know aluminum. They know design. They know engineering. They know manufacturing. They know packaging. But, most important of all, they know aluminum.

Reynolds designers are working with many manufacturers, successfully collaborating with their designers and with independent consultants. If you'd like them to work with you—on new products or on re-design—contact the Reynolds branch office near you, or write to Reynolds Metals Company, P. O. Box 1800-GW, Louisville 1, Kentucky.

REYNOLDS ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND

Which of these will help you most?

A LIBRARY OF HANDBOOKS filled with important and useful information on aluminum design and fabrication. If your job is management, design or production, these books can be vital to you. Single copies of any or all of these are yours without cost when requested on your business letterhead.

ALUMINUM DATA BOOK—160 tables give complete physical, chemical and mechanical properties; availability data, tolerances, definitions, fabrication information . . . 220 pages.

DESIGNING WITH ALUMINUM EXTRUSIONS—Explains the basic principles for using extruded aluminum shapes most effectively . . . 138 pages.

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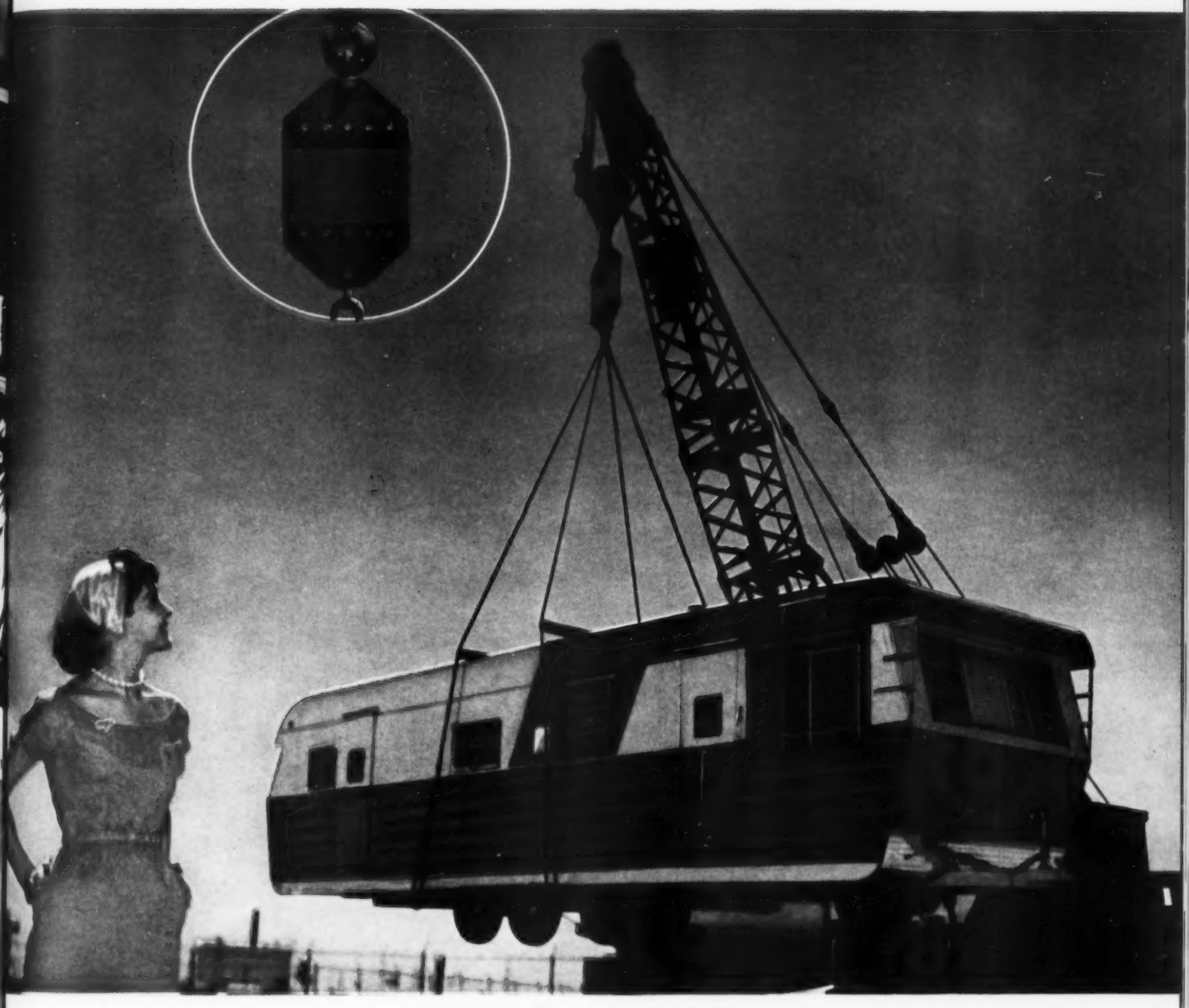
of all Reynolds Technical Literature and Films on aluminum design and fabrication is also available. Write to Reynolds Metals Company, P. O. Box 1800-GW, Louisville 1, Kentucky.

Instructors in technical schools are also invited to take advantage of these educational aids. Write for details.

REYNOLDS

ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND



Trailer courtesy Continental Trailer Co.

Presdwood stages 3½-ton holdup!

It's only two feet square. Yet, this small panel of Masonite Tempered Presdwood easily took the 3½-ton weight of a palatial 35-foot mobile home.

After four hours the trailer was lowered and the panel inspected. The Tempered Presdwood was as good as new.

What a dramatic demonstration of the enduring strength and stability inherent in Presdwood! This grainless, man-made material is stronger in many ways than the wood from which it comes.

Thousands of firms now profit by the strength of Presdwood, as well as its low cost, high dimensional stability, ease of fabrication and of surface finishing. We invite you to discover how Presdwood®—in any of its 44 types and thicknesses—can smooth production and improve the things you make. Write Masonite® Corporation, Dept. ID-12, Box 777, Chicago 90, Ill. In Canada: Masonite Corporation, Gatineau, Quebec.

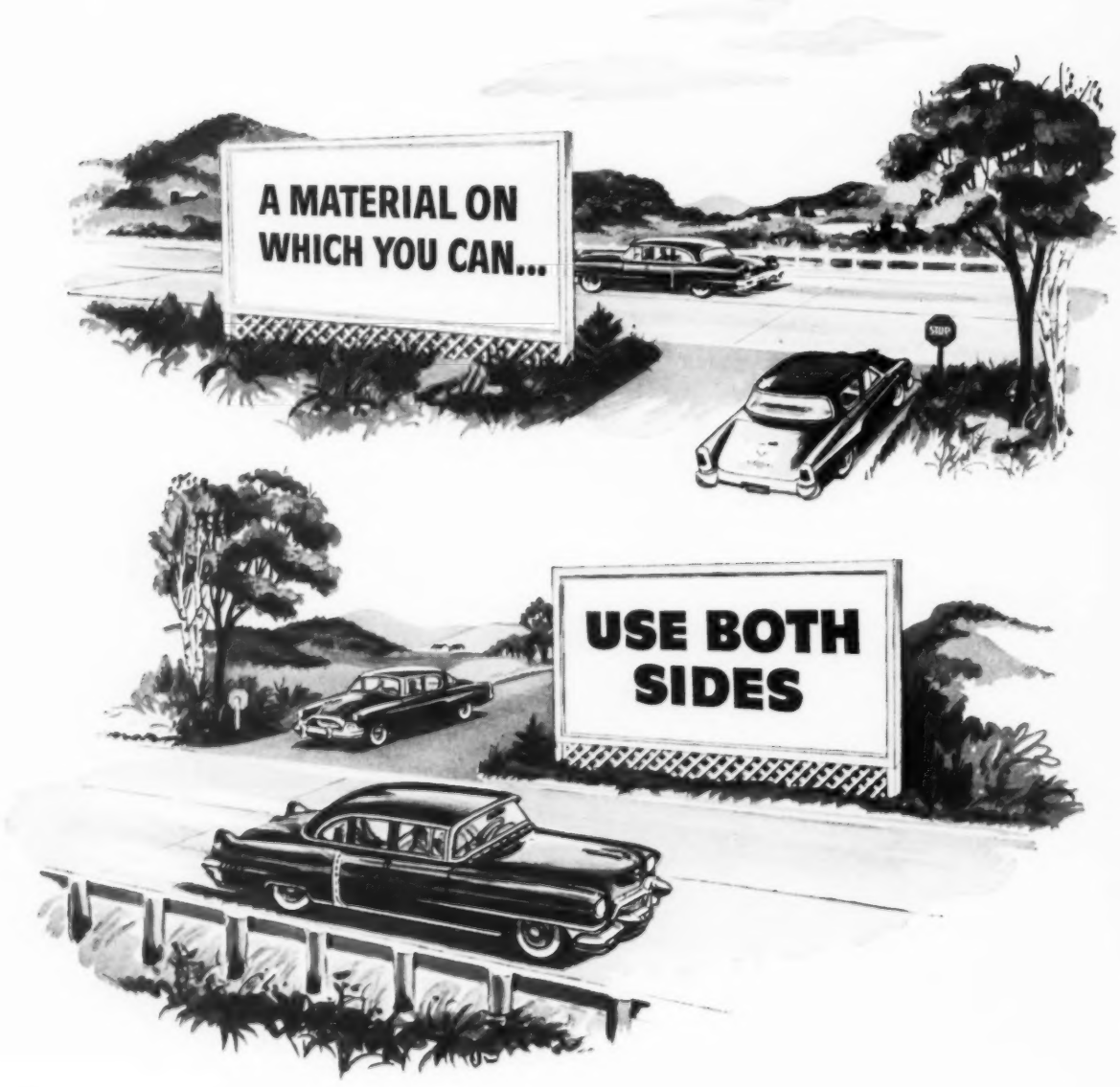
Continental Trailer Co. uses Presdwood *in* trailers b cause of its strength and resistance to road sho

Marine manufacturers, too, call on Presdwood. Chris-Craft boats it adds style and stability.

Look for This Man  He Makes the Difference

MASONITE CORPORATION

MANUFACTURER OF PRESDWOOD PANEL PRODUCTS



Weatherproof Homasote — in Big Sheets up to 8′ x 14′ — plays an important part in the sign industry. Using the $^{15}/_{16}$″ thickness, no center bracing is required, even in the largest size. Moreover, both sides of the material can be used. Both sides are weatherproof. Paint lasts longer on Homasote.

Here is another quality indicating the great adaptability of this *universal* insulating-building board, the oldest and strongest on the market.

Today, this famous board is available in five thicknesses (from $^{15}/_{32}$″ to 1$^{7}/_{8}$″) and in a wide variety of sizes and densities... We have engineers and architects — long experienced with our products — whose services are available to you without obligation. May we cooperate on a specific current problem? May we send you literature broadly descriptive of Homasote in all its present forms? We invite your inquiry to Department M-21.

HOMASOTE COMPANY
TRENTON 3, NEW JERSEY

an introduction to our Second Annual Design Review:

WHY NOT?

This succinct phrase was quoted recently by designer Don McFarland of General Electric to describe the attitude of the public he was designing for. At the time it sounded off-hand, possibly more like an apologia than a design objective. But after culling the year's output of design in preparation for this Second Annual Design Review, we agree that "Why Not?" is an apt summary of the national consumer psychology, and one that is having a widespread effect on design. How and why, we shall explore as we unfold this Annual Design Review.

A word about trends

The *why not* attitude might be described as a "trend"—for it seems to us to be the trend behind all trends in 1955. The evidence we have gathered on this and its companion trends has prompted us to open this review with a 32-page section entitled *Trends* 1955. Summarizing trends is certainly a suitable service for a professional magazine to perform—Any designer worthy of his cufflinks knows that a trend is something one must keep abreast of. Nevertheless, the idea is risky in more ways than one, because trend has a vulgar connotation. In the world of the arts, a trend is frowned on as a flag of fashion and fleeting values. In our world of design, anyone who follows a trend is likely to find he is following, period. Hence a word of explanation about *our* meaning of the word trend:

We might say, for the sake of definition, that a designer runs into two kinds of trends. One is a design trend — the new bold look, for instance. This is the kind of trend that doesn't deserve the follower's time of day. If a designer creates something he considers new and bold, he is a wise man if he sells it to his client as the new bold look, and his client may be a great success selling it to the public as The New Bold Look. That is simply salesmanship. But if a designer, wondering how to design next, surveys the competition and perceives that the newest thing is the new bold look, he shouldn't be surprised if he gets the old bored look. For then he is indeed putting himself at the mercy of a fad. When we say trends, we don't refer to fads — or we hope it won't turn out that we do.

More momentous trends

The second brand of trend has less to do with looks and more to do with people. It is less tangible and not nearly so easy to follow, but it's lot's more fun. The people who buy your products are changing their ways almost daily. Sometimes they do it under your influence, and sometimes they chart the way; sometimes the change is for the better, sometimes for the worse, and most of the time, of course, it is hard to know. However you view them, these changes are momentous—for design and industry.

Facts vs. fancies

The designer's problem, in the midst of this social upheaval, is to know a fad from a trend. If the public seems to have an insatiable appetite for color, is it a passing hunger or the sign of some new development, a new demand for pleasure, a new disregard for propriety and precedent—perhaps a *why not* attitude? The answer is something a designer needs to know. The opening section of Annual Design Review, beginning with the discussion on the next page, will attempt to sort out the important trends — the living facts that underlie the latest fancies.

TRENDS, 1955: THE MEANING OF NEW TRADITIONS IN DESIGN

Speaking of Color . . .

Color is certainly the *design* trend of the year, no question about that. But to answer the question we have already posed — is it a fad or a trend? — we see no reason to believe it can be checked off as a mere fad for daubing pigments on formerly drab surfaces. If we overlook the pink and purple pinnacles of the past year and accept color as a rich interest in the appearance of things, we can see that people's feelings about how things *should* look has suffered a sea change. It may show up in a highly chromatic and irrational use of color — like this year's cars — or in the very colorful use of no "color" at all.

This new abandon in the use of color gives us a strong clue to the meaning of Trends 1955. The arguments against color, particularly in hard goods, have always been persuasive: inventory is a headache; people tire of "interesting" colors; things don't match; people always end up buying green, anyway — or beige or gray. The extraordinary disregard for these classic arguments this year can only mean that there have been some new, and equally persuasive, arguments in favor of color. These arguments, as we see it, are based on three major developments in consumer attitudes or habits, the same three developments that seem to underlie most of the trends in 1955. They concern work and play, formality and informality, and waste.

Work and play are almost hopelessly intertwined. Prosperity has a lot to do with this. Americans are better off than ever before—not so prosperous that they can afford not to work at all, but sufficiently aware of good living to demand that work, at home or in the office, be attractive. At the same time they have more time for play, and when they look around for something to play at, it is likely to be something pretty close to work. That is to say, sewing or cooking or sawing or gardening, when it is chosen rather than demanded for a livelihood, can be approached as play. Often it is hard to say whether a person is working or playing, and the distinction is not nearly as important as it used to be. Result: implements of every kind are more attractive, more colorful, more serious.

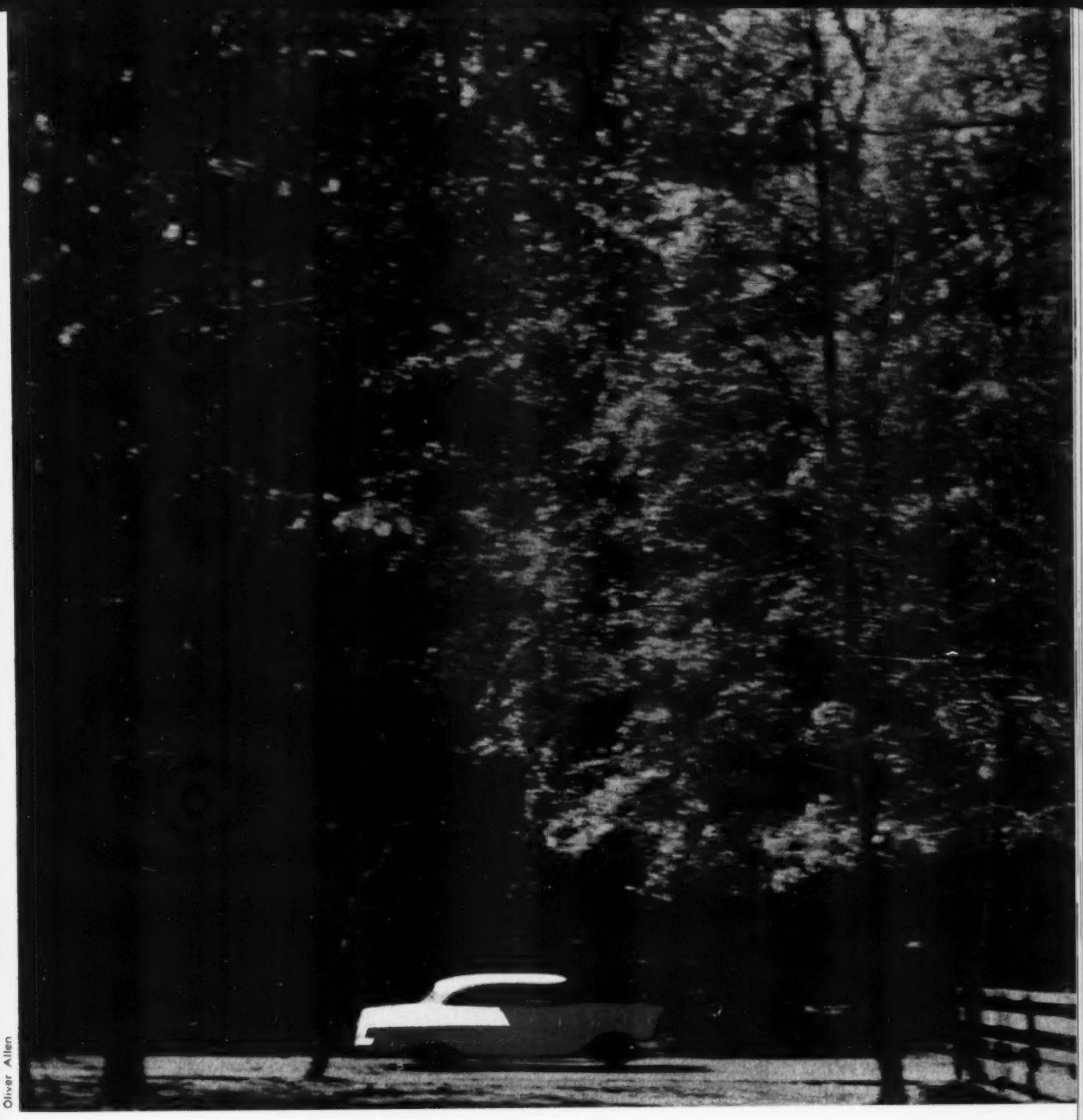
Traditional lines between formality and informality are being rubbed thin. In a mass culture like ours, based on mass production, it no longer happens that a working girl need be dressed less elegantly than a debutante, or that stainless flatware is less elegant than silver, or that a small car is less elegant than a big one, or that a big one is less sporting than a small one. So it is with nearly all products — everything has some inherent worth, and everything tends to get pleasure-loving treatment. If this creates design interest in new areas (washing machines and garbage disposers are not the lowliest of the newly dressed up products) it stirs up problems elsewhere: How, if you are a Cadillac, do you manage to maintain a respectable gap between you and the next most expensive product?

The product has new importance — which is less permanence. The obvious evidence is seen in throwaway pans and barbecues which pay for their single use in sheer convenience. But beyond that, in areas formerly marked by cautious investment for lifetime compatibility, a new attitude seems to have overtaken the consumer: he or she is less inclined to select a vacuum cleaner or water heater as if it were a mate for life. For the fact of the matter is, a purchase is seldom for keeps. If the kitchen is primrose pink the housewife may grow tired of it, but in the back of her mind she knows that someday she'll get another one — so *why not?*

This brings us back to *why not* and its meaning in terms of color this year. If the product is brighter, or fancier, or better, or more spirited, why not like it and why not try it? She wants it to catch her fancy, and does not demand that it hold her fancy for eternity. Consumership in 1955 involves a certain concern for improvement of the product, and perhaps a disbelief in ultimate perfection. *Why not* is a handy slogan for any designer, but it should not be misconstrued. The consumer may very well say, "Why not a bright green refrigerator," but it's hardly likely she'll say, "Why not get a refrigerator that we can't bear the sight of." She may say, "Why not a purple car this year, we can always turn it in for a black one next year," but she certainly won't say, "Why not buy a car that's a good bet to break down in two years." The consumer has not gone berserk; she (or he) is just exercising a remarkable free spirit — braced by tradition but increasingly willing to develop a new tradition when the old one rubs like a harness. It's the designer's job to read such trends and contribute to them creatively. It is as good a framework as any other in which to produce outstanding work.

The last word about the state of design in 1955 is easy to summarize and easy to relate to last year's trends. The new unshackled pleasure in the appearance of things is reflected in an increasingly high standard of design in any number of fields — major appliances are one important example. But this happy abandon, this easy obsolescence, will have undoubtedly contributed to a sorry shortage of outstanding designs that will last and last and last. The best of this year's work is on a fairly high level, but fairly little of it stands to be remembered as truly outstanding—*the editors.*

Oliver Allen



Oliver Allen

COLOR IS THE YEARMARK OF 1955,

the most conspicuous symbol of a new turn in designing and consuming. The new use of color, sometimes bizarre, often crosses our notions of suitability. But as we discover that our notions have changed, the new color seems more appropriate. A new car, for example, makes a brilliant and transitory splash that seems very natural against the colorful, changing backdrop of nature.

COLORWAYS ARE ADDED TO PRODUCTS, BUILT INTO NEW ONES

Color was not invented in 1955. Products have to be some color, if nothing else but black. In the past there has been considerable color variety, with the difference that it was usually *acceptable*: not so bold that it attracted attention or played on the emotions. And it was usually *appropriate*: green for files, brown for radios, white for kitchens, black for telephones. What made these colors "appropriate" was not so much logic as custom and conditioned ideas, inherited from the mauve and brown decades. What happened in '55 is largely a culmination of new attitudes, a breaking away from inhibitions about the proper *place* of color.

One beginning of colorways in workaday products was in the office, where the deities of propriety are not so strong. I.B.M.'s chromatic typewriter of several years ago struck confidently into color at a time when appliance manufacturers were gingerly lifting a finger to test the trend. This year's Royal portable, in five pastels, carries this line of the trend into the home (2). As the portable and the newly-toned Westinghouse mixer show, color can be a boon to manufacturers who want to improve a perfectly good product by a choice of new tones or a new finish.

The kitchen, once white with dashes of five-and-dime primaries in smaller appliances, is now a riot of decorator shades. The pale blue Prizer pans (5) summarize the place of color in the larger trend to kitchen-to-table elegance now demanded of utensils that find themselves in high-style surroundings.

The broadening use of color stands partly on technology—Club Aluminum's new shades (6) are possible because of new enamel-to-aluminum finishing processes, and partly on a question of ingenuity: Westcort's desk offers unlimited combinations of color with its sectional construction (4), and the Tracy cabinets with variable do-it-yourself doors offer a production solution. The neutral Fairchild tuner, at the other extreme (3), uses only pattern and contrast for a colorful effect.

1 Portable mixer
Westinghouse Electric Corp., Springfield
Westinghouse design staff
Raoul Lambert, director

Die-cast aluminum housing; plastic handle to match yellow, turquoise or pink underbody in two-tone models.

2 Portable typewriter
Royal Typewriter Company, New York
Staff design

Die-cast aluminum case (Alcoa); gray molded Tenite II keys (Auburn); smooth paint finish in pink, blue, green, gray, yellow.

3 Pre-amplifier equalizer
Fairchild Recording Equipment, N. Y. C.
Raymond Loewy Associates, consultants

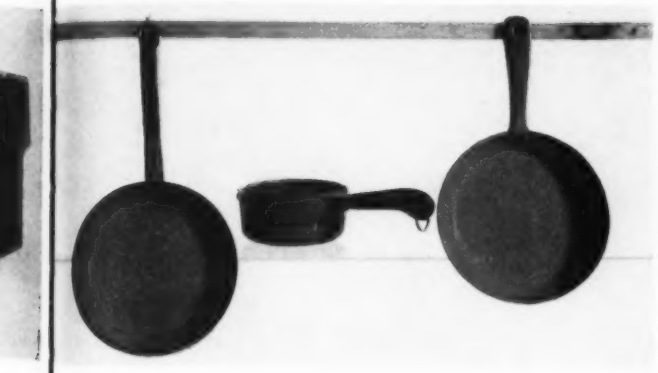
Gold anodized aluminum panel, pattern and solid areas silk-screened in gray. Clear Plexiglas knobs (Rohm & Haas); beige perforated aluminum top.

4 Modular desk
Westcort Company, New York
Richard Draper, designer

Steel pedestals, legs, filing cabinets; Formica tops (A. Banfield); parts in any specified colors.

5 Saucepans and skillet
Prizer-Painter Stove Works, Inc.
Reading, Pa.

Cast-iron pans; walnut or cast-iron handles; light blue porcelain enamel finish.



6 Waterless cookware
Club Aluminum Products Co., Chicago

Die-cast aluminum; Bakelite handles; turquoise or hacienda red porcelain enamel finish.

7 Synchronous and induction motor
Holzer-Cabot Division, National Pneumatic Company, Boston
Raymond Loewy Associates, consultants

Die-cast aluminum end caps, Stafford blue case; aluminum rotors, stator and rings, steel rivets; stainless shaft.

8 Picador kitchen cabinets
Tracy Kitchens Division, Edgewater Steel Corporation, Pittsburgh
B. J. Krywick, designer

Steel cabinets, white, yellow, pink, turquoise baked enamel; sliding doors in frosted glass, pegboard, Masonite.

WILL COLOR HOLD ITS OWN NEXT YEAR, OR WILL IT FADE OUT?

Color reached its apex this year when Chrysler asked three artists to decorate three cars, which they did with determination and water-soluble paint (9). And Why Not? queried *Parade*. Now Chrysler designers, in concert with Ford authorities, predict a severe swing back to black in '56. This unexpected turn has started some trend-riders asking nervously, Is color really here to stay?

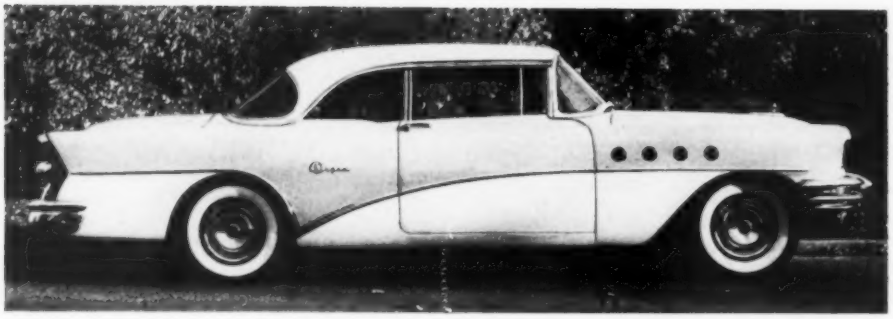
In conditioning the public to enjoy color in unaccustomed places, designers have merely awakened an inactive sense to new responses. To figure that the appetite for color will diminish of its own accord, or someone else's accord, is not in tune with common sense. And to fear that the car industry will renounce color forever, having shot its bolt on two-tones, is to under-estimate an industry's perception of the public's enlarged perceptions.

True, color preferences may change, even radically. The public may have had its fill of fuchsia and turquoise, but if it swings to black it will be a highly color-conscious swing. Never again, probably, will the monotone be modest; it will be a stylish contrast to wilder use of color. We have learned to see color as a natural adjunct of form. The contrasting roof of a car seems so inevitable that it hardly suffices to make a top-and-bottom two-tone anymore, and the roof that matches the car is as distinctive and colorful as shoes that match the dress, the wallpaper that matches the curtains. The simple dark streak and roof against the light body of the Chrysler (10), and the sweeping white underbelly of the Buick (11) show that pattern and contrast make colorful designs, even printed in black and white. If black and white, a highly colorful two-tone combination in the Griswold pans (12), is indeed a new fashion in cars next year, it will decidedly be a *color* fashion.

parade publications

9 Color patterns for Chrysler Royal Lancer
DeWolfe Hotchkiss, designer

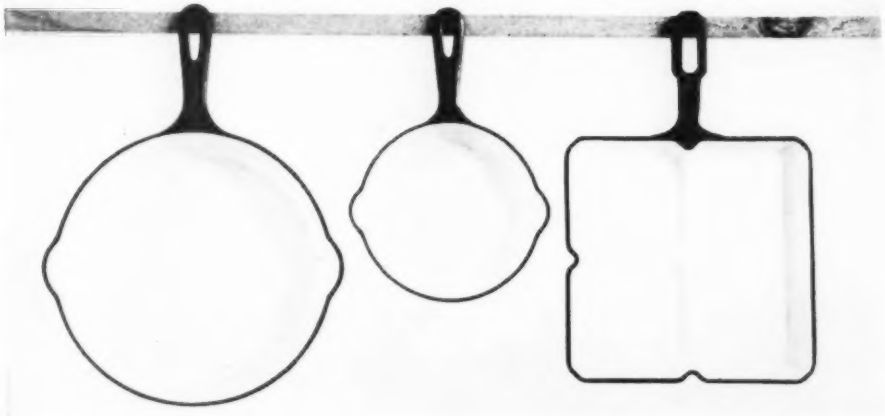
10 Chrysler New Yorker
The Chrysler Corporation
Virgil Exner, Director of Styling



11 Buick Super
Buick Division, General Motors
Harley Earl, Vice President of Styling

12 Skillets
Griswold Manufacturing Company,
Erie, Pennsylvania

Black cast iron, white enameled interior



A NEW KIND OF ELEGANCE EMERGES

for a middle-class classless society. As a trend it is second only to color, and closely akin to the spirit and meaning of color. Both elegance and color reflect a healthy self-indulgence, a new interest in simple routines and humble objects, a belief in the ceremonial enjoyment to be found in everyday occasions.

Frances Foote

ELEGANCE CAN BE SIMPLE AS WELL AS RICH

13 Water tank
General Motors Technology Center, Detroit
Eero Saarinen, architect

Stainless-clad steel (Lukens); polished; 250,000 gallon capacity.

"Elegant," according to Webster, means "correctly fine . . ." as well as tasteful, polished, fastidious, graceful, refined, handsome, and richly ornamented. The definition combines two ideas that interest us — *richness* and *propriety*. If today's kind of elegance were still a matter of white gloves and finger bowls, there would be little to talk about here. But because standards of propriety are no longer what they used to be, the kind of elegance that is burgeoning around us is a new kind of elegance, and worth noting. We find elegance in the traditional sense in the rich simplicity and appropriateness of a stainless water tower and a hi fi unit (13, 16); though both use new and somewhat informal materials they do so with aptness and restraint that represents traditional elegance at its best.

Objects like the vacuum cleaner (14) and thermostat (15) give the word a new definition. They are, after all, mechanical objects, mass-produced from commonly available materials. One might say it is not quite proper to do up such objects to this degree, or that they are even over-dressed. The difference is in the definition of propriety: thermostats are no longer hidden in back halls because people have fewer back halls, and there is hardly a hostess in the land who is not as familiar with her vacuum as with her company china. As American economy has demanded that everyone be familiar with drab things, American customs have demanded that they become less drab. In each of these examples, the deeply molded medallion motif is richly ornamental, yet both are neat and apt, their style consciousness quite proper by today's definition of elegance.

14 Roll-Easy vacuum cleaner
General Electric Small Appliance Division, Bridgeport
J. C. Shalvoy, designer; R. H. Koepf, Manager, Appearance Design

Aluminum body, turquoise baked enamel finish; aluminum wand, anodized copper tone; vinyl hose, Tenite and vinyl attachments.

15 Golden Circle electronic thermostat
Minneapolis-Honeywell Regulator Co.
Carl Kronmiller, Project Head
Henry Dreyfuss, consultant designer

Aluminum scale plate, punched from pre-finished stock (Northern Engraving), silver etched; aluminum case; injection-molded methyl methacrylate cover.

16 Radio-phonograph unit
Bell & Howell, Inc., Chicago
Paul McCobb and Chon Gregory

Black "Georgia Leather" panel (Georgia Leather); aluminum or brass snap-on molding (Pyramid Moldings); hardware (Faultless Caster); wood cabinets (Bergsma) with cane.

A POPULAR IDIOM IS TREATED WITH UNCOMMON REFINEMENT

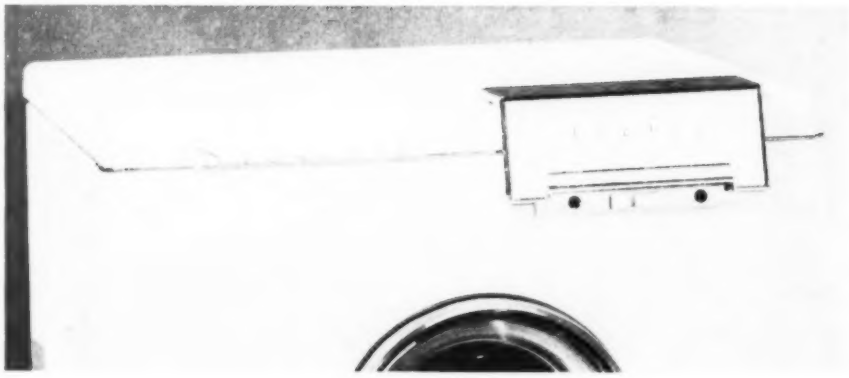
Kitchen appliances involve the large-scale production of conspicuous items to a degree that is topped only in automobiles, and the tenor of their design has usually been similarly unsubtle. Since people seem to like chrome and color and textured plastic when they see them in the stores, and since these effects make stand-outs of any large object, a heavy dose of glamour in the kitchen is hardly news. But it is interesting to see, this year, how often this old sense of richness has been combined with a new sense of refinement. All of the items on this spread are designed to demand attention, yet they do it politely.

Among the less glamourized, Thermador, a seasoned hand at creating the most demanding kind of simplicity, has a new large model that stands out simply because of the skillful handling of contours and joints on an unembellished surface (24); the approach is also successful on the expensive-looking Apex washer (23).

Two dishwashers (19, 21) and a wall oven (20) gain distinction from materials chosen to make them sparkle amid quieter surroundings, as well as from a neat balance of parts.

A third group here does not try to avoid the common vocabulary of glitter but tries to use it well. The designers of the washer control panel (17) and gas range (22) have disposed the necessary controls and the optional shine and ornament with real design, carefully and sometimes inventively.

The appropriate accessory to these major appliances is the Mirro vapor-seal pan (18), brilliantly but neatly adorned in its polished aluminum, black phenolic, and gold Alumilite trim.



18 Mirro strainer pan
Aluminum Goods Mfg., Manitowoc
Eugene P. Demuth, project head
Polished stamped aluminum (Alcoa); heatproof plastic handle (Lupcor); stamped gold Alumilite trim (Alcoa)

19 Kitchen-Aid dishwasher
Hobart Mfg. Co., Troy, Ohio

Steel tank, porcelain-enameled, stainless steel fittings; formed steel support frame; cabinet panels in baked synthetic enamel finish; plastisol-coated steel baskets.

23 Dishwasher
Apex Electric Mfg. Co., Chicago
Dave Chapman, cons. designer

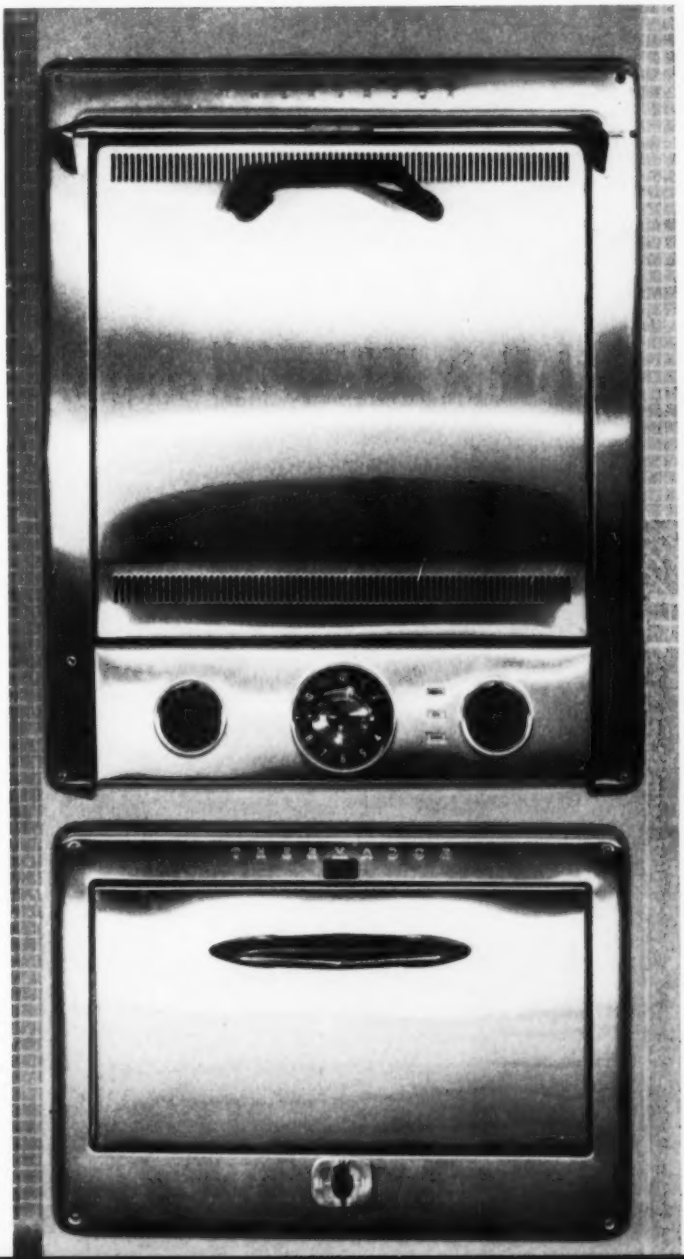
Formed steel base, body, front panel; stamped top and lid; white porcelain enamel finish; stamped escutcheon (American Emblem).

24 Thermador built-in oven
Norris-Thermador Electrical Mfg., Los Angeles
Norman Rae, staff designer.

Formed stainless panels (U.S. Steel), satin finish; molded urea handle (Grigoleit); anodized aluminum dial (G.E.), dark blue, yellow, brass.

20 Wall oven
Hotpoint, Inc., Chicago
Raymond Sandlin, Manager, Visual Design.

Cold-rolled steel door, .003 nickel chrome-plate finish; also in standard enamelling steel; GE colors.



21 Dishwasher
American Kitchens Division, Avco, Connersville, Indiana
L. L. Burke, chief engineer

Stamped steel case; copper-plated front; copper-toned end panels; maple top (Munising Wood Products).

22 Counter gas range
Caloric Stove Co., Topton, Pa.
Peter Muller-Munk, consultant designer.

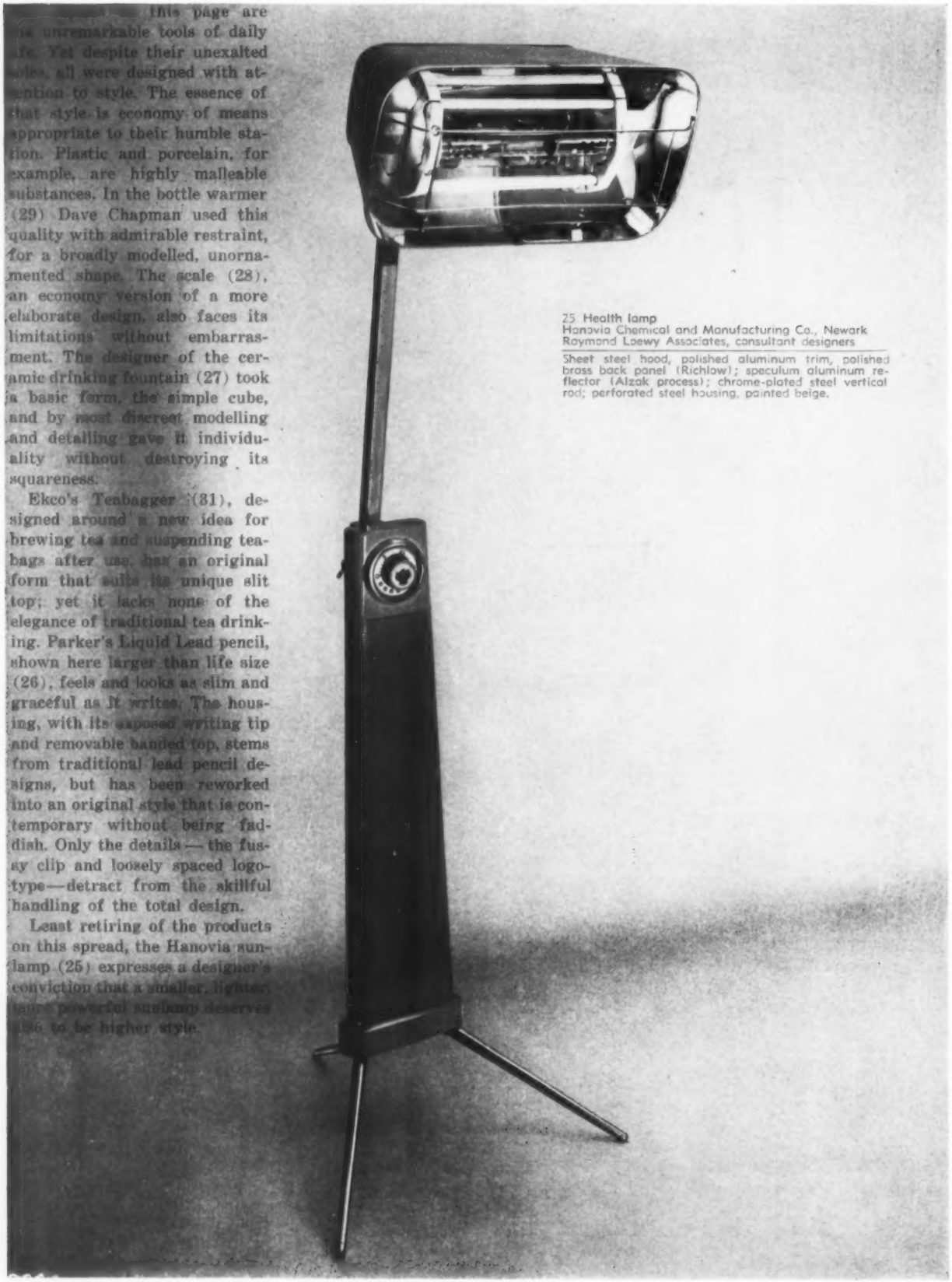
Stamped steel body, porcelain enameled white or five colors; molded urea knobs (National Lock); white with chrome trim; stainless steel rolled sections on backguard (Pyramid Moulding), die-cast end caps (Stelle Corp.); ceramic enamel on glass (Chromalox Co.).

HUMBLE OBJECTS RECEIVE THEIR SHARE OF STYLE

this page are ...s unremarkable tools of daily ...fe. Yet despite their unexalted ...oles, all were designed with at...ention to style. The essence of that style is economy of means appropriate to their humble station. Plastic and porcelain, for example, are highly malleable substances. In the bottle warmer (29) Dave Chapman used this quality with admirable restraint, for a broadly modelled, unornamented shape. The scale (28), an economy version of a more elaborate design, also faces its limitations without embarrassment. The designer of the ceramic drinking fountain (27) took a basic form, the simple cube, and by most discreet modelling and detailing gave it individuality without destroying its squareness.

Ekco's Teabagger (31), designed around a new idea for brewing tea and suspending teabags after use, has an original form that suits its unique slit top; yet it lacks none of the elegance of traditional tea drinking. Parker's Liquid Lead pencil, shown here larger than life size (26), feels and looks as slim and graceful as it writes. The housing, with its exposed writing tip and removable banded top, stems from traditional lead pencil designs, but has been reworked into an original style that is contemporary without being faddish. Only the details — the fussy clip and loosely spaced logotype — detract from the skillful handling of the total design.

Least retiring of the products on this spread, the Hanovia sunlamp (25) expresses a designer's conviction that a smaller, lighter, more powerful sunlamp deserves also to be higher style.

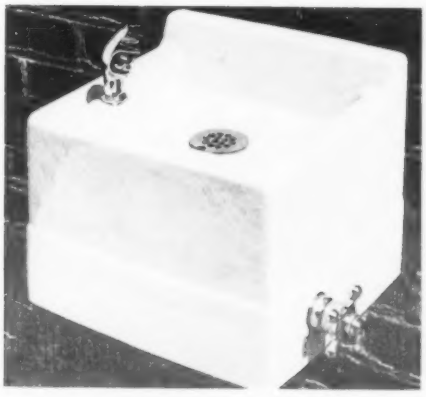


25 Health lamp
Hanovia Chemical and Manufacturing Co., Newark
Raymond Loewy Associates, consultant designers

Sheet steel hood, polished aluminum trim, polished brass back panel (Richlow); speculum aluminum reflector (Alzak process); chrome-plated steel vertical rod; perforated steel housing, painted beige.

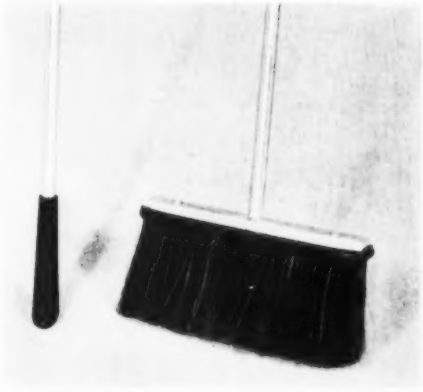
26 Liquid Lead pencil
Parker Pen Co., Janesville, Wisc.
Don Doman, chief of product design

Molded Tenite II barrel (Tennessee Eastman); stainless cap, satin finish; chrome-plated brass top and tip; beryllium-copper clip; 5 colors.



27 Drinking fountain
Haws Drinking Faucet Co., Los Angeles
Channing W. Gilson, consultant designer

Cast iron; white and pastel porcelain enamel finish (Commercial Enameling); die-cast brass hardware, bright chrome finish.



30 Slim-line broom
Stanley Home Products, Inc.,
Easthampton, Mass.

Steel back (Elliott Bros.), welded tube (Van Huffell); bright zinc finish; molded rubber bumper (Acushnet); twin-faced strip brush.

28 Bathroom scale
Borg-Erickson Corporation, Chicago
Don DeFano, designer

Stamped steel base, platform (U. S. Steel); stamped pre-polished stainless bezel (Armco); Flexaprene rubber mat, 6 colors.

31 "Tea-bagger" Teamaker
Ekco Products, Inc., Chicago
James Hvale, designer

Blown Pyrex bowl (Corning Glass Works); formed stainless steel base, handle; stamped stainless top, polished.

29 Bottle warmer with night light
Hankscraft Company, Reedsburg, Wisc.
Dave Chapman, consultant designer

Porcelain well (Wisconsin Porcelain); pink and blue plastic base (Milwaukee Plastic) contains night light.

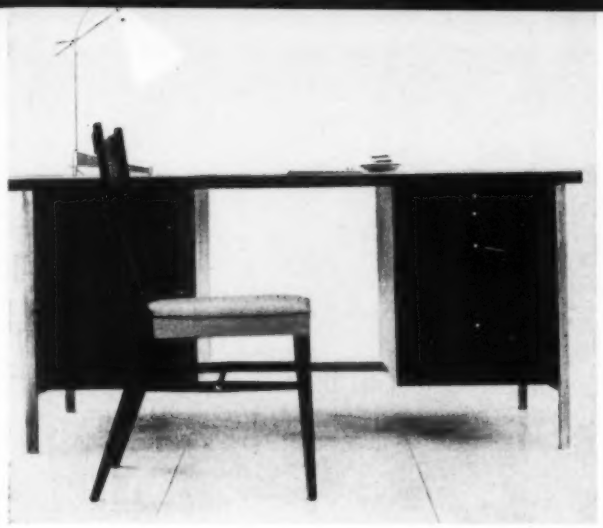
UNDERSTATEMENT IS OFTEN THE MOST ELEGANT STATEMENT

This spread reports a more conservative note in the elegance trend: a product built well, without concern for embellishment, may turn out both elegant and interesting to behold. The effectiveness of understatement is not surprising in the case of objects with an inherently interesting shape, like Revere's kettle (34), which relies only on its pure roundness and the brilliance of metal to enhance it; or the large rotisserie (32), illustrating a hands-off policy that is almost unique among rotisseries; or the round barbecue (33), which manages to be more than commonly interesting because of its studied structural concept. The two desks (35, 36), like one scene recorded by two painters, achieve elegance from distinct statements of the importance of structure.

The cabinets (37) and refrigerator (38) represent an even more unusual and courageous grasp of the value of modesty: whereas one richly elegant design can spoil the simple elegance of an ensemble, a product that is unassuming in itself can help to point up the elegance of the whole. A more likely stimulus to the same result is seen on the next page.

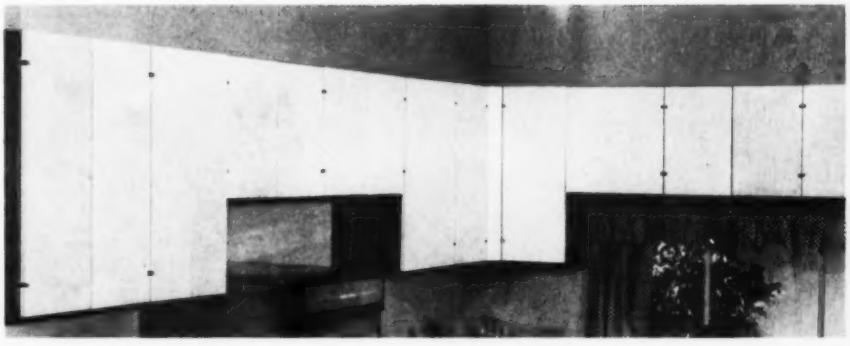
32 Barbecue
Landscape Structures, Inc., New York
Irving Lepselter, designer

Demountable aluminum stand, matte white baked enamel finish; aluminum broiler, black porcelain enamel; spun aluminum fire pan, expanded aluminum grill. Hudson Fixtures, Fabricator



36 Flexible desk group
Jens Risom Design, Inc., New York
Jens Risom, designer

Walnut pedestals and top, lacquer or oil finish; brass handles; Formica door.



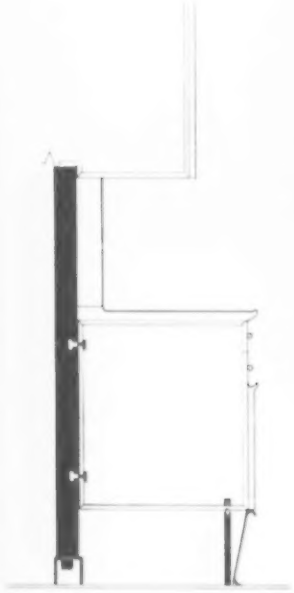
38 Built-in refrigerator and freezer
Westinghouse Electric Corporation,
Mansfield, Ohio; fabricated by Revco

Satin chrome finish, polished chrome trim or white Dulux enamel (DuPont); aluminum compartments, coils in three walls. Fiberglas Luminar insulation.

FRIGIDAIRE'S KITCHEN PACKAGE: ISOLATED PARTS DISAPPEAR IN CO

Surface cooking units, similar to Frigidaire's current model, are tapered toward the front to cantilever above work surface of GM Vitalast. Controls are on eye level dashboard. Concealed exhaust hood removes fumes.

French-door wall oven is coupled with a pull-out storage unit that provides an unloading surface. Diagram, left, explains structural system: runners attached to floors receive steel uprights to which equipment is bolted. Horizontal refrigerator, right, is 4 feet wide, has 10.5 cu. ft. capacity; 6 cu. ft. freezer drawer is below. Refrigerator has heavily zoned storage space, including canisters in door.



IN COMPLETE APPLIANCE

39 "Holiday" kitchen
Frigidaire Division, General Motors, Dayton
Frigidaire design staff

Bulk storage drawers, concealed behind 12-inch recessed toe panels, extend around kitchen. Overhead cabinet doors open down, on pantographs.

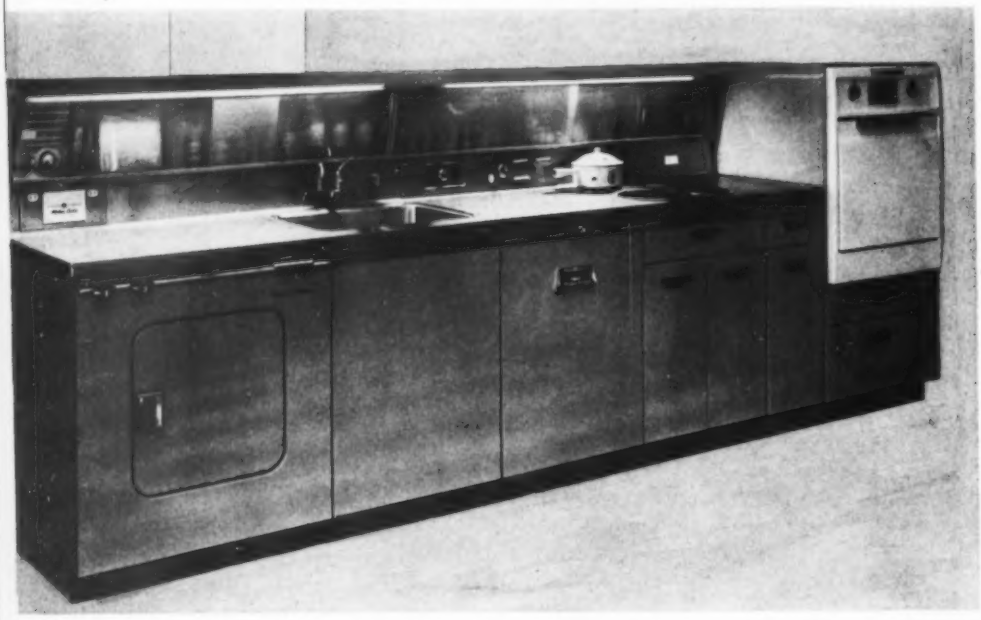
New 32" counter height is introduced on one long work surface; two adjacent counters are standard 36". Perimeter lighting for kitchen and cabinet interiors is concealed in soffit above wall cabinets, which also conceals air conditioning and exhaust system; under-counter lighting panel illuminates countertops. Unit is internally wired and plumbed, with master power panel and plumbing connecter block.

Frigidaire has recently put on display, in Washington's new Housing Center, a model kitchen which is scheduled for production next fall. The "Holiday" is a complete modular kitchen that includes all basic equipment. Using its own structural system that replaces stud walls or partitions, it offers elasticity in the arrangement of components and in the placement of the kitchen.

The "Holiday" shows the value of an old axiom of design: if a group of products is designed as a whole, the whole becomes greater than the sum of its parts. The correlary is that a number of appliances can be designed without becoming lost, or may be ornamental without clashing. And finally the designer, who is no longer bound to harmonize with competitors' products, can introduce new shapes, new ideas, and inventions without creating chaos in the factory, showroom or home.

Because Frigidaire has built its kitchen around modular appliances that could hardly be introduced piecemeal, it is able to make some basic innovations. In place of the usual clumsy and space-wasteful under counter cabinets, the Holiday reorganizes storage space into baseboard drawers, for seldom-used articles, and raised base cabinets for everyday ones; low work counters for some tasks, and normal counters at the sink. Other improvements: the structural system permits empty spaces above counter to be used for windows or pass-through, or for a variety of overhead cabinet arrangements. The Holiday includes flipdown hotplates somewhat redesigned with eye-level controls; a two-door horizontal refrigerator; pantograph doors on overhead cabinets. The details, some good and some gaudy, are less important than the concept. And in any case the production version will undoubtedly emerge as a less elaborate product. The important thing is that Frigidaire's complete control of the kitchen meant it could offer new variety held together by a new unity in design.

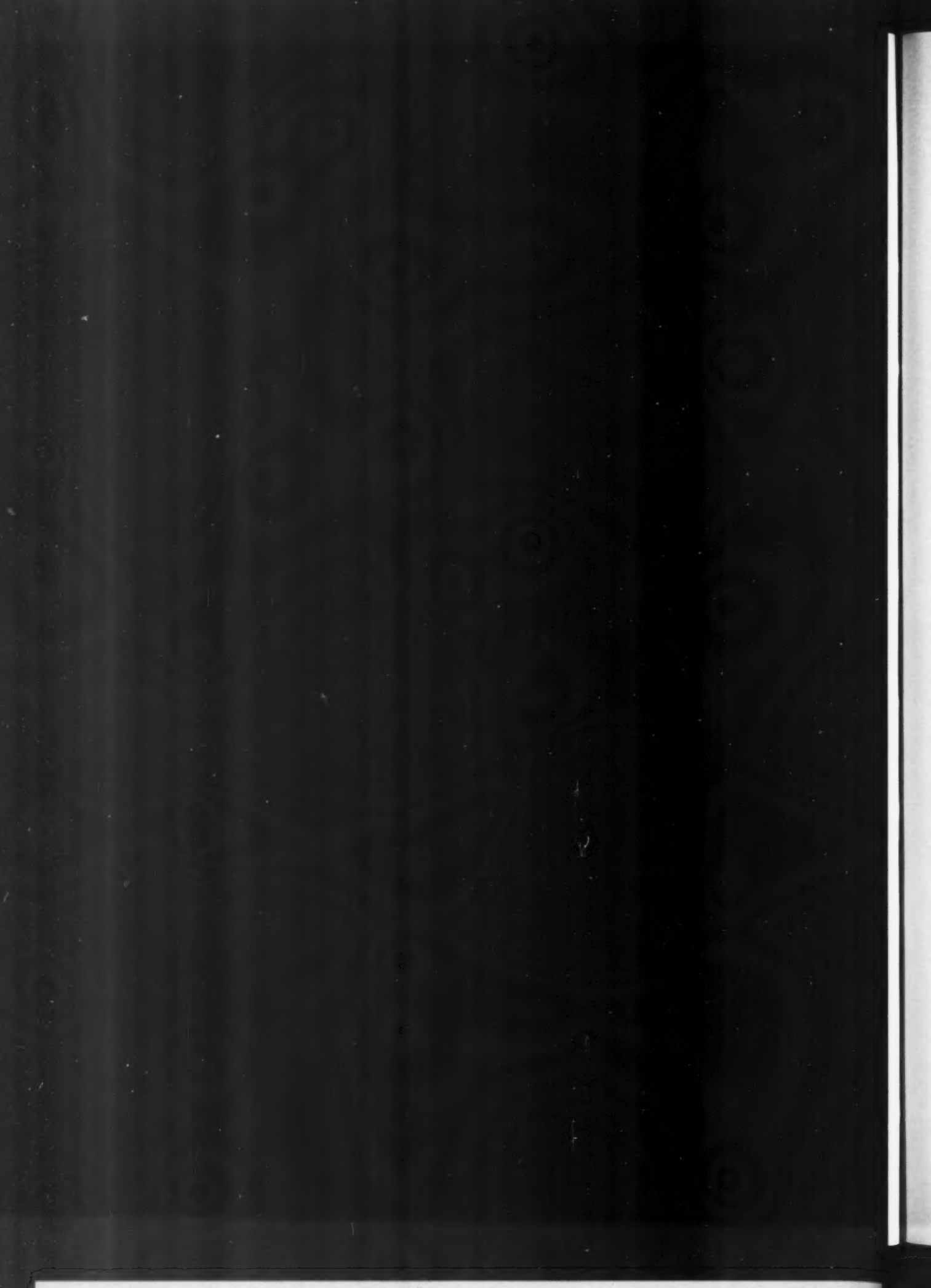
COLOR PLAYS A PART IN SPEEDING PRODUCT INTEGRATION



General Electric's Unit Kitchen, marketed for the first time in 1955 and enlarged for '56 (40), pioneered the idea of a complete kitchen for production by combining existing appliances under a special one-piece counter top. The result is understandably less unified than in a kitchen purposefully integrated from the start. The unit, nonetheless, has given all the equipment in the GE line, and elsewhere, an objective: to look unified, whether under the big top or in a more modestly assembled group, and eventually to be mechanically integrated as a single appliance, low and free of the walls. Color (GE offers all appliances in five shades) has played an important part. A unit kitchen can afford to be brilliantly colored because it has nothing to match but itself; and even an assembled kitchen in a bright shade looks more like a planned unit, which possibly explains the unexpected success of GE color this year. (See facing page.)

The companion wall refrigerator (41) is a fitting summary to the trend to elegance; of the products of 1955 it is perhaps the most sophisticated in its plainness. It can afford to hang quietly on a wall, virtually unnoticed beside its companion cabinets, because its very concept is so striking, so full of trademark value. A simple design like this one often accompanies innovation; to keep it that way after the novelty wears off sometimes requires greater talent than designing it in the first place.

40, 41 Kitchen Center and wall refrigerator
GE Major Appliance Division, Louisville
Appearance Design Staff, A. N. BecVar, Manager



THE BIG CHANGE IN LIVING HABITS

was not born in 1955. But the past 12 months have seen new peaks for many of the trends that are woven into the changing pattern of American life. The barometer of change is the customer's performance in the marketplace. These figures represent significant social changes that have already affected sales, and foreshadow new changes that will influence all design for the American house and its occupants.

***Power** consumption shows electrifying rise.* 1939 *average American household used* 879 *kilowatt hours of electricity;* 1955 *total will be* 2,767. Electrical World *predicts average residence will consume* 7,323 *kwh by* 1970.

Outdoor furniture industry reports that from $50,000,000 wholesale total in 1947-48 season, $100,000,000 total in 1952-53, this season's gross rose to $150,000,000.

***Income groups** are shifting sharply. Newly defined "middle class," $4,000 to $10,000 a year, is already in transition.* Fortune *predicts number of families with more than* $5000 *will increase* 50% *by* 1959, *to account for* 60% *of all expenditures; family units with* $7,500 (33%) *will constitute a new* 1959 *consumption norm.*

Color in appliances is proving itself faster than anyone expected. GE's Major Appliance Division reports 18% of total unit sales this year in color — as high as 80% in cabinets, wall refrigerators, built-in ranges and hotplates; 10% in free-standing refrigerators and ranges, 28% in dishwashers. National favorite of five GE shades: Petal Pink.

***Home power tools** did estimated* $200,000,000*—plus in* 1955, *according to* Electrical Merchandising. Business Week *reports* 150,000 *multi-purpose power tools sold between* 1948 *and* 1954. Popular Mechanics 1955 *reader survey showed* 16.7% *had* $1,000 *to* $3,000 *invested in home workshops.*

Hobby industry this year reached 200,000,000 gross at wholesale level—rising 2000% over 1945. *Model Railroader* magazine reports circulation over 100,000; the average reader is 33 years old, college graduate, earning $6,222 a year.

***Station wagons** are hitting a new stride, accounting for* 2% *of car sales in* 1949, 6.3% *in* 1954, *an estimated* 10% *in* 1955, *and possible* 15% *in* 1956. (*Automotive Manufacturers' Association; GM*)

Hi Fi components industry rolled up an estimated $75,000,000 *this year,* 50% *above* 1954. *Classical records now represent about* 33% *of disc industry's annual dollar volume. American Music Conference reports Americans spent more on concerts than baseball games last year.*

Music is booming. Retail Music Business—covering all instruments sold—estimated $357,000,000 in 1955, 400% up over 1939. Piano sales in 1955 will be 20% above last year, with grand pianos gaining. Some 250,000 now play the recorder (instrument, not machine), barely known here in 1941. 3,000,000 ukes sold since 1949.

***Birds** sold in* 1955 *topped* 5,000,000, *at an average of* $10 *each.* 40% *of American homes have dogs.*

Power garden tools cost public over $200,000,000 this year; *Fortune* estimates $900,000,000 total will be spent for gardening tools and supplies by 1960.

Golf equipment absorbed $30,751,000 *of American income in* 1949, *reached* $51,263,000 *in* 1954. *Tennis equipment jumped from* $4,000,000 *to* $6,000,000 *during same period.*

Swimming pools occupy more than 20,000 back yards today.

***New homes** have nearly maintained postwar all-time high. New starts averaged* 1,325,000 *from* 1945 *to* 1949; 1,300,000 *are expected this year.* (*House & Home*)

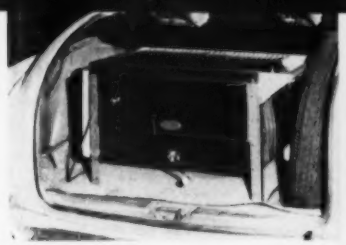
Quality houses are booming. One-family houses over 1,000 square feet jumped from 35% in 1949 to 60% in 1954. Median sales price, $9,700 six years ago, was $12,300 last year. 30% of houses built are now over 1,200 square feet. (Bureau of Labor Statistics)

Prefabs, 37,000 *in* 1946, *now account for* 8% *of new starts in one-family dwellings, or* 125,000 *in* 1955. *Many, like builders' houses in general, were in* $20,000 *to* $40,000 *bracket.* (*House & Home*)

Bathrooms used to come singly in the average 1,000 square foot house; now there are two.

***Outdoors,** heavily featured in dream houses, are becoming reality.* 45% *of owners of new homes polled by F. W. Dodge for* Better Homes & Gardens *reported patios;* 65% *reported special family activities room.*

Sportshirts are up to 3.1 per capita yearly consumption; workpants and dungarees up to 2.1; dress shirts down.



42 Electric barbecue
H. A. Bartron, Riverside, Cal.
designer and manufacturer

Stainless steel, rivet construction; #2 bright finish.

NEW PRODUCTS ARE THE BY-PRODUCT

of a society undergoing change. They reflect the needs of unaccustomed leisure time, the fading boundaries between work and play, between gracious living and easy living — and present unfettered challenges to the product designer.

MORE PLAY: ITS SERIOUS SPIRIT IS SEEN IN NEW PLAYTHINGS

The country's last big play period, in the twenties, was violent and wildly escapist. Today's average American, with so much time on his hands and so little to escape from, almost inevitably turns to recreation of a wholesome and purposeful flavor, whether it be sports, culture, or family life. Just as the plan of the modern house has had to accommodate itself to the new frenzy of leisure activity, the design of leisure-time equipment has also changed its flavor. A golf car (48), for the rare man who can afford to divorce sport from exercise, is less gaudy than the hard-working vehicle that brings him to the links. A television set (46) drops its pretentions and takes on a pleasantly prosaic character when it is small enough, light enough and economical enough to be purchased as a second, special-purpose set.

These objects show how the change in play relates to the disappearing lines between formality and informality. It is not easy to sell prestige in a product if the customer's goal is pure, practical pleasure. Hi fi components, for example, have gone through various design stages, but basically they have always been planned as useful equipment rather than as socially presentable furniture. Harmon-Kardon's pair (45) and Bell's tuner (43) are both crisp and businesslike; William Abel's standing (or bench-supported) unit, though designed as a highly presentable piece of furniture, is very unostentatiously detailed with recessed knobs and tone arm (44).

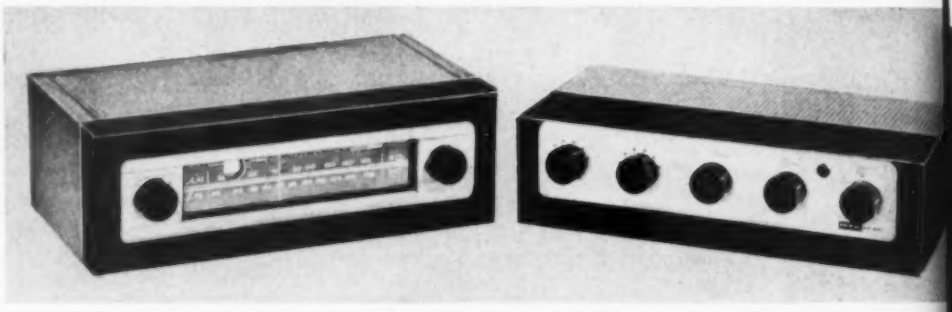
Furniture itself has been a leader in stylistic informality, having long since traded its prestige for comfort. Outdoor furniture in particular has become all-purpose furniture for this reason, and because there is little distinction today between the degree of formality demanded indoors or out, or in hot weather or the winter season. The examples of leisure furniture here (47, 49) show the extraordinary degree of elegance that can be enjoyed while relaxing.

44 High fidelity phonograph
William Abel, Portland, Oregon,
designer and producer

½" hardboard cabinet, hand rubbed ebony enamel; brushed aluminum legs; Lansing "Signature" 8" speaker, sonic prism deflector, in Helmholtz-type enclosure; GE "Golden Treasure" dual stylus; acoustically isolated 4-lb. turntable. Legs detachable.

45 AM-FM tuner and amplifier
Harmon-Kardon, Inc., Westbury, L. I.

Steel case, brushed brass or copper finish (Kings Electroplating); black steel frame, matte black finish (Kings); white nomenclature; black Bakelite knobs.

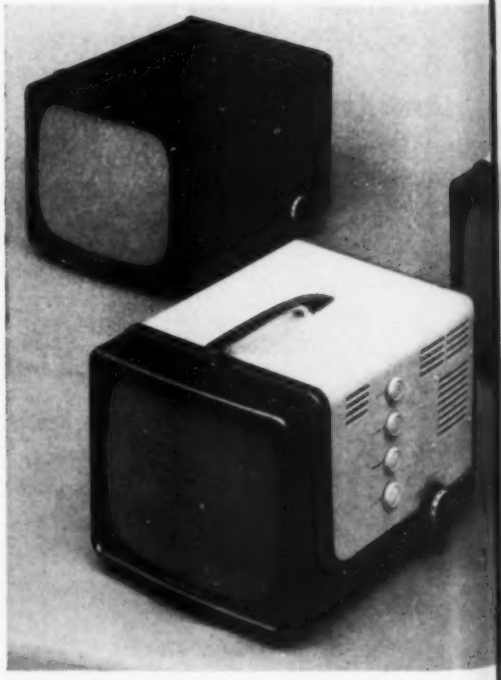


43 FM Tuner
Bell Sound Systems, Inc., Columbus, Ohio
I. William Simons, staff designer

Glass dial panel, white screened lettering; red station indicator; backed by dark brown flecked panel; steel case, perforated top, satin gold and brown.

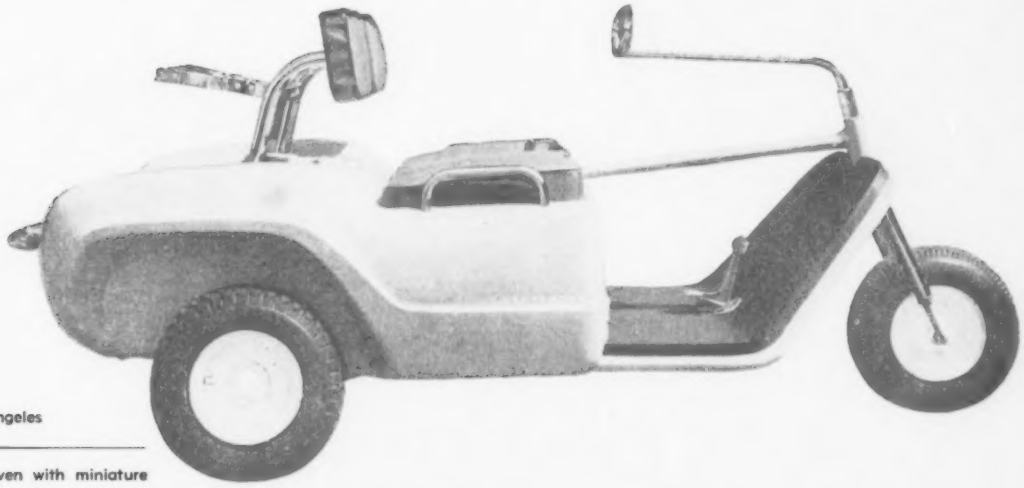
46 Portable 14" television set
General Electric, Electronic Division, Syracuse
Max Hauenstein, Seymour Silverman, designers
C. R. Miner, engineering
George Beck, Manager of Industrial Design

Drawn and formed steel housing (Poray, Inc.), baked enamel finish in brown, red, gray, metallic brown, white; injection-molded Butyrate and styrene knobs (American Plastics, Buffalo Molded Plastics); die-cast zinc handles (Kisiel Die Casting), chrome finish; screen mask integral with front housing component.



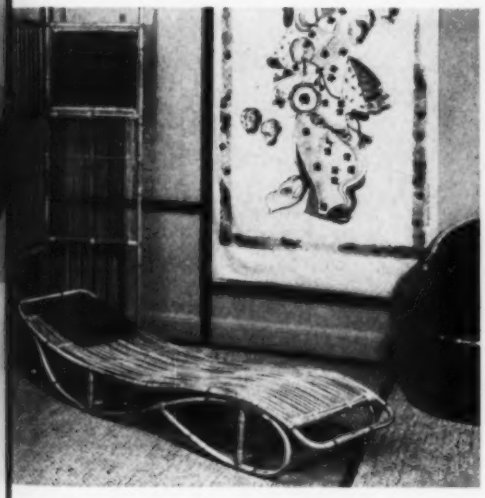
48 Lectracar Duo
Versal, Inc., South Bend, for Sears, Roebuck & Co.
Randall D. Faurot, designer

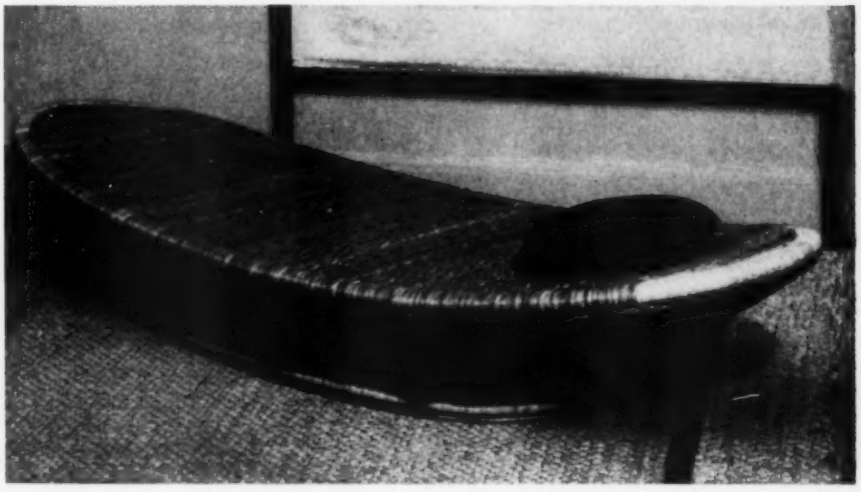
Vacuum-formed Boltaron body (Bolta Products), integrally colored beige, high gloss finish; welded steel tube frame (Lock Joint Tube Co.), painted beige; 5-ply marine plywood floor, rubber cover; spring seat, supported vinyl covering; chrome-plated fittings.

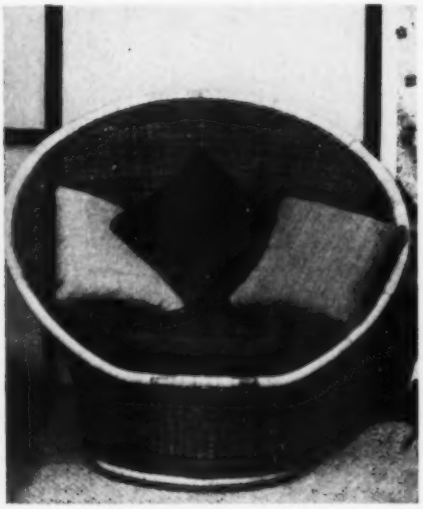


47 Rattan furniture
Calif-Asia Rattan Company, Los Angeles
Stewart Mac Dougall, designer

(Far below, below, below right)
frames of hard Tahiti rattan, woven with miniature whole rattan.

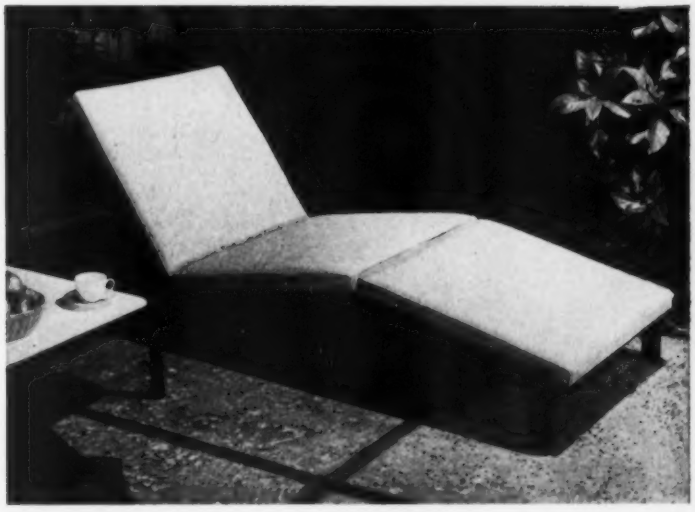






49 Sun lounge
Van Keppel-Green, Beverly Hills
Hendrik Van Keppel and Taylor Green, designers

Steel frame, black, terra cotta and custom colors; reversible foam rubber pad.

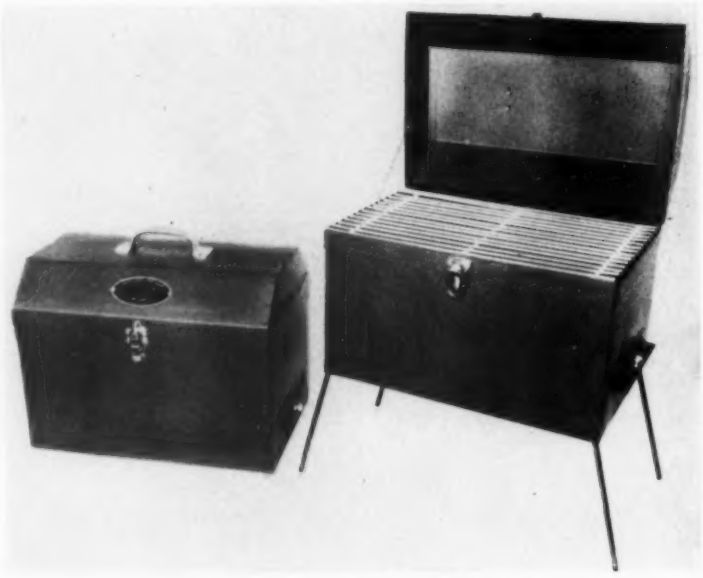


MORE WORK: ITS TOOLS AND PURPOSE ARE REDEFINED

Americans are currently demonstrating two apparently contradictory talents: the ability to turn work into play, and to turn play into work. Since even when you're playing you have to do something, play often means work that doesn't *have* to be done. The serious tools of this new work (54, 56, 57) are seriously designed for the amateur—not as toys, but as practical professional implements.

At the other end of the stick, work around the house comes extremely close to play—often social play—as soon as the drudgery is taken out of it by the tools of convenience. Implements like the outdoor cookers (50, 51, 52) are eminently practical but increasingly suave, because cooking out is less and less like camping out; more and more like stepping out.

The do-it-yourself yard room (55) seems to be the perfect summation of leisure today: an outdoor closet so simple, gay, informal, and practical that it implies that there need not be any dark corners left in the American attic, cellar, or psyche.



50 Hasty Bake "Camper"
Hasty-Bake Manufacturing Co., Tulsa
William E. Allen, designer

Steel box (Braden Steel Corp.), black enamel finish; grill (Union Wire and Steel), bright nickel finish; hardware (National Lock), bright nickel finish.

51 Electric rotisserie
Burr-Southern Corporation, Pasadena
R. P. Winks, project head

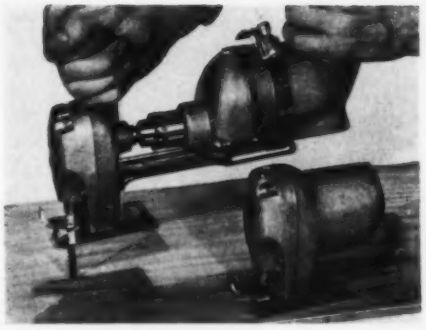
Welded angle frame and steel firebox, black enamel finish; chromed steel spit; rod grill, copper-nickle-chrome plated; tinned pans (Ekco); 6 RPM motor. May be used horizontally or vertically.

52 Barbecue fork
The Washburn Company, Worcester, Mass.
Raymond Spilman, consultant designer, with J. Richard Lawrence of Washburn

Stamped stainless steel (Republic Steel), natural finish; pressed cork handle (Badger Cork); cast zinc guard, brass plated; rawhide thong.

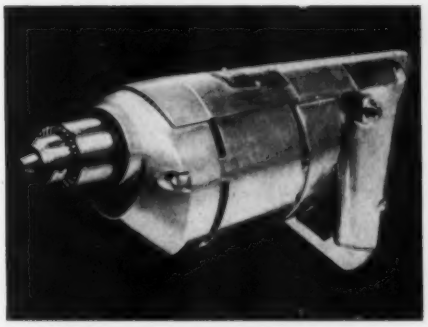
53 Heiland Strobonar VII flashgun and pack
Minneapolis-Honeywell Regulator Co., Minneapolis
Henry Dreyfuss, consultant designer

Injection-molded Ethocel head (Dow), dark and light gray; drawn brass tube (Western Brass), chrome plated; clear Plexiglas lens (Rohm & Haas); leather pack (J. B. Perrin), dark gray.



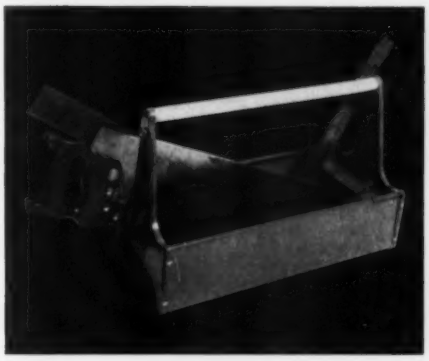
54 Jig saw attachment
Millers Falls Company, Millers Falls, Mass.
L. Garth Huxtable, consultant designer, with Millers Falls engineers

Aluminum die-cast housings (Doehler-Jarvis), gray hammertone enamel finish. Universal joint drive, airblast to clear sawdust.



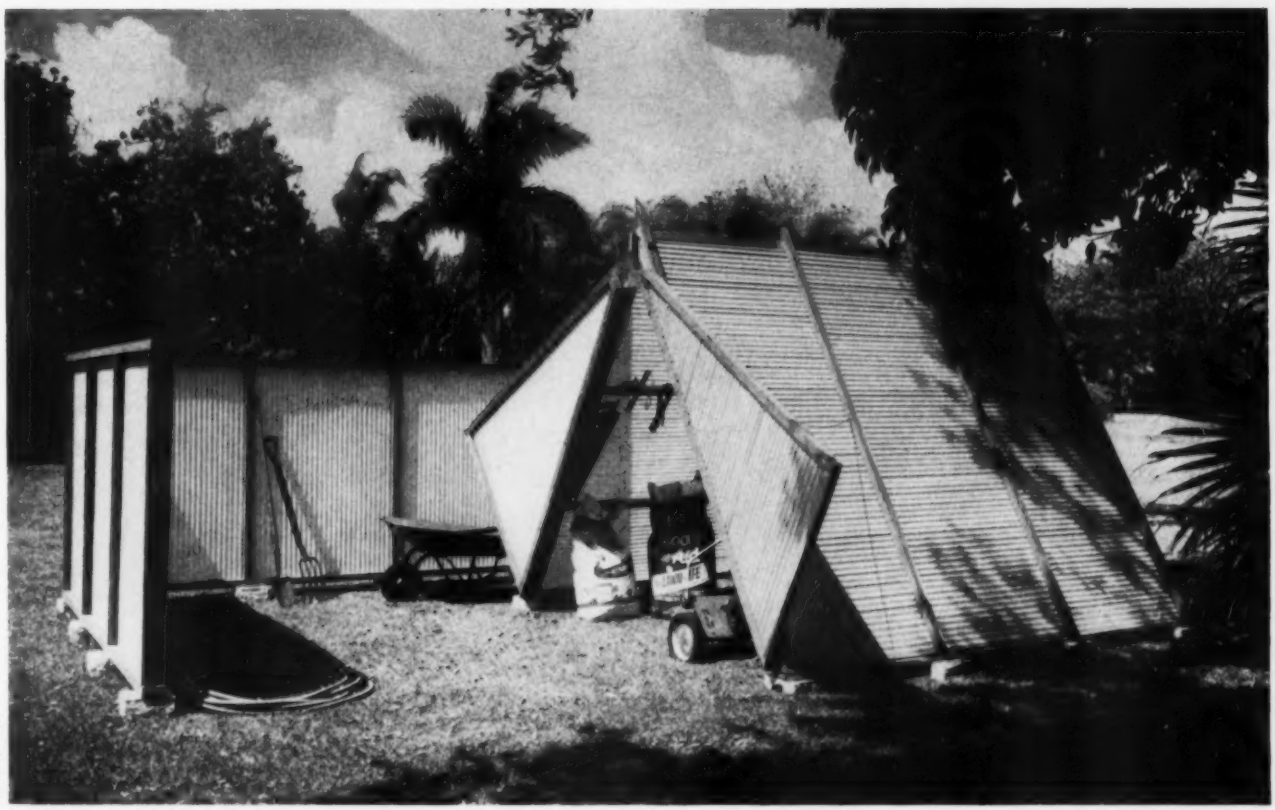
56 Craftsman Electric drill
Signal Electric Div., King-Seeley Corp., Ann Arbor, for Sears, Roebuck & Co.
Ken Shory, consultant designer

Die-cast aluminum housing (Madison Kipp), polished by roto-finishing. Saw or pistol grip fit basic motor housing.



57 Craftsman carry-all box
Century Display Manufacturing, Chicago, for Sears, Roebuck & Company
Jack Evans, designer

Roller-coated sheet steel (Caspers Tin Plate), gray enamel finish; hardwood dowel handle, tumble waxed.



Ezra Stoller

55 The Yard Room
Jones Shutter Products, Miami
Alfred Browning Parker, architect

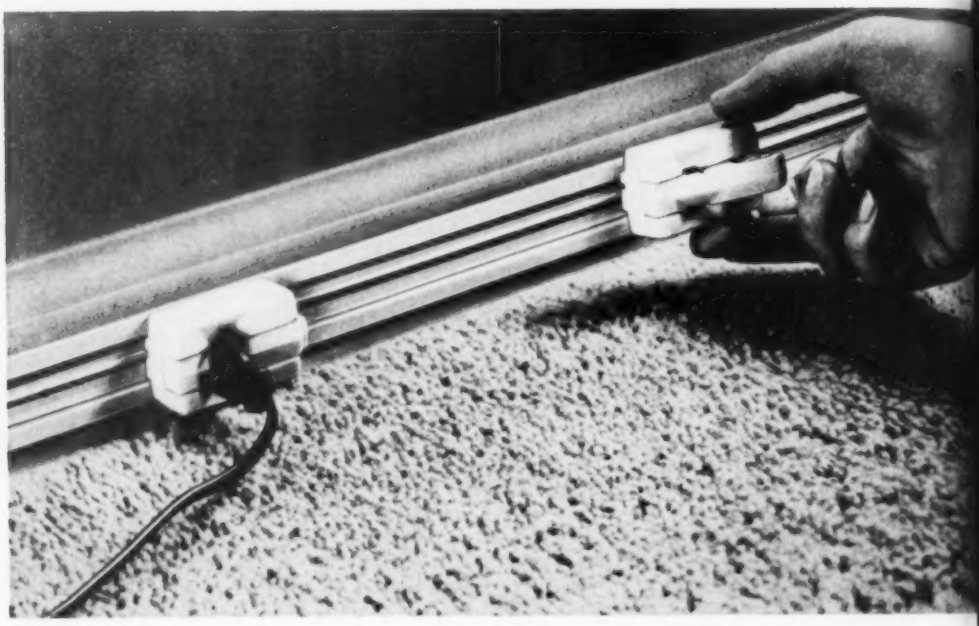
Prefabricated of "Spun-Lite" polyester fiber glass panels (Spun Lite Corp.), matte finish; redwood members, pre-assembled triangular doors, hardware, bolts, and sill included in package. Bolted to concrete footing.

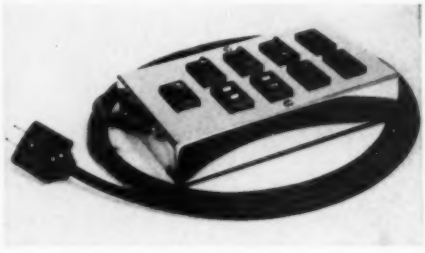
MORE POWER: THE SUPER-CONVENIENCE OF DUPLICATION

The constant increase in electrically powered products is an inevitable by-product of more work and more play, and a prime force in consolidating the two. There seems to be no limit to the tools and toys that can be improved by electricity. In some cases power is a new convenience added to an old product: electric clippers, for example, (62) do faster and more efficiently the same work that their manual predecessors did. But a major part of increased power consumption can be traced to duplication and differentiation. Electric skillets, broilers, kettles and trays (61, 64, 65, 66) are hardly essential to the woman with a stove and a few pots and pans; she buys them because she can afford to duplicate her power source many times over. It gives her independence, super-convenience, and a chance to turn her routine work into leisure-time work by carrying her kitchen to the table. This duplication of power in turn demands better ways of getting power, a problem that has created some interesting "power center" designs. The Koch 5-outlet Control Panel, with its switch controls and copper and chrome-plate finish, brings power to the electrified table elegantly. The ingenious Bulldog Electrostrip is, in effect, a safe, built-in extension cord that can be installed in any part of the house. Movable outlets are snapped into the strip any place along its length, freeing power use from a fixed electrical outlet system. As more and more tools and utensils are independently powered, there is, conversely, a natural effort to cut down on duplication and provide multi-purpose power sources—like electric mixers that run a family of attachments. An even more high-powered power package is the new Nutone appliance, a four-piece combination of a 300-watt motor, a blender, mixer and electric knife sharpener. The handled power unit, with feet on three sides, stands horizontally or up-ended, and receives each of the attachments on its individual outlet on a different side.

58 Electrostrip
Bulldog Electric Products, Detroit

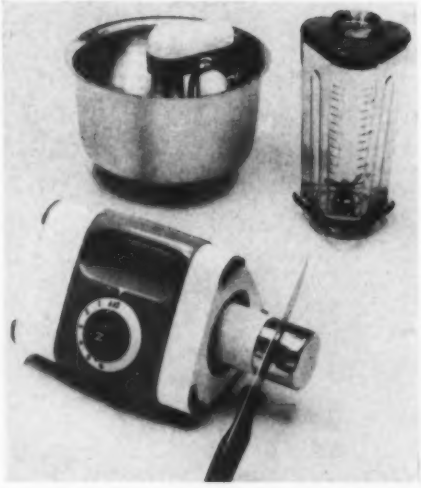
Rigid vinyl plastic strip contains 20 amp. 125 volt AC wires; molded urea elbows, feed-ins, tees, and receptacle plugs, fused and non-fused; cellulose acetate end caps.





59 Control panel
Arthur J. Koch, Cambridge, Mass., designer and producer

Steel top and base, red and black wrinkle finish or chrome and copper plate; rubber feet; red neon pilot light; silver contact, 15 amp.; No. 314015 Littelfuse and 230V., 15 amp. fuse.



60 Mixer-Blender-Sharpener
NuTone, Inc., Cincinnati
Waltman Associates, consultant designers

Die-cast aluminum motor enclosure, gray and white enamel finish; Bakelite top and base for blender; anodized heavy gauge aluminum mixer, stainless steel head; die-cast aluminum beaters.

61 Electric speed kettle
General Electric, Small Appliance Division, Bridgeport
R. H. Koepf, Manager of Appearance Design

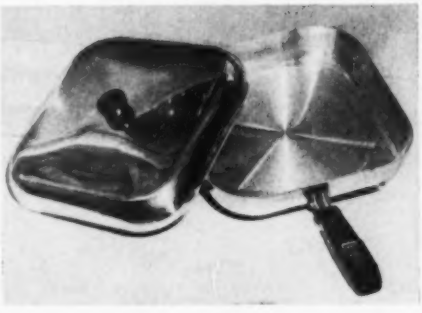
Stainless steel body; mirror finish; solid copper top; dark brown phenolic handle (GE). Rolled bead-joint between shells.

52 Electric clippers
Chicago Electric Div., Silex Company
Jack Meeker, staff designer

Pressed sheet steel motor housing; tubular steel handle; molded rubber wheels; green baked enamel, black and yellow trim. Head can be rotated 360°.

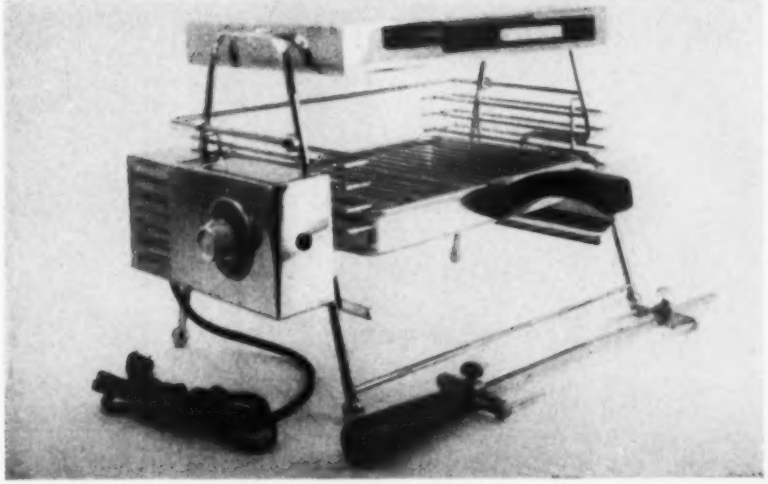
63 Portable electric fan
Cory Corporation, Chicago
Lew Seil, Fresh'nd Aire Division

Stamped and rolled case; welded steel wire grill; stamped steel handle; stamped and riveted aluminum blade, rust-resistant. Matching assembly for window installation.



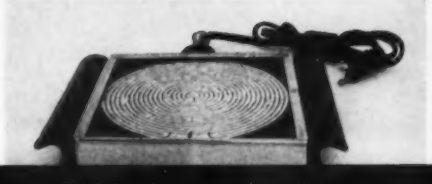
64 Automatic frypan
Sunbeam Corporation, Chicago
Robert O. Ernest, staff designer; Ivar Jepson, Vice President, Research

Polished die-cast aluminum pan (Alcoa, by Dohler-Jarvis and Sun Ray); black bakelite feet, handle with with imbedded heating element (Chicago Molded).



65 Solarmatic chef
Electriglas Corporation, Bergenfield, New Jersey

Radiant element formulated of asbestos board, nickel, chrome steel, vitreous silica; stainless steel frame and spit; cold rolled steel body, chrome plated; anodized aluminum drip tray; walnut handles.



66 Electric Hotrayette
Salton Manufacturing Co., New York
Lewis Salton, designer

Radiant glass; aluminum frame; black Bakelite handles.

REDEFINITIONS POINT UP CHANGING SOCIAL PATTERNS

At the core of any serious social trend are new definitions of manners and customs, and reflections of today's changing values can be seen in the products on every page of this issue; a few of the prominent and recent redefinitions are shown here.

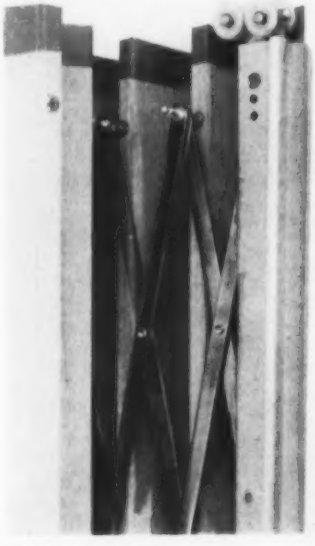
A pot that also serves has been known at cook-outs for some time. Ekco has brought indoors the cook-and-serve skillet (70), and made it smooth and gleaming enough for fairly fancy occasions. The coffee maker that is a server is also becoming acceptable today, but none seems quite as compatible with a formal table setting as the Lietzkes' porcelain flask (67), which comes with a porcelain funnel to hold the disposable paper filter. Dr. Schlumbohm, author of the first coffee filter flask, has just introduced a multi-purpose glass (69) made of Pyrex which may simplify the housewife's inventory problem by serving as a demi-tasse, cocktail glass, brandy snifter, little-red-wine goblet, and twiddling piece (it's comfortable to hold). It is unusual in shape, for a glass, but newer still in its idea that the shape of a glass need not reflect a specific purpose.

The Hufcor folding door (68) is a redefinition resulting from new architectural concepts. Folding doors have the practical advantage of not swinging; esthetically they are often used as one plane in a room, a retracting wall which dispenses with the need for a door altogether. Teague's re-engineered version is unusually neat and un-doorlike, and has snap-on covers that permit the color scheme to be changed.

Disposables are a symptom of a general trend toward waste as a positive way of life. The essence of waste in our economy is the ability to conserve by it, as long as the thing thrown away (material) is less valued than the thing conserved (human energy and time). Some of these examples are notable for their ingenuity and economy (71, 72, 73, 74) and some for the refinement of appearance that can be found even in disposables like picnic plates (76), and bottles (75).

67 Coffee flask
Luke and Rolland Lietzke, Mogadore, Ohio, designers and producers.

White porcelain flask and filter-holder; in set with black cream and sugar flasks, white lining.



68 Hufcor folding door
Hough Shade Corp., Janesville, Wis.
Walter Dorwin Teague Associates, design and engineering.

Five-ply vinyl-faced laminated fabric covers; vertical pantograph construction.

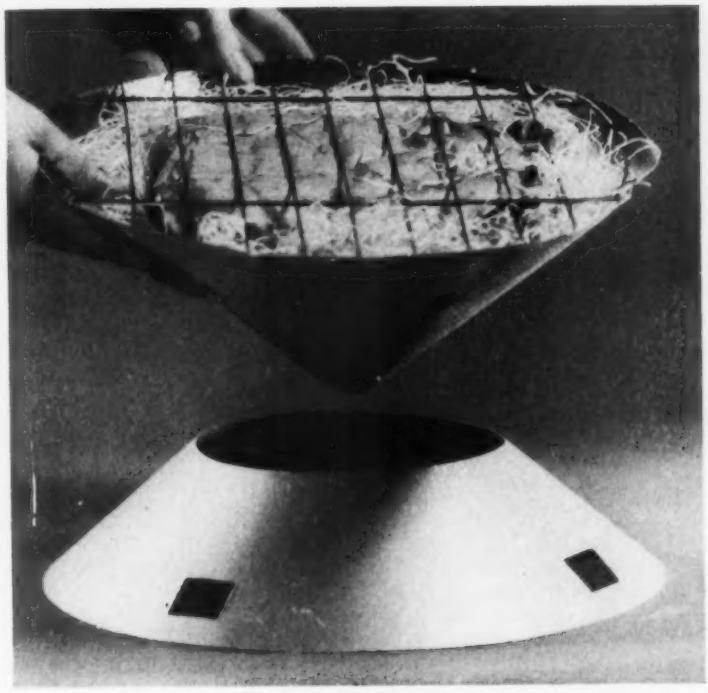
69 Chemex cocktail glass
Chemex Corporation, New York
Peter Schlumbohm, designer

Handblown Pyrex glass (Corning Glass Works.)

70 Chef's skillet
Ekco Products Company, Chicago
Leslie Seibert, Jr., designer

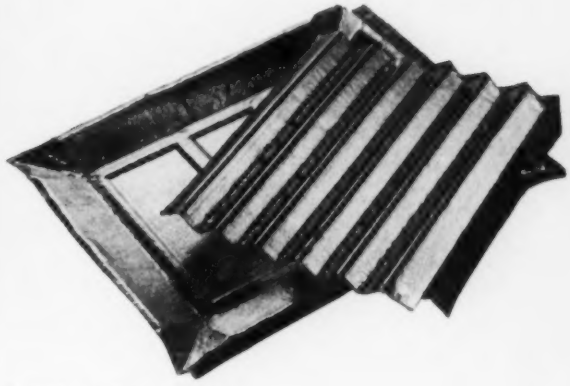
Drawn stainless steel body, mirror-finished outside, sunray-finished interior; heavy copper bottom.

DISPOSABLES ARE AN ACUTE SYMPTOM OF A GENERAL TREND



72 PDQ disposable barbecue
Winro, Inc., Detroit

Aluminum-foil-covered asbestos cone and base (also a carrying case); excelsior, charcoal, light metal grill included.



74 Broil-eze disposable grill
Lewis and Conger, New York

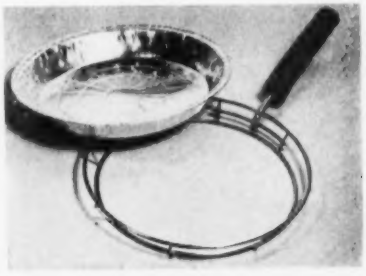
Aluminum foil and asbestos. Production discontinued.

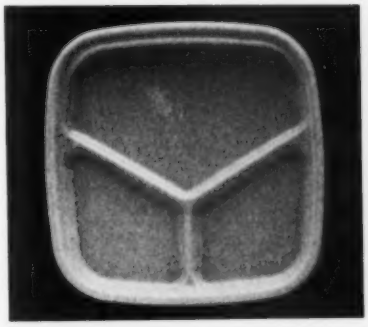
71 Mix-eez disposable mixing cups
Regush Products Company, New York
D. D. Regush, designer; Ken Saco, package.

Vacuum-formed high-impact Styron cups (Dow), opaque white matte finish. Offered in kit with cups and anodized aluminum brush tray.

73 Disposa-Pan
Disposa-Ware Corporation, Philadelphia

Aluminum sheet pans; aluminum holder; Bakelite handle.





75 Accordion squeeze bottle
Imco Container Corporation, Kansas City

Blow-molded polyethylene.

76 Picnic plates
Federal Tool Corporation, Chicago
Leslie Barr, product designer.

Vacuum-formed high-impact Styron (Dow); red, yellow and green.

TOYS: NEW INCENTIVES FOR COLORING OR BUILDING

Toys are always a trend in themselves, and not always a trend to be greeted warmly. These two toys were selected from the vast market because of their unusual combination of virtues: they have been designed to demand the active participation of the child, which means that the child designs them to a large degree; they give the child something imaginative to do with the fruits of his labors; and they are inherently attractive both before and after.

Charles Eames' cheerful coloring toy (78) is based on the belief that coloring books are a waste of good child talent. It provides, along with 16 crayons and sturdy die-cut cards, a reason for coloring them, after the young artist has finished his work, the cards may be punched out and set up as barns or castles, or joined with fasteners to make wiggling puppets and moving menageries.

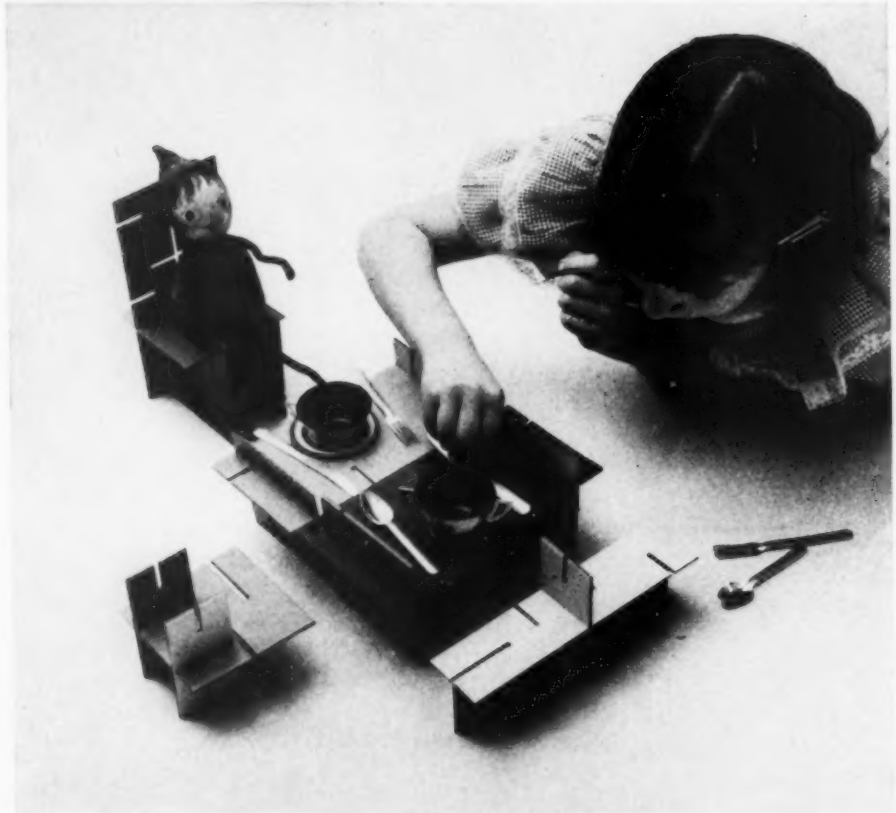
The Builder, one of A. F. Arnold's series of creative toys, adds texture and flexibility to slotted building cards. Made in either colored rubber or fiberboard, the units come in several sizes and shapes and fit together in an unlimited range of three-dimensional structures and objects. All Arnold toys are packaged in a way that explains the toy to the parent, and include complete instructions "To Parents Only."

77 The Builder toy
Chaspec Manufacturing Co., Greenwich, Conn.
Arnold Arnold, designer

Die-cut flexible rubber or fiberboard units.

78 The Coloring Toy
Tigrett Enterprises, Chicago
Charles Eames, designer

Color sheets, box wrap (Brandau-Craig-Dickerson); brass fasteners (American Brass); set-up box (Newth-Morris); crayons (American Crayon Company).

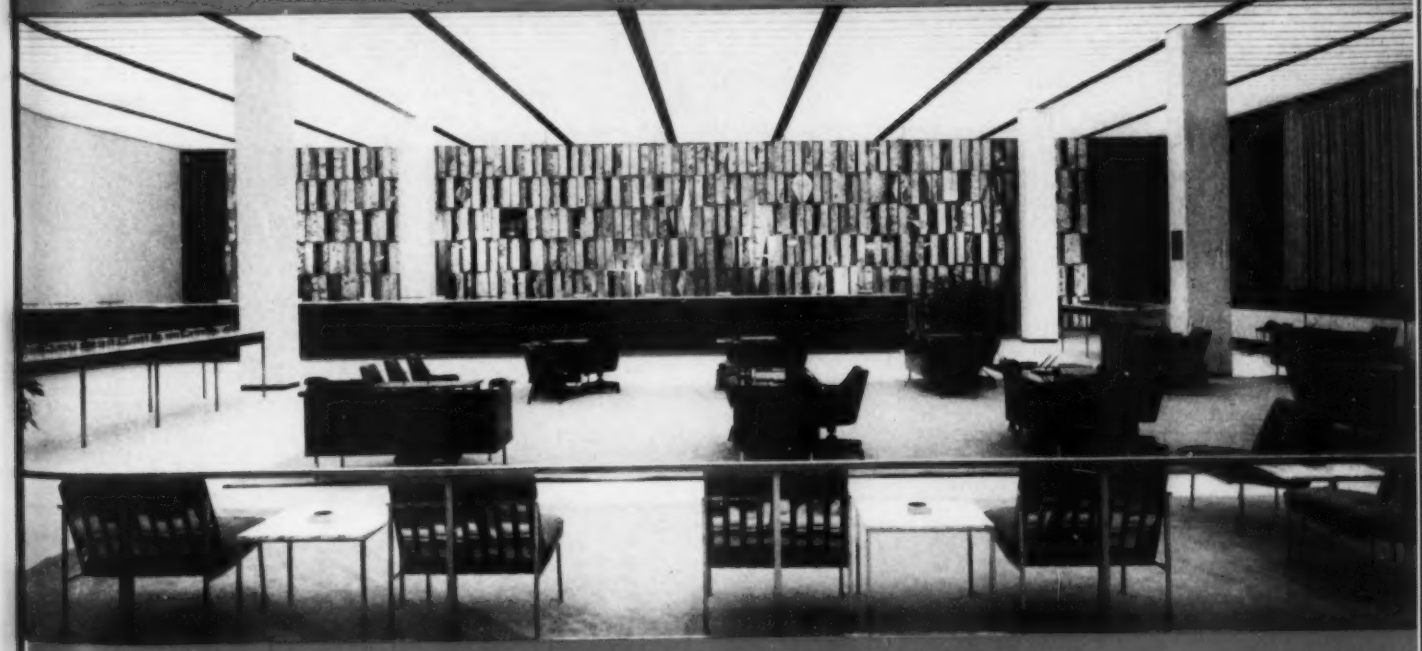


THAT ELUSIVE THING CALLED STYLE,

in design, may be described as the difference between good and excellent, the difference between saying a thing clearly and saying it beautifully. Style should not be confused with stylishness, for it is not an imitative or fleeting thing.

79 Offices of the Manufacturers Trust, New York
Skidmore, Owings and Merrill, architects
Furnishings selected by Eleanor LeMaire

Lounge chairs by William Armbruster (Edgewood Furniture); sculptured metal screen by Harry Bertoia.



FURNITURE IS CONSISTENT IN DESIGN, VARIED IN STYLE

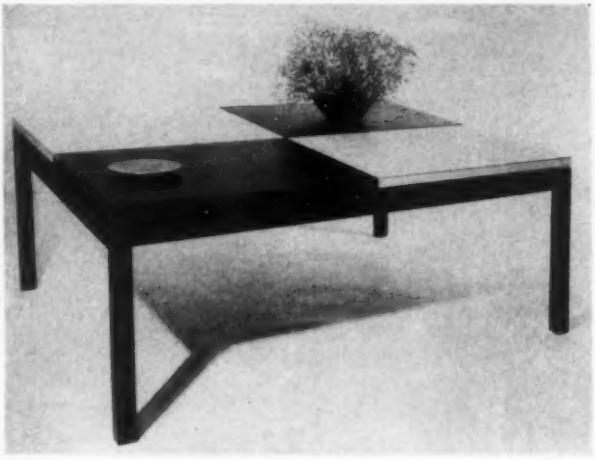
For a number of complex reasons, furniture—the best of it, that is—is largely dedicated to the solution of pure design problems and rarely to those of salesmanship and prestige. Because it is a relatively low-risk product area, furniture is fairer game for special design and taste markets, which is one of the reasons its *style* — the characteristic modes of expression on which excellence depends—can be more personal, more inherently consistent, and more lasting than in many other product areas.

The examples on this spread tell us one thing about the field in which style is most commonly achieved, and that is that there is no formula for achieving it. The elegance that comes with style in furniture has more to do with fitness than with richness of the sort found in hard goods, and the particular fitness is a matter of the structure, materials, joints and proportions of the individual object. The structural concept of Florence Knoll's chair and table (80, 85) is made clear and decorative by the use of contrasting materials, and by the expression of spaces between steel bars to eliminate material where it is not needed. Other designers using sturdier materials like wood, by careful and decorative joining, express solidity that is both apt and interesting (81, 82, 83).

To some extent the design basis found in these architecture-like problems is spilling over into other product areas, representing a closing of the gap. Style is certainly evident in the very unified, consistent design of Frigidaire's kitchen (39) and in the fitness of the round barbecue (32) and Parker pencil (18), where joining and proportions are the major ingredients of an elegant expression once found only in furniture.

80 Coffee table
Knoll Associates, New York
Florence Knoll, designer

Steel rivet-construction base, brushed chrome finish; steel brace, black oxide finish; aluminum feet, anodized black; loose plate glass top.

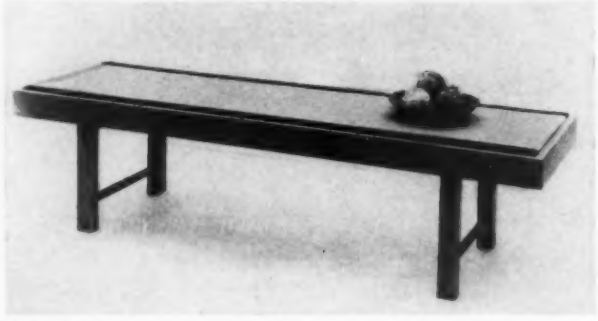


81 Large coffee table
Knoll Associates, New York
Lewis Butler, designer

Solid walnut base, oil finish; Micarta (U. S. Plywood) or Formica (A. Banfield) squares laminated to wood, black and white, expressed joints.

82 Collapsible tea cart
John Stuart Inc., New York
I. Christiansen, designer

Collapsible walnut or mahogany frame, solid brass fittings; molded plywood trays serve as top and bottom shelf, hold frame rigid.



83 Bench
Henry Mittwer, Los Angeles,
designer and producer

Oak frame, natural finish; detachable legs; Japanese tatami covering.

85 Lounge chair
Knoll Associates, Inc., New York
Florence Knoll, designer

Steel bars, brushed chrome finish; steel spacers, black oxide finish; aluminum feet, anodized black; wood platform seat and back, flat steel straps and coil springs, foam-rubber covered; foam rubber cushions.

84 Flexible seating group
Lehigh Furniture Corporation, New York
Bert Tysinger, designer

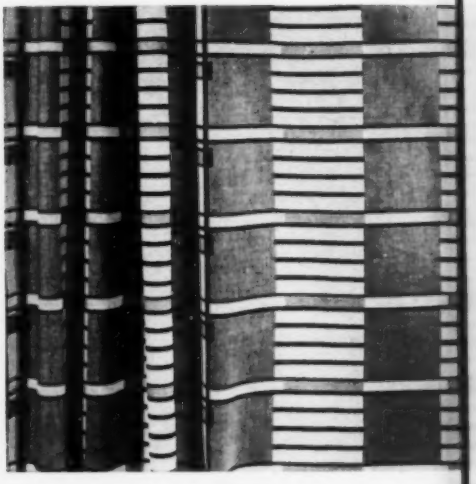
14-gage steel frame, black or stainless finish in 1- to 4-unit sizes; Formica table top (A. Banfield) any color; Lehigh lounge inserts.

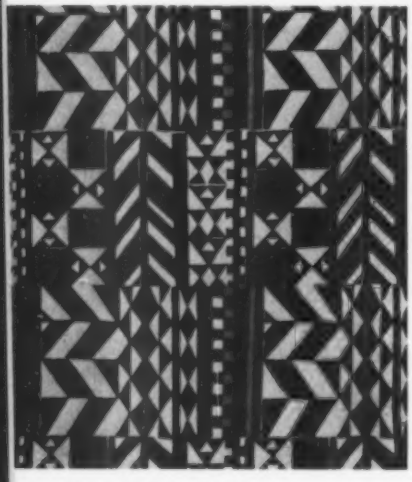
IN FURNISHINGS, SHEER DECORATION TAKES OVER—SUITABLY

The fabrics, rugs, and accessories of today's house depart from the strict interpretations of architectural fitness that apply to furniture and enter the realm of sheer decoration. Fitness, in this area, mainly concerns the fitness of the decoration to its architectural environment, and in seeking a suitable decorative idiom in the past decade, designers have often preferred texture and color to pattern because they did more to emphasize the pure planes of a room. Here, however, we see a group of patterned fabrics (86, 87, 88, 89, 90), interestingly enough all designed by architects, which are geometric or at least non-objective in concept, yet unusually rich and interesting in effect. Miriam Leefe's carpet (91) offers natural richness to a geometric room by its random distribution of color, like splotches of sunlight. The designer of Lightolier's lamps (92, 93), venturing into a realm that has been beset by reckless shapiness, faced the problem of designing an object that is inevitably decorative with restraint, care, and ingenuity enough to achieve better lighting.

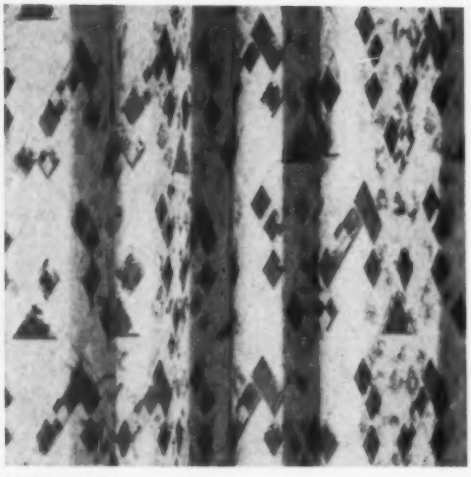
87 Design 101
F. Schumacher, New York
Frank Lloyd Wright, designer
Six color combinations, on linen.

89 Facade
L. Anton Maix, New York
Joseph Baker, designer
Black lines, mustard and turquoise pattern, on white linen.

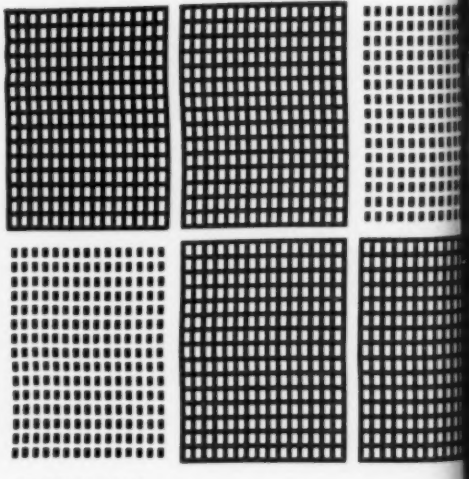




86 Japanese Paper fabric
L. Anton Maix, New York
Serge Chermayeff, designer
Black and gold print on white linen



88 Design 705
F. Schumacher, New York
Frank Lloyd Wright, designer
Dark background colors with print in lighter matching shades, on sheer Fortisan (Celanese Corporation.)



90 Design 14/14
Wolfin Associates, New York
Alvar Aalto, designer
Any material or color, to order.

92 Wall lamp
Lightolier, Inc., New York
Gerald Thurston, designer

Molded phenolic shades, cooling slots and attachment points for metal louver integrally molded; drawn and bent brass tube swing arm; die-cast zinc alloy swivels. Red, white, gun-metal enamelled shades; white interior with black mouth rim.

93 Desk and floor lamps
Lightolier, Inc., New York
Gerald Thurston, designer

Drawn and bent brass shaft, polished; stamped steel base, spun aluminum shade, ebony baked enamel; injection-molded polystyrene louvered diffuser, to eliminate direct and indirect glare.

91 Ghiordes-knotted wool rug
Miriam Leefe, Sausalito, California, designer and producer

Custom-designed to meet specific traffic requirements; hand-loomed.

DECORATIVE OBJECTS MAKE THE MOST OF FORM

Ceramics, china and table ware, like the fabrics on the previous spread, present old and familiar problems which ask to be solved afresh in terms of their new ornamental value. The Sitterle pitchers (95) are pure studies in form as decoration; a subtle succession of gentle curves work together to create an effect that is suave enough to defy applied ornament. The earthenware bowl (94) has another kind of grace that comes from the frank solidity of the material, and the china cup (96) achieves an unexpected sense of scale by the addition of three little feet under a simple bowl.

The objects on this page do not wholely summarize the trend in ornamental objects; there has been a noticeable move this year to surface decoration on pure and shapely dinnerware that once was able to stand on its own merits. The urge to decorate plain surfaces is certainly as old as art itself, and is valid as long as it is artfully done. Since none of the available decorative designs exemplified an outstanding contribution to, or sympathy with, their underlying forms, they are not represented here.

95 Pitchers
Sitterle Ceramics, Croton Falls, N. Y.
Harold and Trudi Sitterle, designers

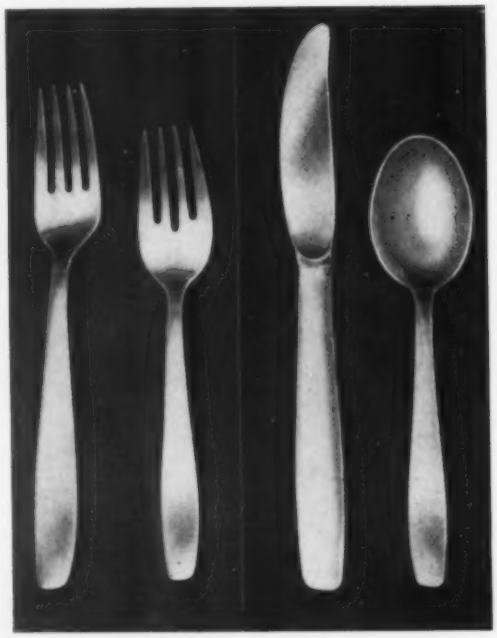
Pure white, high temperature porcelain; handle continuous with pitcher, permitting thinness and strength.

96 "Free Form" dinnerware cup
Salem China Company, Salem, Ohio
Viktor Schreckengost, designer

Mass-produced china, off-white, speckled semi-matte glaze; three feet fit circular track in saucer.

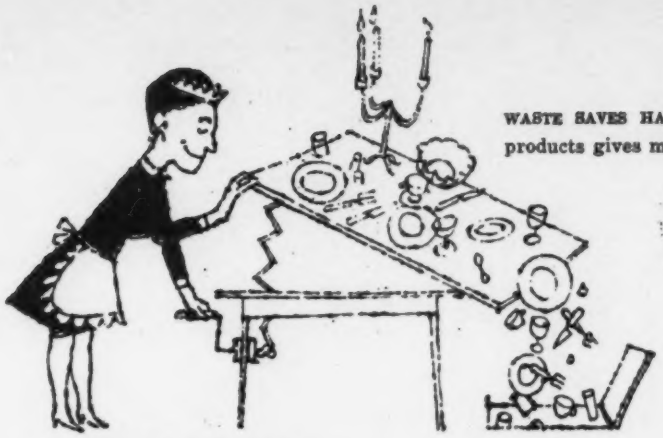
94 Footed bowl
Lieberman Pottery, Philadelphia
Jack H. Lieberman, designer

Mottled turquoise glaze, produced at low temperatures by application of black engobe beneath oxide-heavy glazes.



97 Princess Irene tableware
Ekco Products Company, Chicago
George Nilsson, designer

Stainless steel (Gero Fabriek, Holland), satin finish.

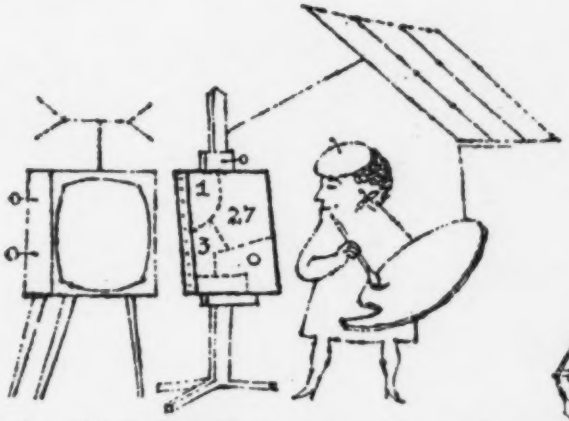


WASTE SAVES HASTE: The wholehearted disposal of disposable products gives more leisure to people in every walk of life.

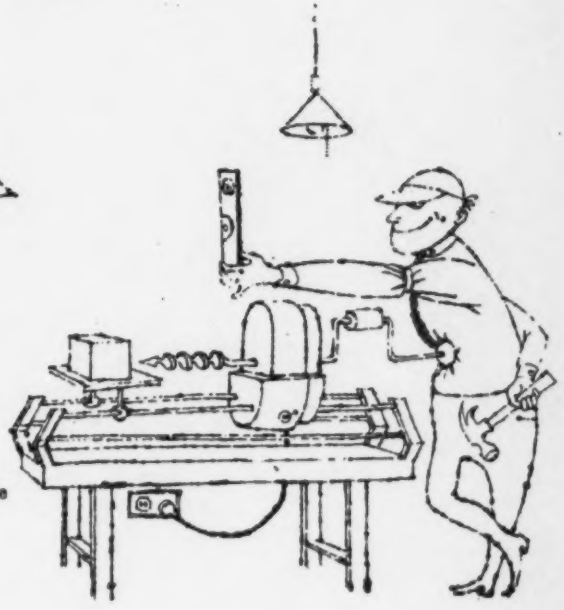
speaking of TRENDS . . .

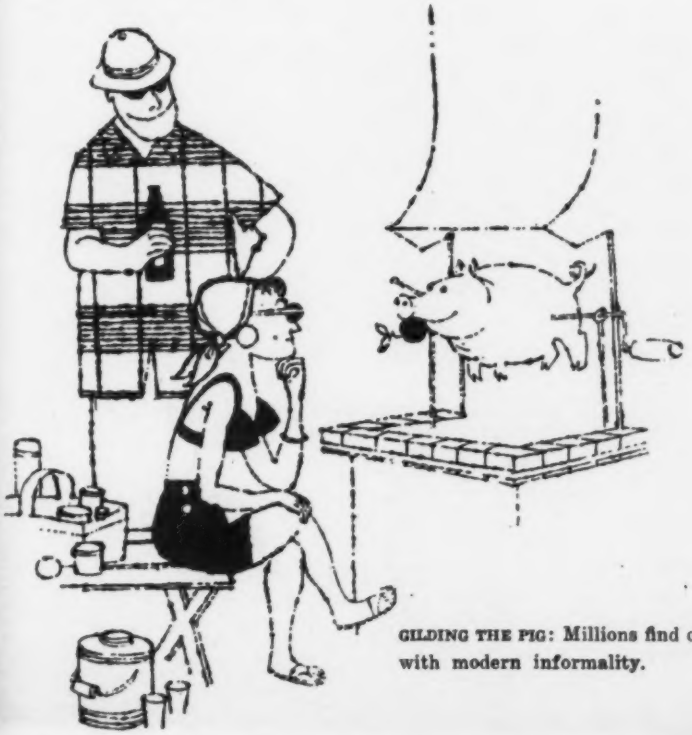
a few loose ends from our survey of social upheaval

drawings by Falk

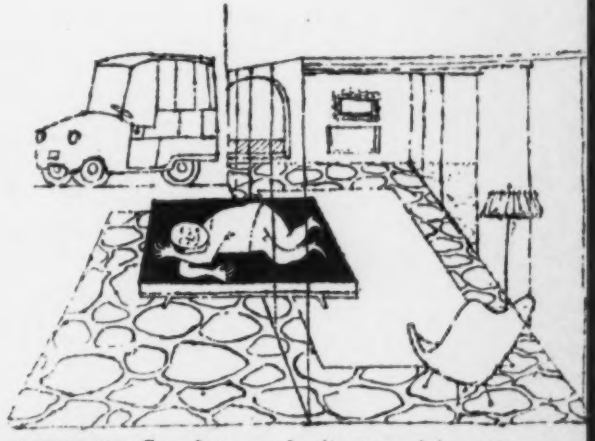


ARTS BOOM: attic-to-cellar survey reveals minor Renaissance sparked by increased leisure.





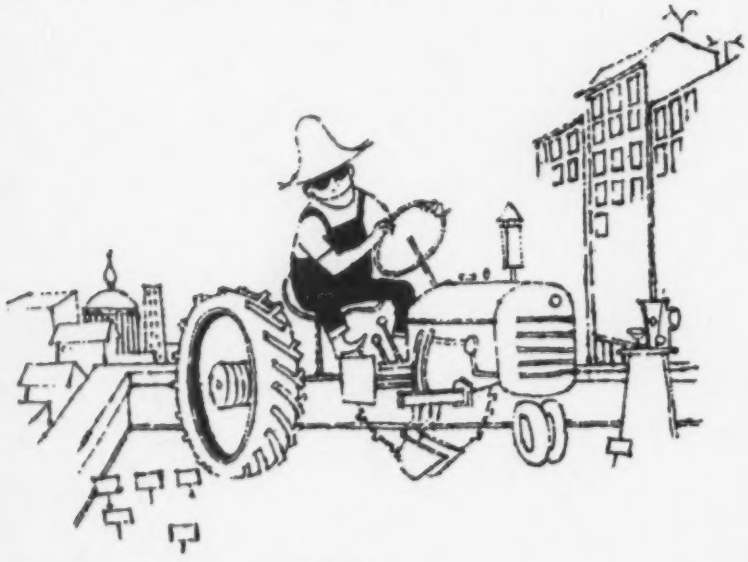
GILDING THE PIG: Millions find old-time elegance not incompatible with modern informality.



REDEFINITIONS: Care-free ex-urbanites are wiping out traditional lines between indoors and outdoors.

95% OF AMERICANS polled unable to define elegance.

BEHAVIOR PATTERNS suggest 85% of people with television now take it for granted.



GARDEN TOOLS soar on sales to consumer.

60% OF PAINT AND PAPER SALES now direct-to-consumer; 40% of home accidents involve step ladders.

27,000,000 AMERICANS PLAY MUSICAL INSTRUMENTS in 1955; 55% have pets. Correlation studies inconclusive.

ALL KINDS OF EQUIPMENT DESIGN

moved from drawing boards to assembly lines during the past year, ranging from functionally packaged turbines and elaborately styled trains to simple specimens like the one below, refined above and beyond the call of duty.

98 Auto-Zoom TV lens
Perkin-Elmer Corporation, Norwalk, Conn.
Eliot Noyes, consultant designer

Housing of spun aluminum; three motors adjust aperture setting and various lenses, providing the "Zoom" action automatically.

EQUIPMENT OF ALL KINDS MAY BE SUAVELY ORGANIZED

Equipment design is not an easy evolution. Better appearance and smoother operation do not inevitably go hand in hand, as the engineers increase an item's efficiency. Intelligent design, by a conscious willing, must be brought to bear.

G.E.'s turbine-generator (99) and the television camera (101) are two dissimilar products related, design-wise, by a pleasing organization and differentiation of parts. The turbine housing follows strictly its functional organization, while the camera, in a more competitive situation, adopts a distinctive eyeball shape which only suggests its function. Raytheon's new electrocardiograph (100) is an example of unitized construction: each of the four basic sections of the machine is compartmentalized and may be quickly removed for servicing. Another medical item (102), profiting from an admirable refinement of detail, is finished in two shades of tan with a sheet metal case and fiber glass face. ACF's "Talgo" (103), already ordered by Rock Island and New Haven, is a sleek prototype of the low-cost lightweight train of the future. Jon Hauser's tractor shovel (104) suggests its competence with an air of husky, disciplined virility.

99 Steam turbine-generator
General Electric Company, Schenectady
C. F. Schaus, designer

Welded steel forgings and shell casings (U. S. Steel); machined steel weldments and main steam piping (Babcock & Wilcox); special forgings of austenitic steel. 125,000 KW, 3600 RPM unit.

100 Portable electrocardiograph
Raytheon Manufacturing Co., Waltham, Mass.

Four compartmentalized basic units: detachable paper drive cartridge, amplifier, patient switch box for leads, power pack; hinged panels on side and back; detachable top; fine-grain, rust-brown leather case.

101 Closed-circuit TV camera
General Precision Laboratory Div., General Precision Equipment Corp., Pleasantville, N. Y.
Lippincott & Margulies, consultant designers

Spun-aluminum casing; two-piece chassis; polished comb surrounding lens.

102 Flame photometer
Perkin-Elmer Corporation, Norwalk, Conn.
Eliot Noyes, consultant designer

Sheet-metal case for the main body; instrument panel face of reinforced fiber glass.

103 "Talgo" lightweight train
ACF Industries, Inc., New York

One-half the weight of conventional equipment, while seating 84-96 per three-unit coach; higher strength-weight ratio through tube-like, stressed-skin structure; cars are reversible and interchangeable.

104 Payloader tractor shovel
Frank G. Hough Co., Libertyville, Ill.
Jon W. Hauser, consultant designer

Steel panels; fabrication by welding; buff finish. Designed for minimum forming of panels.

SOME DESIGNS GIVE UNEXPECTED REFINEMENT TO UTILITY ITEMS

Some traditional devices, and some new-fangled ones, on this and the following page show that equipment design, like other sorts, is a problem in defining functions and refining forms, which can sometimes achieve a remarkable elegance. The panic door hardware (105) simplifies the mechanics of an old architectural detail, anodized aluminum providing a gossamer sheen not usually expected of such a utilitarian item. Henry Dreyfuss' squared and notched water heater thermostat (106) is readily adjustable and attractive, proving that appearance can be a factor in designing the least pretentious of household gages. The spout of Haws' monolithic drinking fountain (107) is considerately located outside the hood. This non-committal rectilinear form in stainless steel can fit into different sorts of architectural interiors.

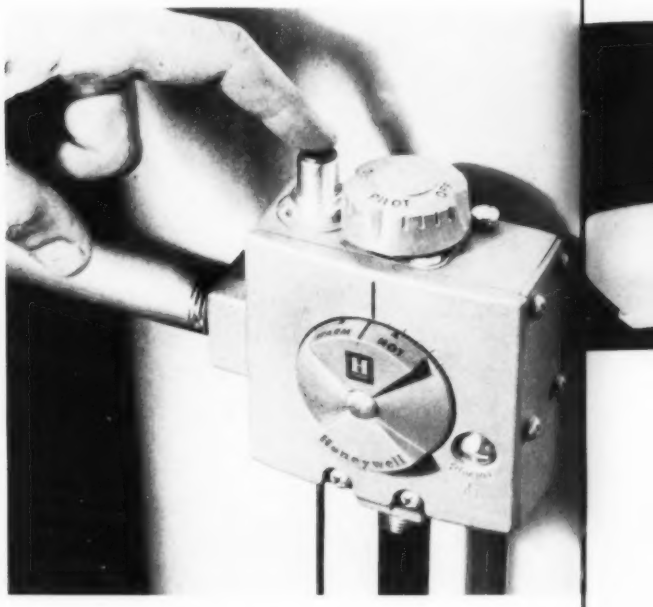
Three infra-red lamps deftly housed in steel make a marvelously bug-eyed ceiling heater for bathrooms or wherever (108). Sightron (109), one of Lightolier's most recent innovations, is based on a module two feet long, the length of the injection-molded polystyrene diffuser that forms the enclosure. The fixtures may be used individually, or in parallel, or placed end-to-end to form unbroken lines of light for illuminating corridors, etc. Another new lighting design is Radix (110), a spotlight unit fabricated from steel for completely flush mounting in plaster. Beam adjustment permits 45° angulation from vertical, with rotation within a complete circle. A revolving aperture plate adjusts to the beam direction. Russel Wright demonstrates a keen sense of students' demands on construction and utility throughout his recent line of classroom equipment for Shwayder Brothers, a sampling of which is the activity table and chairs (111).

105 Panic hardware
The Kawneer Company, Niles, Mich.
Robert R. Fink, designer

Forged aluminum lever arm (Alcoa); extruded aluminum push bar (Alcoa); housing of shell-cast aluminum (Howard Foundry).

106 Water heater thermostat
Minneapolis-Honeywell Regulator Co., Minneapolis
Henry Dreyfuss, consultant designer

Temperature dial and gas cock knob designed for both front and top visibility; finished in gray, with red lettering.



107 Drinking fountain
Haws Drinking Faucet Co., Berkeley, Cal.
Channing W. Gilson, consultant designer with Gordon MacKay

Brushed stainless-steel body; die-cast brass hardware, bright chrome finish. Dimensions: 24" x 20".

108 Ceiling heater
Pryne & Company, Pomona, Cal.
Harold H. Ford, consultant designer

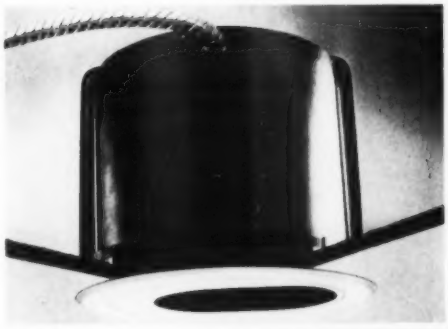
Drawn steel front (Bethlehem), chrome-plated or painted egg-shell white; steel housing and mounting frame (Bethlehem), spot welded; lamp receptacles (Deal Electric).

109 Modular Sightron
Lightolier, Inc., Jersey City
Noel Florence, designer

Injection-molded polystyrene diffuser; steel chassis, in white baked enamel.

110 Radix focalight
Kurt Versen Company, Englewood, N. J.
Kurt Versen, designer

Fabricated from steel sheet; visible parts finished in white baked enamel, inside parts in baked black matte.



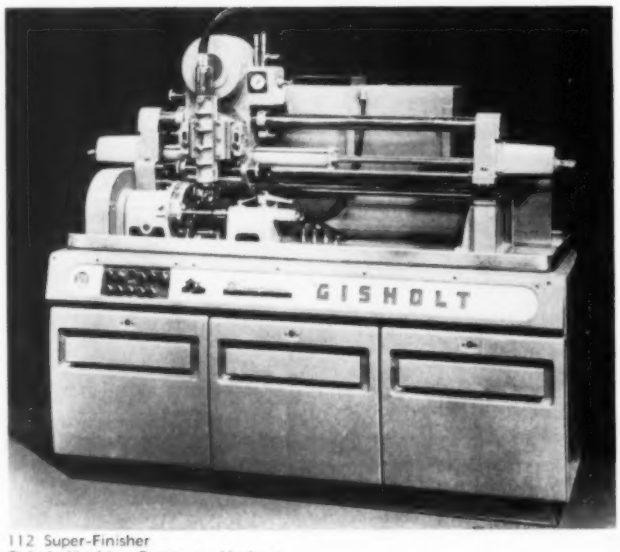
111 Classroom activity table and chairs
Shwayder Brothers, Inc., Detroit
Russel Wright, consultant designer

Panelyte (plastic-surfaced plywood) top (St. Regis Paper Co.) with extruded plastic molding; K-D welded steel tube frame; drawn steel book boxes; frame available in four colors, book boxes in gray. Chairs: welded steel tube frame; 3/8" plywood seat; back panel of molded polyester reinforced with fiber glass.

PLANT EQUIPMENT CAN BE STYLISH IN ITS BARE ESSENTIALS;

Two more localized areas of industrial design are displayed across this spread: in-plant equipment items and control panels. The former are objects unique enough in their function and construction to require little styling; the latter, similar in function, can more readily be shaped and colored to individual tastes. Heavy machines like the Super-Finisher (112) and the Auto-Prep (113) (for trimming, straightening and loading into magazines such components as resistors and capacitors) utilize their complex mechanisms as primary appearance features, with cover-up reduced to a minimum. The lift truck (114) and the in-plant fire truck (115) followed a like course in their design: components were progressively simplified, integrated and expressed so that the very structures themselves provide the forms.

Keyboards and control panels present a special problem: they must be clearly understood and easily operated — and in most cases they are the major external appearance features of the intricate mechanisms. Underwood and Olivetti have organized their simpler keyboards (116, 117) by color and placement, while Century Lighting solved a multiple-key problem by incorporating an organ keyboard into their pre-set switching system (118). Two highly complex panels (119, 120) achieve coherence in pleasing rectangles of lights and switches, and, in the case of the IBM console, by distinctive modelling of keyboard and switch areas.

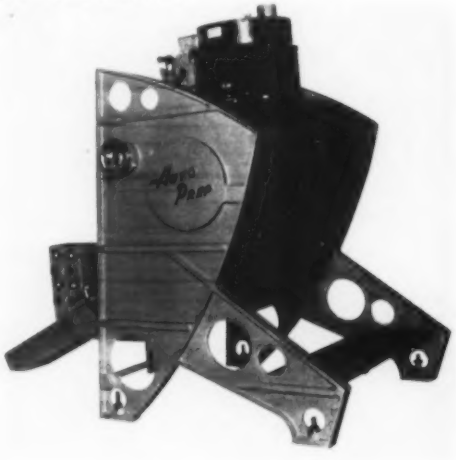


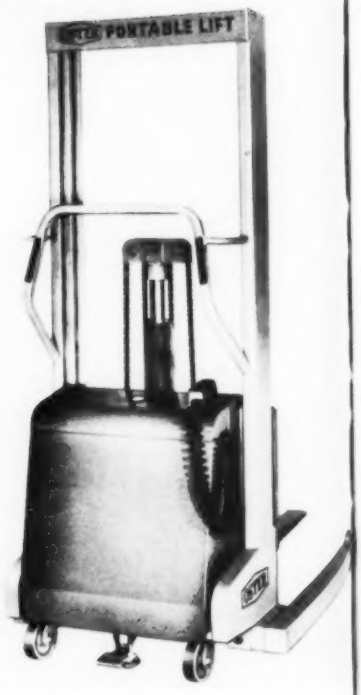
112 Super-Finisher
Gisholt Machine Company, Madison
J. M. Little, consultant designer

Molded polyester fiber glass panels across the front of the base permit the machine to be built in multiple lengths.

113 Auto-Prep
General Mills, Inc., Minneapolis
J. M. Winn, W. A. Manson, designers

One-pattern, one-way draft casting utilizing pad and rib reinforcing.





114 Lift truck
Oster Manufacturing Co., Cleveland
Onnie Mankki, consultant designer

Frame members, fork, cabinet—steel formed on press and arc-welded, organically finished yellow and blue; hydraulic pump (Barnes Manufacturing Co.); control switch (Allen Bradley); cylinder of steel tubing.

115 In-plant fire truck
Ansul Chemical Co., Marinette, Wis.
St. Clair Industries, Detroit, designers and manufacturers

Welded, red-enameled chassis (Kalamazoo Manufacturing Co.); 350 lb. dry chemical extinguisher (Ansul); water fog system, including tank, pump and power take-off (St. Clair); welded steel accessory cabinet, hose bed (St. Clair); hose reel (Clifford B. Hannay & Son, Inc.).

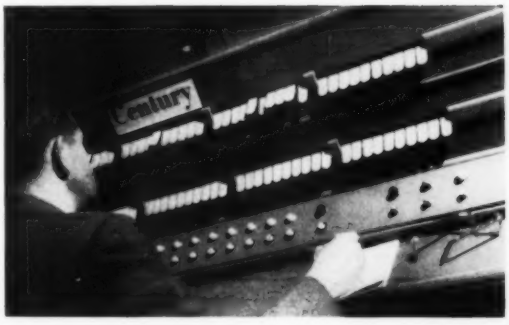
CONTROLS MUST BE TAILORED

116 Electrosumma duplex
Olivetti Corporation of America, New York
Marcello Nizzoli, designer

Two-piece beige housing; blue, black and white keys on an off-white keyplate.

117 Elecom 50
Underwood Corporation, New York

White plastic keys on a black keyplate.

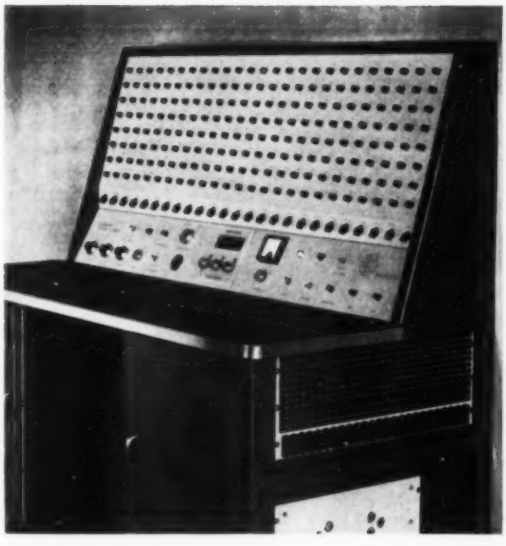


118 C-lector
Century Lighting, Inc., New York
Eugene Kilgen, Fred M. Wolff, designers

Gray-enameled wood key console; ivory keys; steel light panel and base.

119 702 console
International Business Machines Corp., New York
Sundberg-Ferar, consultant designers

Signal light panel of etched stainless steel filled with charcoal-gray enamel; console covered with gray wrinkle-enameled steel; Formica top.



120 200 channel-recorder console
Beckman Instruments, Inc., Fullerton, Cal.
William O. Fritz, design engineer.

Fabricated from sheet steel and square tubing by fusion welding; finished in dark gray hammertone enamel with light gray panels. Console electrical circuitry contains 200 potentiometers (Helipot).

What did you buy this year and why? ID depth–interviews 5 readers in the role of

5 CONSUMERS

Though the field of industrial design tends to ponder the "consumer" as a mystical and statistical entity, designers themselves are not exempt from the pleasures and problems of consuming. We decided to approach five ID readers, all of whom are concerned with creating or planning or administrating design, and ask them about their consumer preferences this year. Mirroring an interesting admixture of personality and profession, each showed a characteristic discrimination in buying: John Robinson has an engineer's systematic approach with a sensitivity to appearance; Robert Seidel looks for quality among manufacturers; Austin Baer has an imaginative eye for utility; Julian Everett weighs practical considerations, and Paul McCobb will not compromise his esthetic standards. Although their tastes are not identical, there are some interesting duplications—the GE refrigerator with revolving shelves, the Whirlpool washer and Artzberg porcelain were among the products reported twice. Obviously wives participated in these purchases too, but each of our subjects is his own critic, and all had serious reasons attached to their selections. As a previously unsampled consumer group, these readers provide some personal and professional reactions to Design 1955.

4 consumers by Hank Parker

De Wald

Julian G. Everett *is a senior partner of Henry Dreyfuss, with whom he has been associated for 20 years, handling such accounts as Crane, Mosler Safe, RCA Victor and Ingraham Clock. He studied architecture at Cornell and worked for York and Sawyer before joining Dreyfuss. He still likes to design small houses and is a past master at what he calls the "architectural tinkering" he has been doing on Mulberry Street, Nantucket.*

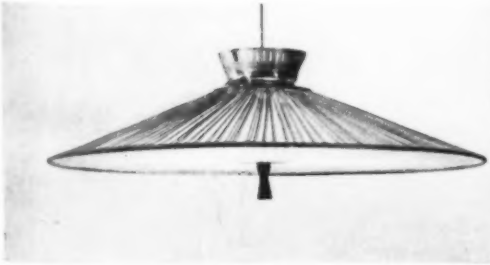
Robert A. Seidel, *Executive Vice President for Consumer Products at Radio Corporation of America, speaks for the client-executive. He hires independent designers, and retains Henry Dreyfuss as RCA's permanent consultant. In retailing he was controller and vice president at W. T. Grant Co. From RCA, he reports without hesitation that "design enters into every level of our operations"—and likewise, into consumer Seidel's considerations.*

Austin Baer *qualifies as an inventor-consumer. His new and unusual design business, Idea Technology, Inc., seeks to tackle problems at the conceptual stage. As an industrial design student of Professor John Arnold at M.I.T., he invented the Eggomobile, and later, the famous finger scalpel for heart surgery. He is shown with a model of the baby's crib—convertible into a youth bed, a worktable, a bookcase, etc.—for which he won a Hess Brothers "Versatility in Design" award this November.*

Paul McCobb *is an independent designer of independent convictions who opened up his own furniture and fabrics showroom, Directional, in 1950. He has also made his mark in other fields—hi-fi cabinets for Bell & Howell, television and radio for CBS. He would like to design small appliances "which are really suitable for the dining room, not just dressed in a ring of copper, which is like wearing a white tie and sneakers."*

John Robinson, *Engineering Manager of GE's Kitchen Center, heads 26 product design and development engineers in the Major Appliance Division in Louisville, Ky., where he bought a house a few years ago. Working directly with the Appearance Design staff on basic product plans, he coordinates engineering and appearance, and contributes to both.*

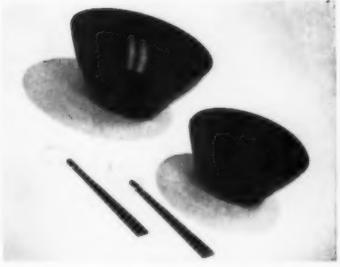
Julian G. Everett reports: "We bought a house in Nantucket two years ago, and most of our purchases this year went toward renovating that piece of depressed merchandise." Shown on the front porch of their new 150-year-old summer home, Julian and Eleanor Everett have learned some practical lessons while they enjoyed improving it. Mr. Everett, who was trained as an architect, took out partitions, sanded off antique newel posts, installed kitchen cabinets and refinished the wide floor boards inside. They invested in some major appliances: a Rheem water heater, 40 gallons ("It's good, makes enough for three baths at a time."); a Bryant gas heater with a thermostat ("Excellent—heats the whole house and is worthy to stand in front of the fireplace."); a new Tappan range ("It's a small stove, but the oven is big at 36" and well-insulated."); a Whirlpool washer and dryer; a Kitchenaid dishwasher ("easy to load"); and a Westinghouse refrigerator with a lefthand door. In furnishings they had to bear in mind the year-round dampness of the island. "We found that foam rubber cushions are ideal—no odor and no mold. We put them on built-in couches along the walls." They have white Artzberg porcelain which doesn't "chip, crack or take on colors from the dishwasher," and a Harmony House kitchen clock—"Not just because our office designed it, but because it *is* readable and works well, and, at Sears Roebuck, a very economical buy, worth spending my own money for it."



"We bought Lightolier's Lytecaster with the raffia shade. You can move it around as you please over the table."

"One of our accounts, Ingraham Clock, makes the Harmony House clock for Sears-Roebuck. We have it in both our houses."

"The GE portable mixmaster that hangs on a hook is handy. We carry it back and forth between Dobbs Ferry and Nantucket."



"We bought a black plastic salad bowl at Bonnier's because it was handsome and also very practical. It is wearing very well, despite hard usage."

photos by Hank Parker

Robert A. Seidel's policy is to buy the "best article made by the best manufacturer." Mr. Seidel is a thorough investigator of the market—and often a critic. Last January, at the 44th Annual Convention of the National Retail Dry Goods Association, he picked out a pair of floor lamps, model "The "Torchiere," which seemed exactly right for his living room. But when he and Mrs. Seidel went shopping for them in New York, they discovered that the manufacturer had not been stocked by his retail outlets; four department stores did not yield a satisfactory lamp. That time they had to settle for a second-choice from a specialty store; and Mr. Seidel wrote an authoritative criticism of his frustrating tour for *Stores*. On all his other purchasing tours this year, Mr. Seidel has been able to find the quality make which is his policy—some in Europe where he and Mrs. Seidel spent September and October: a set of Carl Zeiss 8 x 30 binoculars; and a supply of cutlery from J. A. Henckels because "it's the finest steel in the world." They also bought a new General Electric combination refrigerator and freezer for their cooperative apartment on Sutton Place. His proudest purchase of the year is the Patek Phillipe self-winding watch he is wearing, made in Switzerland. "It may hurt a little when you pay for it, but I always find that you're better off buying the best available. It lasts the longest, and you don't get tired of it. I've owned many watches, but I always wanted one like this. It *looks* as good as it really is."

"The gold inlaid turtle is a curio from Spain. We bought several J. A. Henckels' manicure sets for our friends—men's and women's in leather cases. They are handsome gifts. The steel edges are superb."

"Before we left for Europe we bought Kodak's new Stereo Camera, and it did very well for us. The Patek Philippe watch (left) has an 18-carat gold case, hands and numerals, a 30-jewel movement."

Austin Baer started by telling us, "We had to buy much this year because we just moved into a new house near Briarcliffe, New York." Besides furnishings (Herman Miller, Knoll) and appliances (a Whirlpool washer, a GE refrigerator with revolving shelves), there were two big items to equip: one is the cellar where Baer makes his own models for Idea Technology, Inc.; and the other is Indy Sue, born on June 30. Baer has done some serious thinking about his power tools. A hobby saw would not be flexible enough for his purposes, so he bought something more professional, an Atlas circular saw, which is one of the few industrial saws within the price range of a home craftsman. "Most of the things around the house reflect my influence. I'm not concerned with brands, whether well-known or not, or with decorations tacked-on for sales appeal, like on the Whirlpool washer, but with whether or not the product is properly designed from a utilitarian point of view." Because he casts an investigative eye upon the market, Baer has discovered some efficient and economical articles for his daughter: a table made by Metaloid which he bought for his rotisserie turned out to be more serviceable for the baby's bathtub than one that was supposedly designed for that purpose, and it was also a third the price; and he chose a plain white polyethylene tub made by Beacon Plastics over the regular product. "There's a lot of room for improvement in this juvenile field." He was delighted to find an exception in Tigrett's Play-A-Round pen.

"I bought a Walker-Turner drill press and a Sears-Roebuck jointer. With a Decker-Electric hand drill, I got my workshop equipped in a hurry with the essentials."

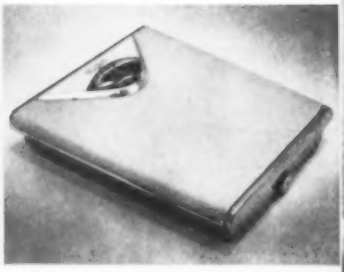
"We selected the Whirlpool washer for engineering reasons—because it has a large capacity and is a high-performance machine with a 2-speed operation."

"Indy Sue (above) is quite happy with her Play-A-Round pen; it is elevated from floor drafts and saves space."

De Wald

John Robinson explained, "We're slowly replacing all our odd bits of living room furniture with things more to our taste, and what we needed in the worst way was a good, comfortable chair. Before shopping, we defined the problem: a chair should be practical and durable, but what kind of construction? We wanted a modern chair, and an exposed frame seemed to express lightness and openness best. What material? We considered metal, but it seemed to be a fad; wood was more to our liking, and we settled on walnut, which harmonizes with practically anything." Armed with this program, the Robinsons visited 8 local stores before finding a chair by Selig with an imported Danish frame that filled the bill. Robinson admits that some of his purchases are made for the pleasure of appearance—the Borg scale, below—and some for pure practicality: the Marlboro package reversed the family's smoking habits. Now in the throes of some future purchase planning, the Robinsons are considering a lamp ("The counter-balanced Lightolier is handsome and handy") and hi fi ("It will probably save money to buy components and do the cabinet work myself"). The economies of do-it carpentry, he admits, may be offset if he treats himself to a long-awaited ShopSmith, as a booster to his Sears hand power saw and new Craftsman vibrator sander.

"Our chair has loose cushions, which are by far the most practical—and a bonus we didn't even think of, very comfortable rubber springs."



"I bought the Borg scale because I liked the way it looks, and also like the fact that the platform cover is not black."

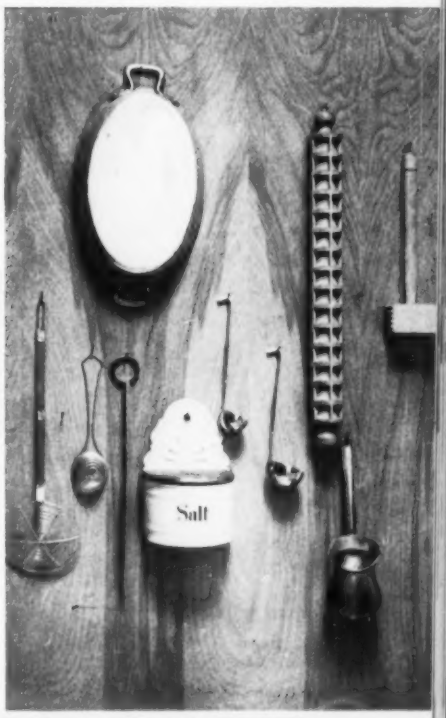
"Mechanical toys are usually impossible for small kids to wind; we bought this kitten that winds by its tail for our 3-year-old because she can do it herself."

"We don't care about filters, but this crushproof box won both of us over permanently."

Hank Parker

Paul McCobb said: "Our biggest investment this year was in photographic equipment. We went all out—bought a Leica as well as movie equipment, a Bolex and a zoom lens which was a terrific bargain in Paris." He and his wife, Molly, also a designer, are shown with their new RCA 400 projector ("I saw it and said that's for me.") in their spacious Manhattan apartment. They have a way of collecting beautiful objects from odd places—for utility as well as for ornament. The contemporary Italian corkscrew with the arms that swing out is a favorite, and, strictly as *objets d'art*, so are a French *pot au chocolate* in white porcelain and an old opium jar from an apothecary shop. Countries, centuries are mixed on their well-appointed shelves. "We do *not* collect antiques because they are old or for their period, but because of the interest they have within them, because of their design value—scale, proportion and form." They apply the same esthetic standards to gadgets, tools and appliances. They bought Ancien Maison cutlery (Ekco) and the white Cory knife-sharpener, but they have a six-year-old Hallicrafter radio "that is better-looking than any of the portables put out today. There is too much emphasis on surface gadgets rather than purity of design." McCobb does without things until he finds a satisfactory design (he finally bought a scale when Loewy's Borg came out). "I'm stubborn about my ideas. I desperately need a clock radio, but I will not buy what's on the market now."

"We probably have a dozen countries represented on the table when it's finally set—Nils silver, or Swedish and Danish stainless, Artzberg porcelain as well as white Limoges. The two shorter vases on the left are Danish, the tall one is by McCobb. The French pottery for chocolate mousse stands on a tray. The brass coffee pot is Italian, and who knows where the opium jar came from."



photographs taken at Macy's by Hank Parker

Best sellers in
Macy's

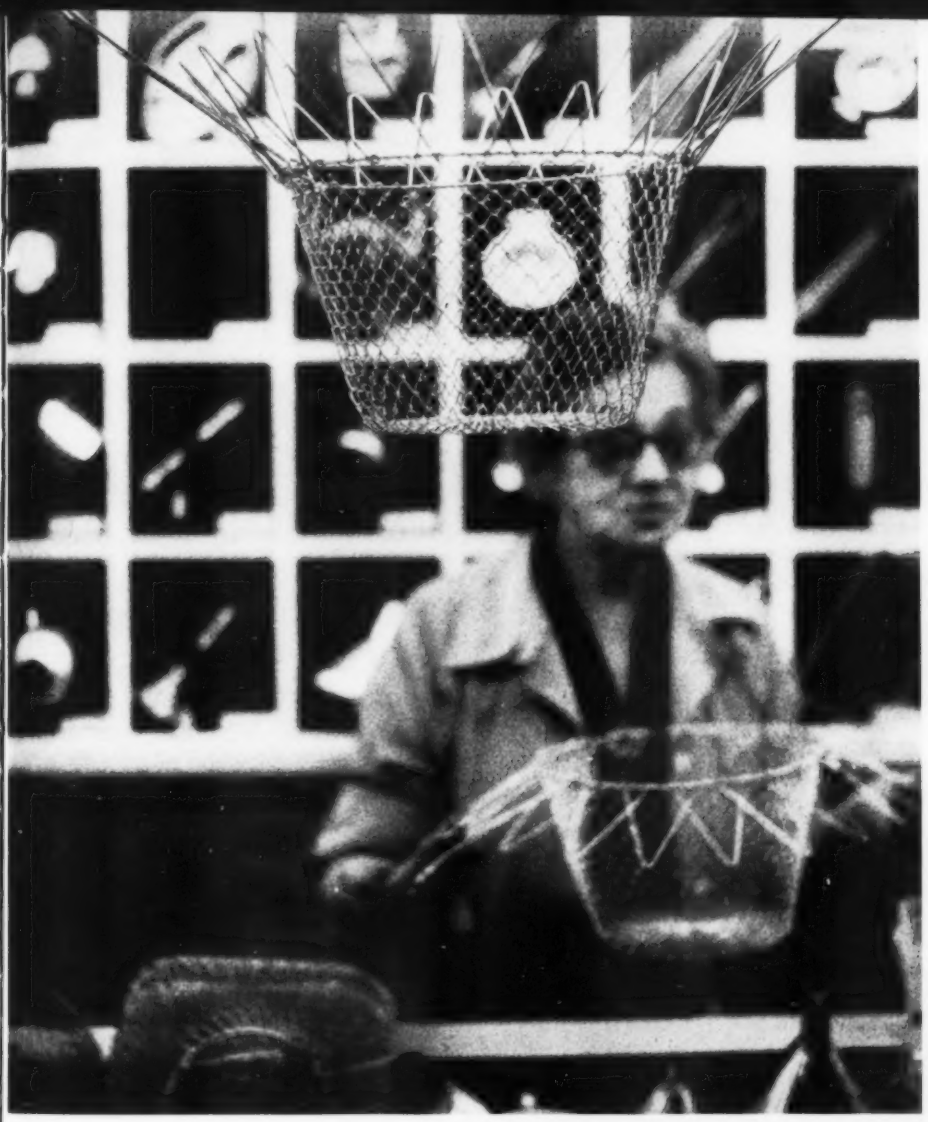
New York's biggest marketplace reflects the year's trends

5 PRODUCTS THAT SOLD

A best-selling product tells a lot about the market — and also about Design 1955. We found this out when we asked Macy's to point out some of the most popular products in its block-sized arena on 34th Street and Sixth Avenue. Out of this veritable Circus Maximus of merchandising, we selected five articles representing a range of needs and tastes — an appliance, a gadget, a luxury item, a necessity and a toy — whose sales success relates in some significant way to their design. They also, interestingly enough, reflect some of this year's important trends: the increasing demand for contemporary appearance; elegance in utility articles; informality in home furnishings; more color in appliances; more demand for portability — and even the influence of Automation upon the very young.

Farberware coffeemaker

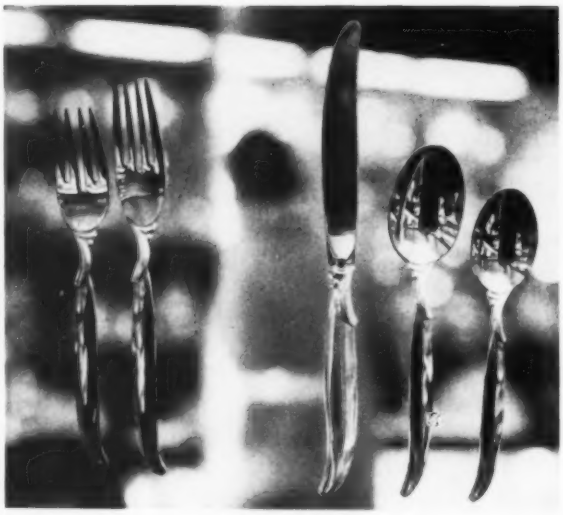
Three months ago Farberware introduced a new stainless steel coffeemaker with simple, almost watering-can functional lines, and now, Macy's buyer reports, they can't supply enough to fill the orders. Selling at $29.95, it stands on the shelf with its predecessor as well as several similar competitors. The same company's previous automatic percolator design, representing one of the few survivals, like an occasional cloche, from an era notorious for its odd anatomies, is much heavier, being made of chrome-plated brass, though it has less capacity. Designed by Farberware's own industrial design staff, the contemporary percolator in stainless steel is favored, according to the demonstrator, because of its speedy heating unit making 12 cups. It represents a profitable realization by a small manufacturer that a neat profile and the look of being easy to clean could be his as well as his competitors.

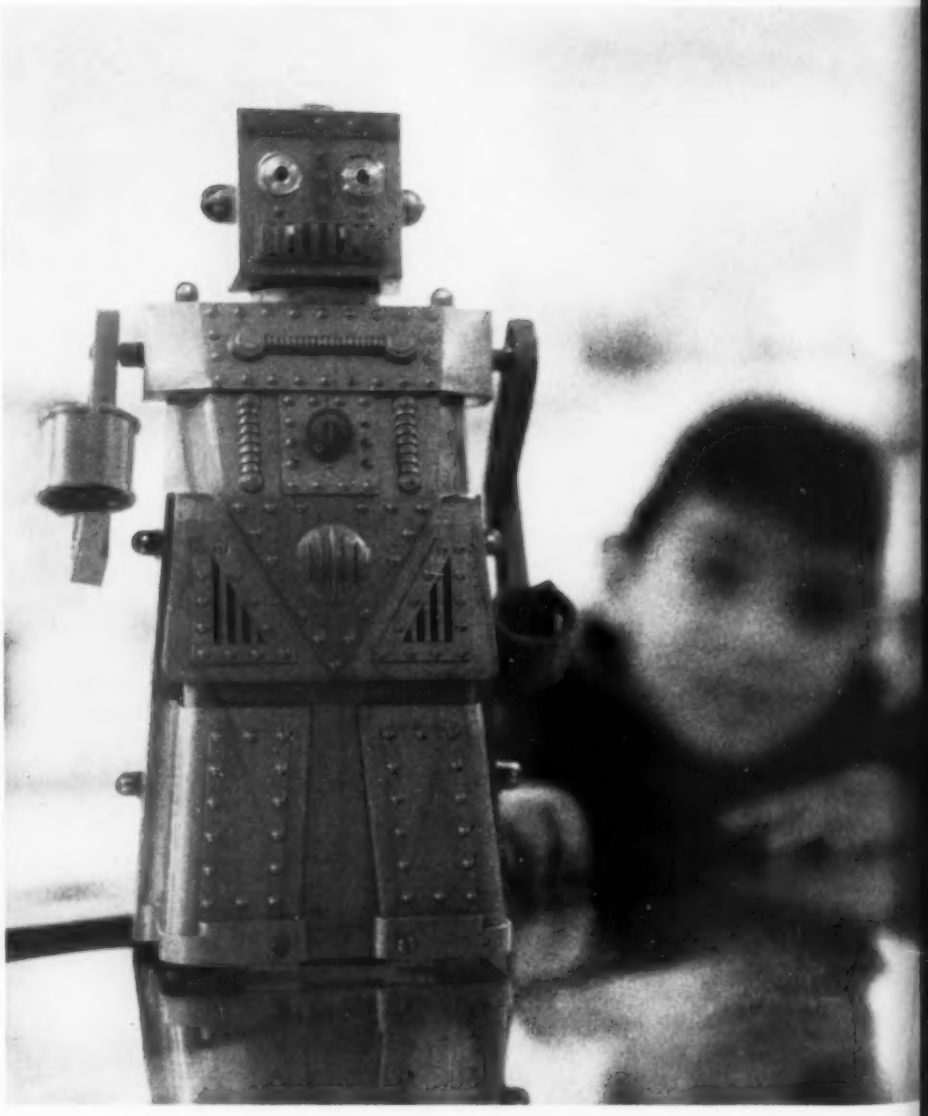


"Triumph" multi-basket
The designers of the "Triumph," which is made in France and is reaping hundreds of thousands of orders in this country (in preference to less ingenious and less expensive American baskets), set out to devise one utensil to perform five functions: to carry, to wash, to drain, to steam and to fry foods. They worked for a practical, collapsible design in wire, and developed a special patented loop of unusual agility, and the machine to make it. "We wanted to create something new, something practical, that would also have eye appeal," says its distributor, Charles Lamalle. The basket is all these things and comes in blue, red, green, or champagne, in a brass finish or in natural tin, and sells at $2.10. Even more versatile than its makers first imagined, it collapses into a hot plate or hangs on the wall, an elegant object in any kitchen, like a contemporary symbol of the sun.

GE's portable TV
General Electric's portable television set hit the market in May with a resounding bang which defied all the logic of market research; since then, production has been increased 300 per cent. Conceived by the design staff at Electronics Park, under the direction of George A. Beck (who would not believe that the television market was saturated), the little 14" TV model was developed to satisfy various new needs: people who have limited space, who need a second set, who might want to take TV to the office for a special event, or who just don't care to go into television as a permanent piece of living room furniture. Still unique on the market in its small size, its gay housing (either red, brown or grey), its light weight, the 14", selling at $119.95, has fully justified its designers' canny conviction that a portable television set fits very well into America's more mobile and informal living habits.

1847 Rogers Bros. "Flair"
America's changed living habits are at the basis of Flair's success—International Silver's new pattern in silverplate. The change—which involves function as well as style—has been gradual. Ever since Towle's Contour sterling pattern made its mark in 1951 with longer handles, a radical shape and fewer pieces (introducing the "place" size to substitute for both the luncheon and the dinner sizes), silvermakers have been trying out more tapering forms in some of their sterling patterns, and offering sets which are made more practical by the use of the place or service size. Silver Rhythm is International's best sterling design using the new pieces. The more recent arrival, Flair, announces the influence of this trend toward informality and economy upon silverplate, which has been affected by stainless steel's encroachment upon the mass market. Slightly shorter and more heavily weighted than its flowery predecessors, Flair costs a few more dollars (minimum service is $48.75) and seems revolutionary in comparison. Actually, the new design represents silverplate's first, tentative efforts toward a more simple, utilitarian mode whose popularity has already been proved in stainless and sterling.





Ideal Toys' Robert the Robot
Robert the Robot is a trend in himself—something a sociologist might do well to contemplate. To date, 500,000 units of this novel-looking mechanical toy have been sold, and Ideal Toys are hard put to fill the Christmas orders. A squeeze cable control makes Robert walk, a battery lights up his eyes, and by a recording he croaks his name. The twentieth century's answer to Davy Crockett, dreamed up by a chemist, Lewis L. Jacobs, and developed in high-impact styrene by Lionel Weintraub, head of Ideal's Plastic Division, Robert has touched off a craze of robot-operated bulldozers, robot clothes, and television programs. Although other toys may be more complicated mechanically and more interesting to operate, Robert sells for $4.19 at the rate of two or three dozen a day at Macy's—and this is quite a momentum for such monotony.

WHAT INVENTION OR BIG DISCOVERY

or development will sum up 1955 for us ten years from now is not easy to say. It is just as possible that the year might go down in the books for the spectacular rebirth of Davy Crockett as for the Geneva International Conference on the Peaceful Uses of Nuclear Energy; or for the opening of a 17-million dollar playground named "Disneyland" as for the introduction of Mylar. Regardless of how its long-term fame will be known, 1955, as a year of technical progress, stands up well. Here are some of its major events.

No selective list of products, processes, and principles, no matter how lengthy, can pretend to represent all the inventions and developments of the past year. Categorized as "Invention," this section includes some actual discoveries. But, more important, it contains examples of machines and methods that have attracted widespread attention and have made measurable strides in the past twelve or fifteen months.

Why tell designers about inventions? They are the basic developments that will reshape the world around us and the implements of our civilization with which all designers are concerned.

It is important to remember that many inventions, developments, or discoveries cannot be pinned down to a definite day or year or even, in some cases, a decade. Sometimes a new development creates an immediate market and becomes a happy money-maker until the market is saturated or something better comes along to take its place. Other developments, however, attract attention when they are first introduced as a new idea or concept. Then they are apt to go into a state of hibernation, as far as the public is concerned, while practical applications are investigated. This may take years, and when they are reintroduced, it may be just another step toward the full realization of the value of the development. These steps—from the spotlight into hibernation and back again—are important to notice because, even though they may not have an immediate or widespread effect, they tell us what is around the corner.

The silicone cell, for example, the heart of the Solar Battery developed by Bell Telephone Laboratories, has been known for many, many years. It was a big moment when, in 1954, Bell Labs announced the first Solar Battery. But more important from the viewpoint of most people was this year's development—the increase in efficiency of the battery to 11 per cent and its first actual application outside the laboratory, when it was used to supply power for a telephone conversation in Americus, Georgia, in October.

Similarly, nuclear energy and many of its potential peacetime applications have been generally discussed for some time. However, the public was given a comprehensive progress report on the worldwide uses of atomic energy through the International Conference on the Peaceful Uses of Nuclear Energy, held in Geneva last August, where some 474 papers were presented and 1,125 abstracts published by delegates from 72 nations. Such terms as "breeder reactors,"* previously part of the nuclear physicist's specialized jargon, became fairly widely recognized and more generally understood.

These are not "inventions" as the lightbulb and wireless were inventions. They represent years and years of work by thousands and thousands of specialists coming to a momentary head; their impact is already broad, but they are still only on the threshold of their full realization. In ten or twenty or thirty years—when most homes are heated, lights are lit, and phones powered by nuclear energy and solar power—few people will shake their heads in wonder at such a startling advance. The change will have occurred slowly, if not invisibly, and by the time most of the engineering, design, and production problems have been overcome, these great developments will have assumed their proper places as useful powers. Looking at them today,

* A breeder reactor is one which produces as much or more fuel than it burns: excess neutrons produced in a chain reaction are absorbed in the inert isotopes U-238 and Th-232, which are eventually converted to the fissionable materials Pu-239 and U-233.

they can be seen in their most formative stage, practically overflowing with the great influence they will have on the scientist who will do the basic research, on the engineer who will refine the applications, on the designer who will determine the form of the machines and equipment, and on the all-important consumer who will use them.

Fantastic as the scope of nuclear and solar power is, there was one event during 1955 that reached beyond the confines of the earth and its atmosphere.

The President's announcement that in 1957 or 1958 the United States will project a man-made satellite into an orbit around the earth, 200 miles overhead, turned whimsy into reality. A vast new horizon, challenging to any imagination, was opened. Science fiction suddenly lost its fictional flavor when the United States Government sanctioned a project straight from the pages of H. G. Wells.

Exactly what shape the satellite will take is not known—at least not on this side of the security-barred doors in Washington. Some say that it will look like a basketball. Other reports speculate that it will be a cone, still others say a cylinder. One thing is certain: it will be small. Early proposals for monstrous space platforms weighing thousands of tons, or rockets to the moon, or space ships for interplanteary travel have been pushed into the distant future and the little "mouse," weighing mere pounds, shows the greatest promise for an early launching date.

Small as it will be, the "mouse" will present some mighty problems. A mass of instrumentation, the satellite will probably be the greatest packaging challenge of all time. During its short life, before it plunges into the earth's atmosphere and burns itself to a cinder, its purpose will be to prepare the ground for future space investigation by giving scientists vital information that is impossible to obtain through the atmosphere. Transmissions from the satellite to earth will relay data about astronomy and astrophysics, biology (the effects of outer space on living cells), communication (it might provide a broad-band trans-oceanic communication link), geodesy (more accurate determination of the size and shape of the earth, and the intensity of its gravitational field), geophysics (the study of incoming radiation and its effect on the earth's atmosphere might lead to better long-range weather prediction), unusual environment (information about weightlessness, high vacuum, temperature extremes, etc.).

The final significance of the satellite, like nuclear energy, will not be known for years. There is significance enough, however, in the fact that such a project got beyond the talking stage in 1955.

In the air, strange and wonderful things have been happening during the past year. Of the new machines and principles that have been introduced, some have seen immediate adoption, while others must wait for application. Experimental or applied, they add up to a substantial contribution in the struggle to fly faster, farther, and higher. On the ground, monstrous machines, looking more like prehistoric animals than useful vehicles, are creeping, climbing, and crawling over virtually every kind of terrain from swampland to rock-ridden areas. If man has been hard put to invent something better than the wheel, he has at least found more than one way to improve on it.

Any one of the many advancements in aviation or transportation could end up as the most celebrated development of 1955. But there are many milestones, each with immediate or potential significance: the production of the synthetic diamond by General Electric could, some time in the future, have as much influence on industry as Salk vaccine is having on the control of polio. Or, 1955 may be remembered as the year when the aerosol age came into its own; everything from deodorants to paint is now packaged in "bombs." It cannot be predicted that people will look back and say that 1955 was the year when the effect of automation was felt strongly or that it was the year when Vista-Vision and Stereophonic Sound revolutionized entertainment. The chances are that ten years from now very few people will remember specific scientific events. It is possible that the hurricanes Carol or Diane or Princess Margaret will be more lasting memories. But this adds substance to the thought that any single advancement in machines or methods is part of a much larger story of application and acceptance. Just as great men and women are often recognized only posthumously, so the importance of many inventions is not realized until after they have passed the stage of invention and have become extensively utilitarian, even taken for granted.

The flight of the "Pogo"

November 4, 1954, was an historic day in aviation. The press gathered at Brown Naval Auxiliary Air Station in California to watch a strange aircraft perform a remarkable aerial feat. The airplane was the Convair XFY-1, affectionately known as the "Pogo"; a delta-wing, turboprop-powered Navy fighter with contra-rotating propellers. For take off it sat on its tail with its nose pointing straight up. As the stubby propellors whirled faster, the "Pogo" lifted from the runway, changing its attitude from vertical to horizontal as it gained altitude. The acceleration was so tremendous that at about 200 feet it was in horizontal flight. The performance was repeated in reverse, with the plane literally hanging by its prop for the landing and the completion of the first public exhibition of untethered vertical take-off and landing with transition into horizontal flight. VTOL (vertical take-off and landing) planes, like helicopters, have the advantage of being able to take off and land on a dime, and they have the important added asset of high speed; the "Pogo" will exceed 500 miles an hour in horizontal flight. VTOL's will not, by any means, put helicopters out of business, but they give the nation's air arm a new and valuable weapon.

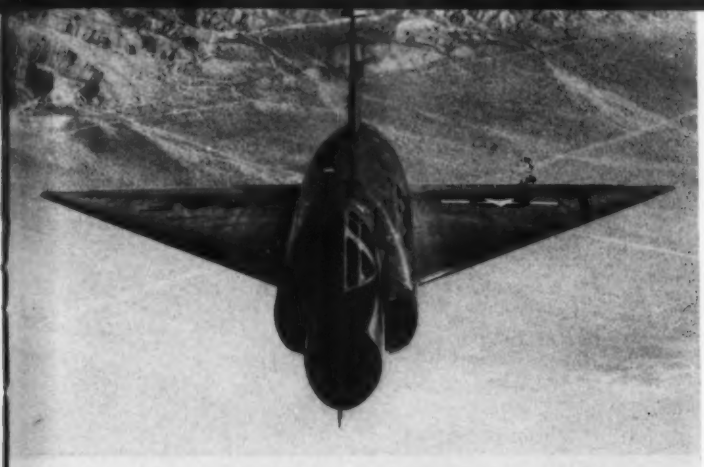
STRANGE DEVICES OVERHEAD MARK AVIATION PROGRESS

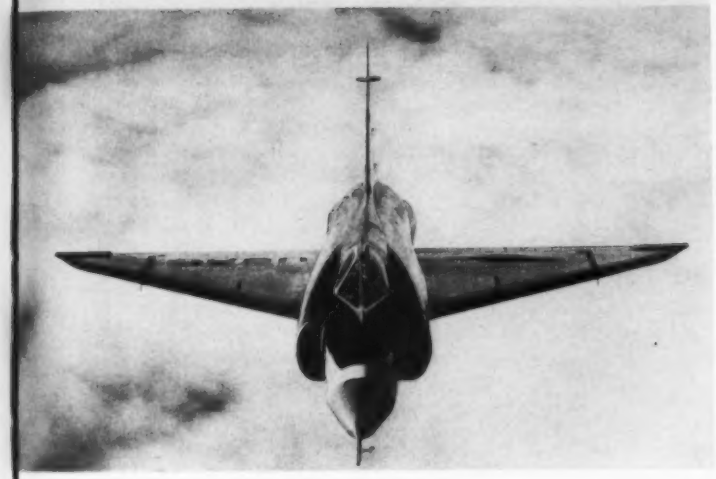
Airplane or helicopter—it's both

Another new aircraft that combines the vertical flight characteristics of a helicopter with the speed and range of a conventional fixed-wing aircraft is the new McDonnell XV-1 Convertiplane. Still in the experimental stage, the XV-1 has an overhead rotor, similar to those on conventional helicopters, that is used for vertical flight, and a pusher-type propeller that, with the wings, permits airplane flight. In operation, the pilot takes off vertically and picks up horizontal speed using just the rotor. When his forward speed exceeds the stalled speed of the XV-1's wings, power is shifted from the rotor to the pusher propellor and the flight controls are shifted from rotor to conventional aircraft type. Lift is provided by the wings while the overhead rotor is allowed to "windmill." The rotor is driven by pressure jet engines at the tip of each of the three blades. A reciprocating engine powers the pusher propellor and also drives compressors which supply air to the pressure jets on the rotor. The probable use of the McDonnell XV-1 will be as an Army liaison aircraft and possibly as a troop and cargo carrier.

Magic manhole cover

Perhaps the most spectacular development in aviation during 1955 is the Hiller flying "platform" or "manhole cover." This flying machine—its appearance makes the use of the term "airplane" out of the question—is a wingless platform which the pilot directs by simply shifting his weight. Conventional controls are virtually eliminated, and, it is claimed, it is so simple to operate that no previous flying experience is necessary. It is kept aloft by a principle known as the "ducted fan," which by creating a downward thrust force, supplies lift. As the pilot shifts his weight forward, backward, or to either side, the platform tilts and the direction of the stream of air is changed and the machine moves horizontally in the direction the pilot is leaning.



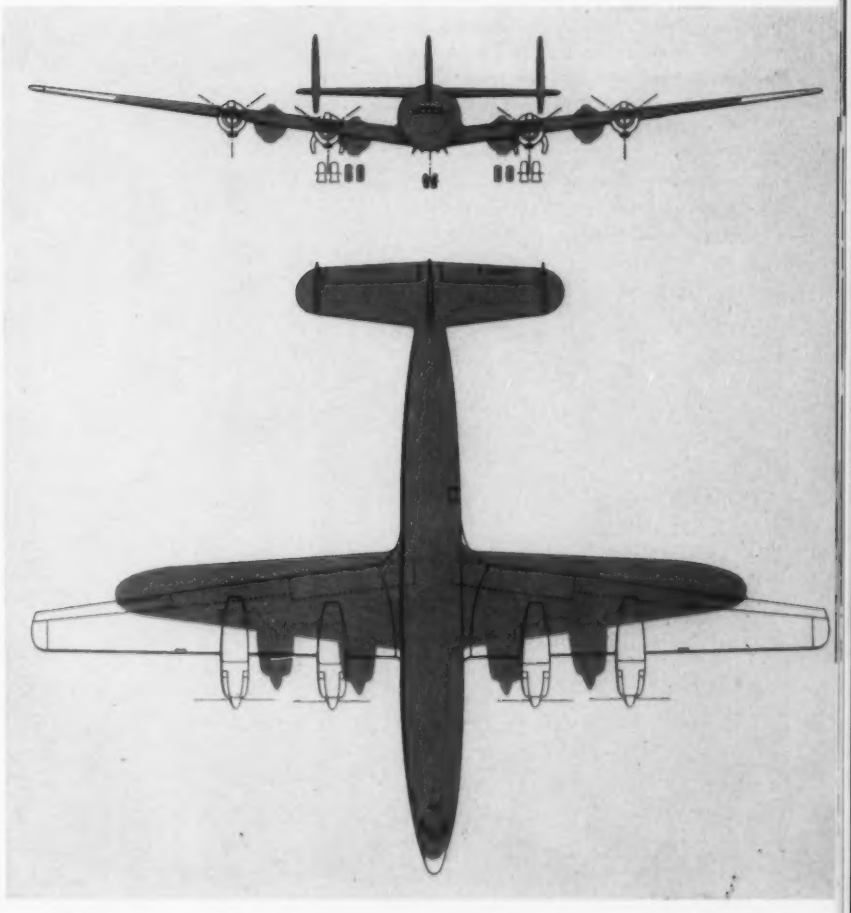


New wing design

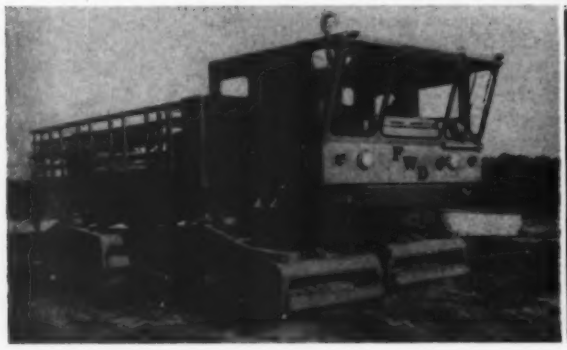
Major changes in wing design recently announced by Lockheed Aircraft Corp. will give the new Super Constellation Model 1649A greater range and increase its speed by 70 miles an hour. The new wing, which is larger than any other in transport service, gives the airliner a wingspan of 150 feet and permits the four turbo-compound engines to be moved farther outboard, reducing noise in the passenger cabin. Due for delivery in 1957, the 1649A will carry up to 9600 gallons of fuel and will fly point-to-point at ranges over 4200 miles. By increasing the aspect ratio of the wing to a value of 12 compared with 9.17 on other Super Constellations, higher cruising altitudes can be attained earlier in the flight pattern.

New fuselage design

A recent and important development in aircraft fuselage design, which appears to be a simple change in form to give planes a sexy look, actually increases their speed substantially. Pinching in the waist of the fuselage results in a great reduction in the sharp drag rise that occurs when a plane breaks through the sound barrier. This drag rise, it was found, was a result of the combined cross-sectional area distribution of the fuselage and the wing. Pinching in the fuselage where the wings are attached makes the cross-sectional area the same as it would be for the fuselage alone, giving the least drag at transonic speeds. The design is based on "area rule," a principle advanced by Robert T. Whitcomb, a scientist at the National Advisory Committee for Aeronautics.



WEIRD VEHICLES ARE ENGINEERED TO GO ANYWHERE



An easy riding monster

Riding on huge pillows of air, the giant "Teracruzer" glides effortlessly over almost any kind of terrain in spite of its size; 12 feet wide, 25 feet long, and 10 feet high. Unveiled this year, the "Teracruzer" was designed and built by the Four Wheel Drive Auto Company in cooperation with the Army Ordnance Corps. It utilizes new, extremely low pressure pneumatic tire bags developed by Goodyear Tire and Rubber Company; each of these eight Rolligon tire bags is 3½ feet in diameter, 5 feet long, and inflated with only from 3 to 5 pounds of air pressure per square inch. Essentially, the tires swallow up, rather than resist the bumps they encounter. The vehicle has a newly designed, low-cost, central inflation system which permits the driver to increase or reduce air pressure in the individual tire bags en route.

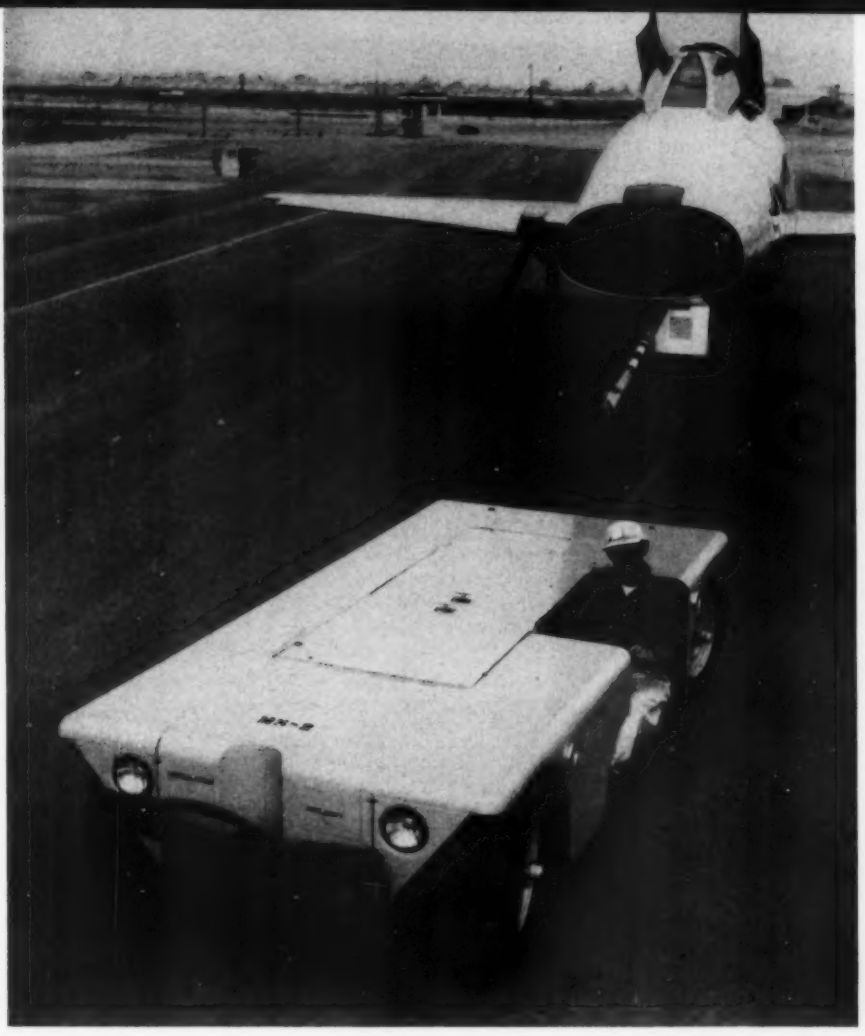
A new idea in truck cabs

A new line of Mack trucks featuring vertical raising of the cab for engine accessibility can now be seen highballing down the highways. Using a hydraulic hand pump or an electric-hydraulic motor, the cab is raised rather than tilted forward as it is on most up-to-date heavy trucks. The complete engine and the front of the chassis are accessible to the mechanic from one position, eliminating the need to move around the axle and wheels to reach the front or back of the powerplant. Raising the cab necessitates no disconnections and, when it is in position, it is safely locked. Another feature of the vertical raising cab is that it does not require additional shop area for servicing. With tilt-type trucks, an additional 20 square feet of shop area is required.

Cars to come

Turbocars are still highly experimental but are now being made by several companies, many of them looking very much like standard automobiles. Models in existence are an experimental Plymouth by Chrysler, the Firebird by General Motors, the French Socema, and the British Rover (illustrated) which, it is quite evident, is not radically different in appearance from a regular car. When — or if — turbocars are put into large-scale production, there will be no engineering need to make important visual changes. The turbocar, however, by virtue of the radical change in the engine, does open up many new possibilities for automobile design giving more passenger and luggage space. In general, the turbocar potentially offers a smoother ride, lower fuel costs, easier maintenance, better overall performance, and perhaps cheaper cars.

photo courtesy POPULAR SCIENCE MONTHLY



A sporty-looking jet starter

Looking more like a sleek, low-slung sports car than a new mechanical starter for jet planes, the car on the left was developed recently by North American Aviation, Inc. It is designed to replace more expensive starters which utilize the air turbine principle of operation and require more equipment and more expensive overhaul. Starting time is reduced with the new machine, and the high-pitched whine produced by conventional starters is eliminated. An additional advantage is that the car can tow the plane to take-off position. It has four-wheel drive and four-wheel steering and can provide 28-volt DC power as well as 400-cycle AC power for the plane. Power is transmitted to the jet engine through an hydraulic torque converter, which provides a shockless power train when starting the jet engines. It is 30 inches high, 144 inches long, and 65 inches wide and uses a standard automobile engine and many other stock automotive parts. Its low contour makes it possible to drive it under a jet plane such as the F-100 Super Sabre. It has a turning radius of only 160 inches.

An awesome amphibian

Named the Rhino for obvious reasons, this vicious-looking vehicle charges through streams, swamps, deep water, mud, desert, mountain passes, and yet will race along a highway at 45 miles an hour. Designed by Elie Aghnides, the inventor whose water aerator is standard equipment in almost every modern kitchen, the Rhino is based on unique tilted hemispheroidal wheels. Their design, which originated with the idea of putting a vehicle inside a sphere, makes it possible to sling the body low between the wheels, giving the Rhino a very low center of gravity and making it impossible for it to fall over on its side.

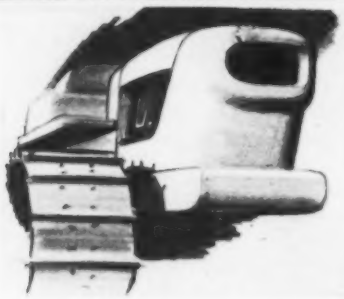
INVENTION

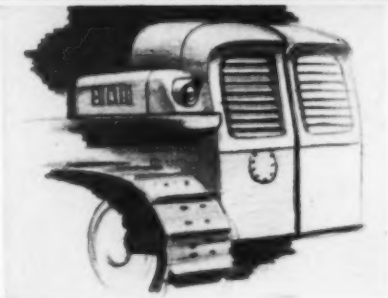
A TRACTOR IS BINUCLEAR — ENERGY IS NUCLEAR AND SOLAR

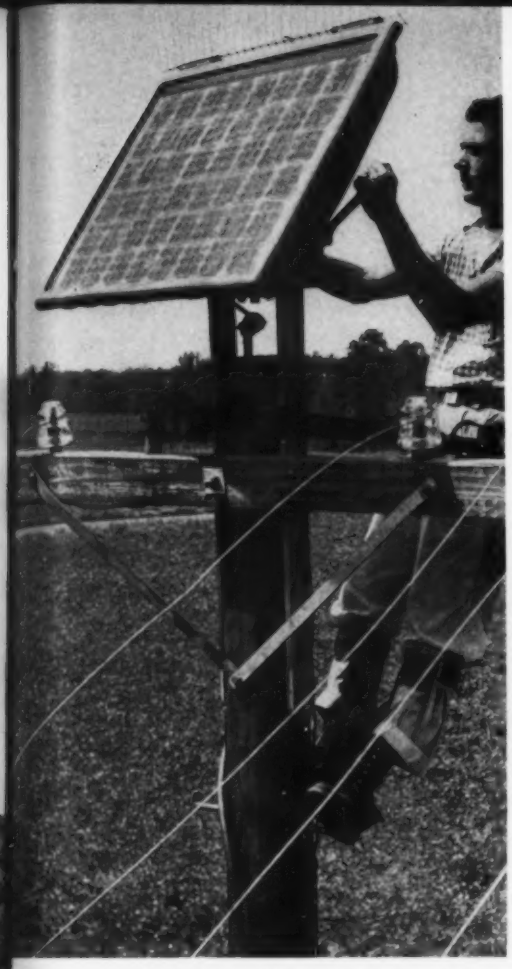
Glamorous and powerful tractor

The new General Motors TC-12 Twin Crawler hides a lot of power and many new advantages under its glamorous hood. The two tracks are driven separately, each being powered by a 194 h.p. Series 6-71 General Motors diesel. Both tracks have separate Allison Torqmatic Drives consisting of torque converter and semi-automatic transmission. Since there is no master clutch, changing from one speed range to another can be done under full power. The TC-12 has three speed ranges, forward and reverse, providing speeds to 1.5 mph in low range, 3.0 mph in intermediate, and 8.3 in high. Fast and easy steering is gained from the separate power train for each track. Tight turns are made by reversing one transmission and keeping the other in forward speed. Another result of the Twin Power Design is that each half is free to move 7 inches up or down to maintain better contact and traction on rough ground. For shipment, the tractor can be separated in two halves. Under the direction of C. M. Jordan the TC-12 was styled at the Euclid Division of G.M. to increase its function, give maximum operator comfort, optimum visibility, accessibility to mechanical components, compactness, and to make the tractor look as powerful as it is.

Specifications: total h.p., 388 h.p. at rated speed; speeds, 3 speed ranges, forward and reverse to 8.3 mph; drawbar pull (bare tractor), forward and reverse 54,000 lbs. low range, 53,500 lbs. intermediate, 53,000 lbs. high; track width (standard shoe), 26"; track gauge, 110"; overall width, 11'4"; overall length, 16'2"; height (excluding stacks), 7'11"; drawbar height, 23"; ground clearance, 20"; operating weight (bare), approx. 58,000 lbs.

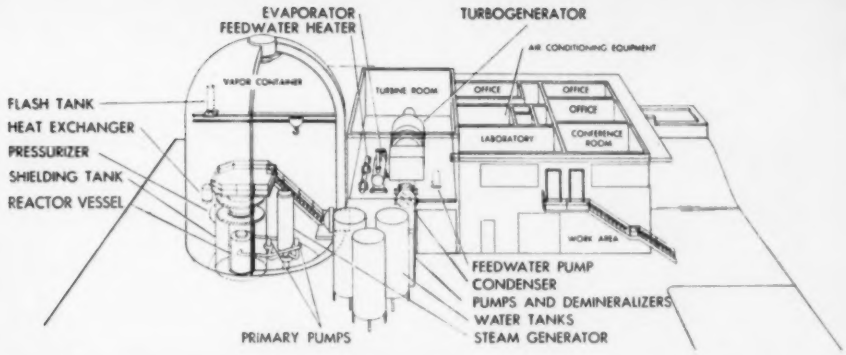






Power from the sun

The Bell Solar Battery, atop a telephone pole, being used in experiments near Americus, Georgia, to develop more and better rural telephone service. The picture shows the device being adjusted to pick up the prevailing light. The first successful device to convert the sun's energy directly and efficiently into electricity, the Bell Solar Battery is at least fifteen times more efficient than the best previous solar energy converters. The solar battery has no moving parts or corrosive chemicals and should last indefinitely. In poor light, it continues to charge the storage battery but at lower power. The telephone system uses transistors instead of vacuum tubes because transistors, which incidentally were also invented at Bell Laboratories, require only small amounts of power. The solar battery being used in the Americus trial is encased in an aluminum housing less than a yard square. It contains 432 silicone cells, cushioned in oil and covered by glass. These cells convert as much as 11 per cent of the energy they receive directly into electrical power. The cells are made of specially prepared silicone, which is obtained originally from sand. The silicone is cut into wafer-thin discs about the size of quarters. The cells, when electrically linked together, deliver power at the rate of 100 watts per square yard of effective surface.



Package power reactor

Designed so its components can be transported by air to remote locations anywhere in the world, Alco Products, Inc. is under contract by the AEC to build an Army Package Power Reactor like the model above. Such power plants will be used by the Army for distant early warning line radar stations and other inaccessible locations where fuel transportation and availability are costly problems. The APPR is a pressurized water reactor with the fissionable material contained in stainless steel plates about 22 inches long. The power plant will generate 2100 kilowatts of electricity and is known as a 200 KW plant, since there is a station service load of as much as 180 KW. Shielding is provided by cylinders of iron in a tank of water around the pressure vessel. The walls of the vapor container provide secondary shielding. Removal and replacement of the elements is done by raising the level of the water in the tank around the reactor.

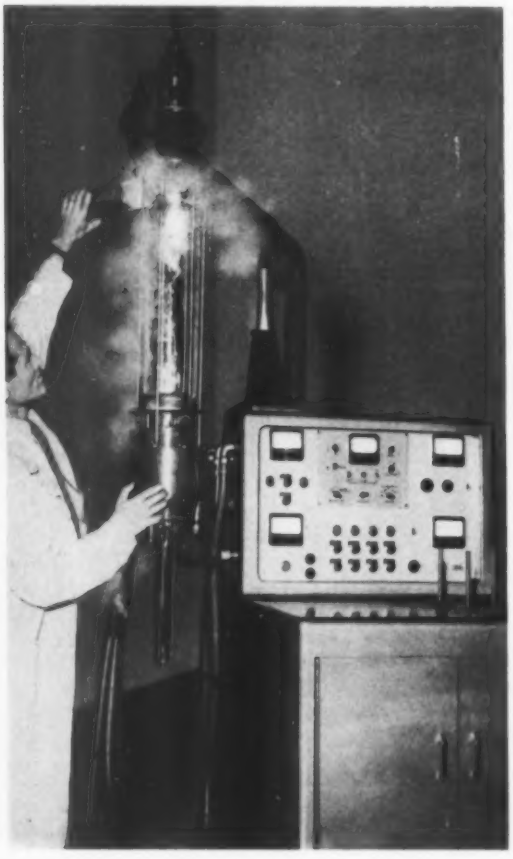
Sunlight cooking

The fact that over 1,000 scientists from some thirty nations attended the first world symposium on solar energy in Tucson, Arizona, in November, is the best evidence that interest in the problems of harnessing the sun's power is strong and worldwide—previous meetings had drawn no more than thirty people. Thermal processes which capture the sun's heat with focusing mirrors include applications such as the solar cooker on the left, developed recently on an independent basis by Clevett Engineering Laboratory. An experimental model, this "stove" is a possible forerunner of low-cost mass-production solar cookers. It was fabricated from readily available materials costing eight dollars. The mirrors are of aluminum, will raise the stove's temperature above 300°F. It is estimated that the solar energy received in the United States every year amounts to 9000 trillion kilowatt hours or the equivalent of 1150 billion tons of coal.

CHAINS TO COMPUTERS — INVENTIONS IN EVERY FIELD

Airborne digital computer

The use of transistors and "etched" circuits makes this North American Aviation digital computer compact and rugged, and gives it a low power requirement. Because it is light and small (three cubic feet, weighing 125 pounds) it can be installed in high-performance aircraft to automatically and continuously process in-flight data. The etched and transistorized circuits are designed in 51 standardized panels for reliability and quick servicing. The recently developed airborne computer can continuously integrate 93 quantities simultaneously and generate continuous solutions to differential and trigonometric problems.



Automatic part maker

Known as the "cam machine," this recent invention of Bendix Aviation Corporation engineers uses electronics to turn a blueprint into a complex finished product. Coded information taken from a blueprint is punched into a plastic tape; this is read by the electronic control, which sends instructions through the servo-mechanism to the tool which does the actual cutting. The machine accomplishes in two to four hours an operation which previously required about 400 man-hours.

New tools for better production

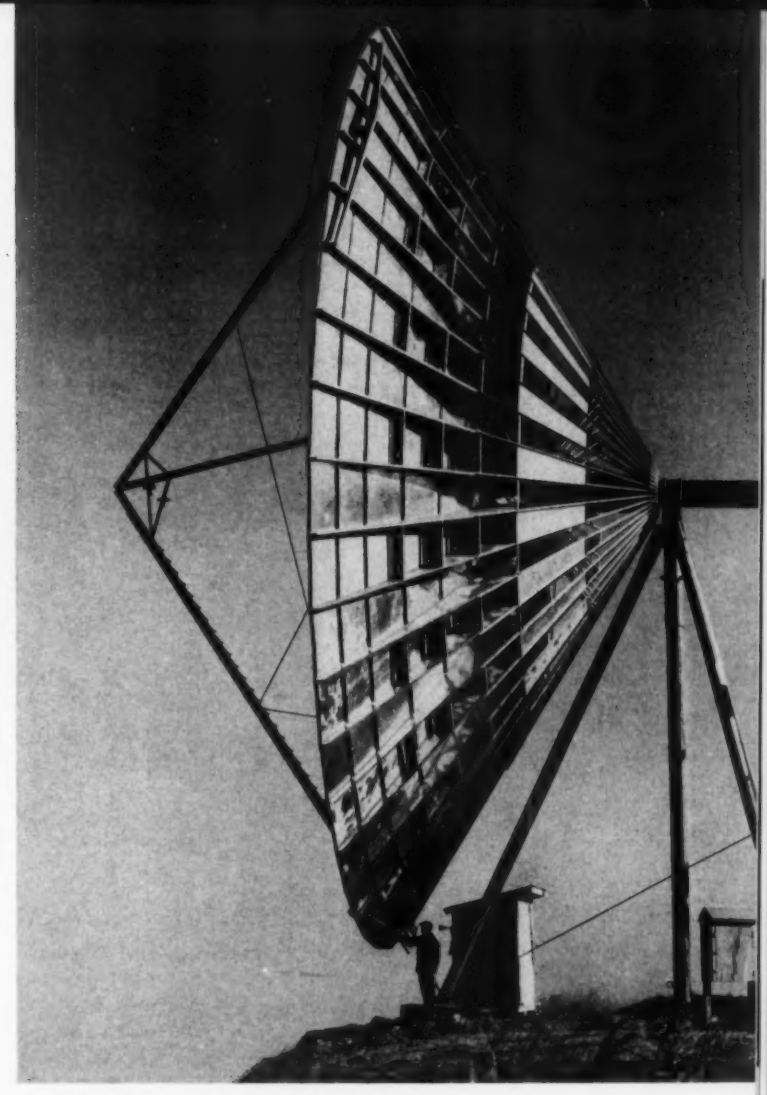
Precise control of fastener tightness is the feature of a new series of torque-controlled, portable power screw drivers and nutrunners developed by the Chicago Pneumatic Tool Company. The tools have a new type of magnetic "one shot" clutch which disengages fully the instant proper torque is attained, and stays disengaged until the screwdriver or nutrunner is removed from the work. Reduced work spoilage, higher production rates, and lower maintenance costs are claimed to result with the new tools.

The coldest yet

A new type of refrigerator that will maintain lower temperatures than any previous apparatus has been developed at Arthur D. Little, Inc. Temperatures reached with the machine come within a few tenths of a degree of Absolute Zero (—459.6° F). It is hoped that the ability to maintain these extreme low temperatures will give scientists a better understanding of the basic properties of matter. The new refrigerator has no moving parts or flowing fluids. It uses a special salt in a 3-inch long plastic capsule as the refrigerant.

Sound synthesizer

Developed by engineers and scientists of RCA Laboratories, a new electronic system is capable of generating any tone produced by the human voice or any musical instrument, as well as any musical tone beyond the capabilities of a voice or conventional instrument. Introduced last January, the system is still experimental, but suggests new opportunities for sound recording.

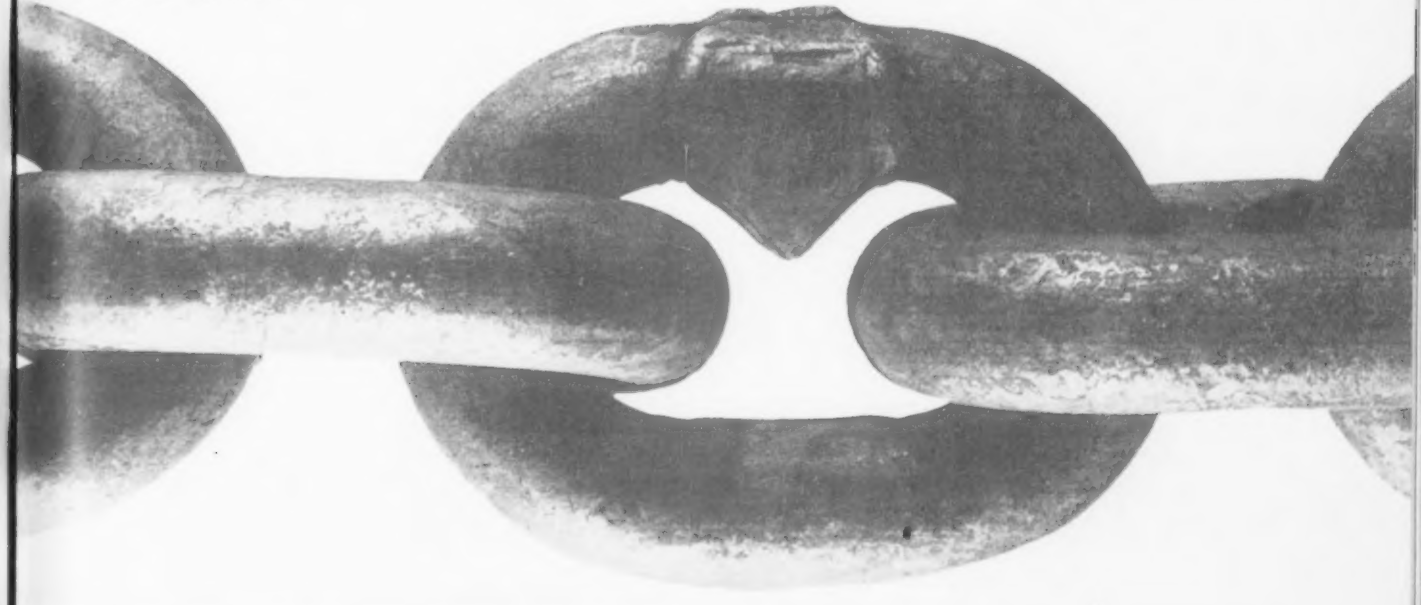


Long distance, high frequency antenna

This is a side view of a 60-foot experimental antenna, the largest in the world for super high frequencies. Developed by Bell Telephone Laboratories and the Massachusetts Institute of Technology, the antenna can pick up television and telephone signals sent directly through space for 200 miles. The new transmission technique which sends microwave signals "over-the-horizon" is expected to provide longer communication bridges over water and rugged terrain.

Stronger links

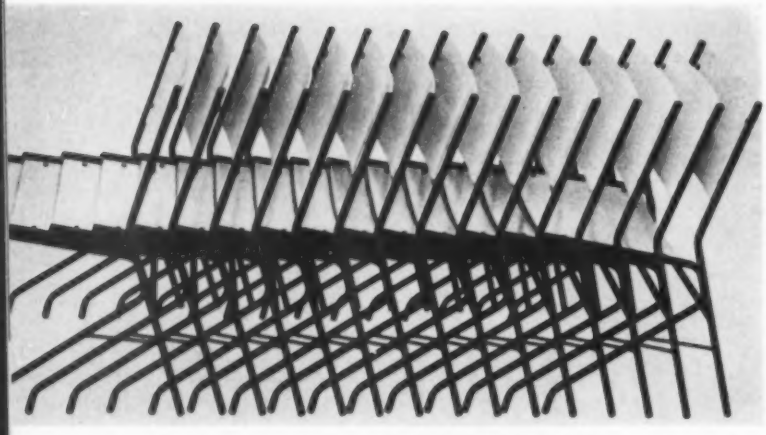
A new design for a very old product proved to be highly successful this year. A new x-weld chain, introduced by American Chain and Cable Co., Inc., is stronger than butt-welded chains and has other advantages, such as the inability to kink. By inserting and welding separate pieces of steel between the butted ends of each formed link, the weld area is increased 225% and produces a weld that is stronger than the link itself. The inserted metal becomes a stop midway in the link, making kinking impossible.



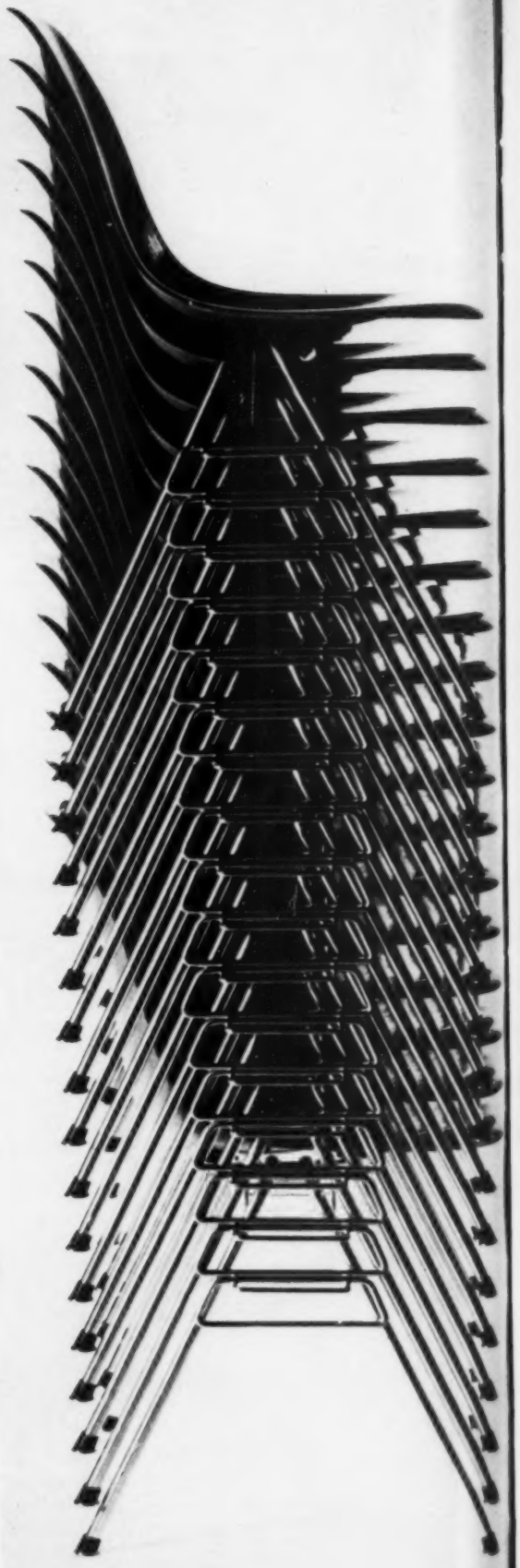
INVENTIVENESS IN NEW DESIGNS

Many products that are not strictly inventions have a quality that can be called **inventiveness**, *which implies an ingenious approach to an old problem to achieve function or visual improvement or — as in these designs — both.*

For better stacking and joining
A patented side hook is the ingenious key that permits continuous joining and high stacking of these new chairs by Charles Eames. The molded plastic and fiber glass shell is on a tubular steel base. The legs automatically compensate for uneven floors with self-leveling domes. By Herman Miller, Zeeland, Michigan.



Cantilevered chairs
A cantilevered seat permits nesting of these chairs. Designed by Allan Gould and known as the Tandemstacker, they are made of especially strong steel tubing to give the necessary strength for cantilevered construction. They can be stacked either vertically or horizontally. Allan Gould Designs, New York.



HUMAN HEART VALVES AND MATERIALS

may not appear to be particularly related, but the recent announcement that medical men are encouraged by the development of a silicone rubber heart valve for humans proves a point worth making. The story is this: prosthetic heart valves are not new; they have been implanted in dogs for years, but certain characteristics have made them impossible for humans. It was the material—at least the difficulty in finding the proper material—rather than the problem of making the mechanism itself that clipped the wings of progress.

Previously, heart valves were made of acrylic plastic. It was found that the relatively hard plastic crushed the red cells between the ball and the chamber wall of the valve, eventually causing anemia. In addition, with each heart beat there was an audible "tick-tock" sound which, to say the least, was disconcerting. The development of a heart valve made of silicone rubber, with its physiological inertness and permanent resilience, gave the procedure real promise for human application.

Mitchell Wilson, writer, inventor, physicist, and assistant to Enrico Fermi, once said, "If a certain useful machine has never been built because technology lacks an adequate material, then sooner or later that machine will be built because the material problem is bound to be solved. A second truth," he added, "is that the production of new materials makes hitherto undreamed-of mechanisms become theoretically possible." And, from the design and marketing viewpoint, the basis of the technics and esthetics of all design is the proper material, properly used, for the proper job.

The introduction of a new material is the beginning of a long series of developments and adjustments to discover new methods that will utilize all the characteristics of that material aptly and successfully. Just as the importance of the development of such materials as Bakelite and nylon cannot be estimated because new applications are being found for them every year, even after more than a quarter of a century, it is impossible to tell how far reaching the import of materials being developed today will be. In the hands of designers, engineers, and manufacturers, up and coming materials such as Barrett's Plaskon, Du Pont's Hypalon or Mylar, Kopper's Dylene polystyrene, or Rohm and Haas' acrylic plastics may have as strong a socio-economic influence as nylon did when it practically revolutionized the clothing industry.

The 1955 list of new uses and adaptations for materials is endless. Every day there is an announcement of some sort: a harder nylon, a softer styrene, a more rigid sheet, a more flexible solid; that a metal, a plastic, a wood is being used for something unheard of, or can be molded in a new manner, or can be finished with a new process. Recently, a synthetic felt was made from Du Pont's Dacron. It has all the advantages of conventional felt, plus the characteristics of Dacron that make it even better and give it more uses, which help illustrate the overlapping boundaries of materials today. The search for materials with properties that give more versatility, or special-purpose usage, often end up creating all-round improvement of the known properties. Clothes, for example, can now be treated with colloidal silica to give them soil resistance, or fabrics can be blended with Monsanto's Acrilan acrylic fibers to make them hold creases. Thin coatings of nylon on metal parts make them able to stand far more friction without lubrication. Low pressure molding techniques of reinforced plastics have grown rapidly.

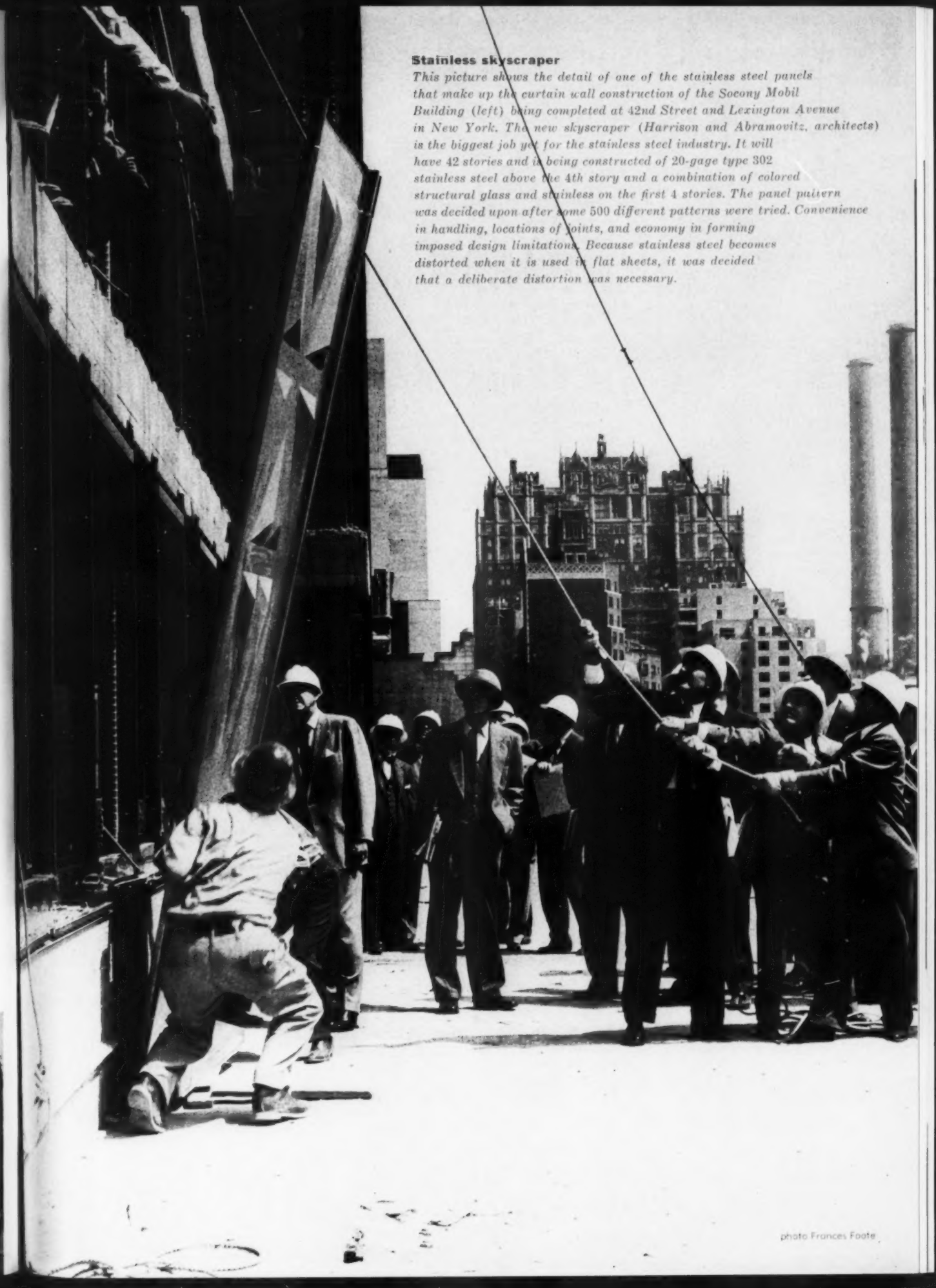
Another source of new materials: combinations of known ones, for controlled balance of qualities; materials of every sort are being put together by new laminating techniques. Laminates made with polyester fiber, acrylic fiber, and nylon show outstanding properties of smoothness, abrasion resistance, and resistance to chemical attack and weathering. And foams promise increasing usefulness. New inexpensive syntactic foams produced by Bakelite are lightweight and excellent for insulation.

Some applications of the year in materials follow; other developments are described on pages 105 and 106.

STAINLESS STEEL GETS COLOR AND DECORATIVE PATTERNS

Stainless steel had its biggest year in 1955. Everything from butter knives to buildings was made of stainless, and it gained new prestige as a glamour material as well as a practical material because it was more fully exploited by designers for its particular textural elegance. Now, newest of all, color seems to be the next step for stainless. Still experimental, it looks as though the stainless producers are coming close to an answer to the encroachment of lower-priced decorative aluminum. Other major events in the stainless story during the past year were: the publication of new designations as "Standard Types" (a result of improved industry practices, the elimination of some government controls, and an effort to provide a wider degree of flexibility in working stainless), and a report from Princeton University's School of Architecture that made public the results of two years intensive research on the use of stainless steel—a project that was sponsored by the Committee of Stainless Steel Producers, American Iron and Steel Institute.

Colored stainless steel
Though stainless steel has a distinctive color of its own, and is open to a variety of effects through polishing and brushing, the industry feels that decorative qualities of color are sometimes very desirable. Many methods of making colored stainless have been investigated, and the most promising appears to be the application of glazes. Glazing, as opposed to porcelain enamel, permits the metallic quality of stainless to show through instead of burying it under a heavy coating. As the picture above shows, the surfaces of textured stainless need not be glazed all over; highlights of the metal can be left bare for a patterned effect. On flat surfaces a variety of effects can be obtained with spattered finishes, using one or more colors and exposing areas of the metal.



Stainless skyscraper

This picture shows the detail of one of the stainless steel panels that make up the curtain wall construction of the Socony Mobil Building (left) being completed at 42nd Street and Lexington Avenue in New York. The new skyscraper (Harrison and Abramovitz, architects) is the biggest job yet for the stainless steel industry. It will have 42 stories and is being constructed of 20-gage type 302 stainless steel above the 4th story and a combination of colored structural glass and stainless on the first 4 stories. The panel pattern was decided upon after some 500 different patterns were tried. Convenience in handling, locations of joints, and economy in forming imposed design limitations. Because stainless steel becomes distorted when it is used in flat sheets, it was decided that a deliberate distortion was necessary.

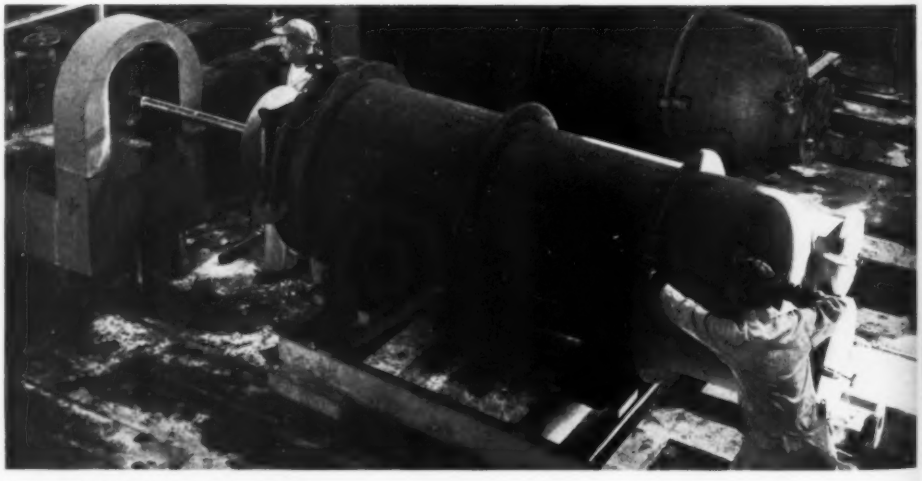
photo Frances Foote

NEW MATERIALS PROMOTE NEW DESIGN POSSIBILITIES

Plastic-coated metal parts
The good frictional characteristics of nylon may be combined with the dimensional stability of metals by coating metal parts with a thin layer of nylon. Tests have shown that parts with nylon coatings will withstand as much as ten times more the frictional wear than uncoated parts. Potential uses include many types of frictional applications such as elevator gibs, cams, rollers, bushings, locking devices, gears, and sleeve bearings. The part illustrated is a steel hook coated with nylon on the bearing surface to prevent scratching of contact parts when used for automation in the automotive industry. It was coated by the Polymer Corporation. Advantages with nylon-coated parts are: wear and abrasion resistance, low surface friction with little or no lubrication, specific chemical resistance especially to solvents and alkalies, surface and scratch protection, corrosion and rust resistance, high voltage or low frequency insulation.

Colored electric skillet
Color came to electric housewares this year through the development of a new enamel-to-aluminum-casting technique. This is the first electric thermostatically-controlled skillet with a vitreous enamel finish, a General Electric appliance with a turquoise enamel finish applied by Monarch Aluminum Company. The project director for the development of the new skillet was R. H. Koepf. Retail price is $19.95.

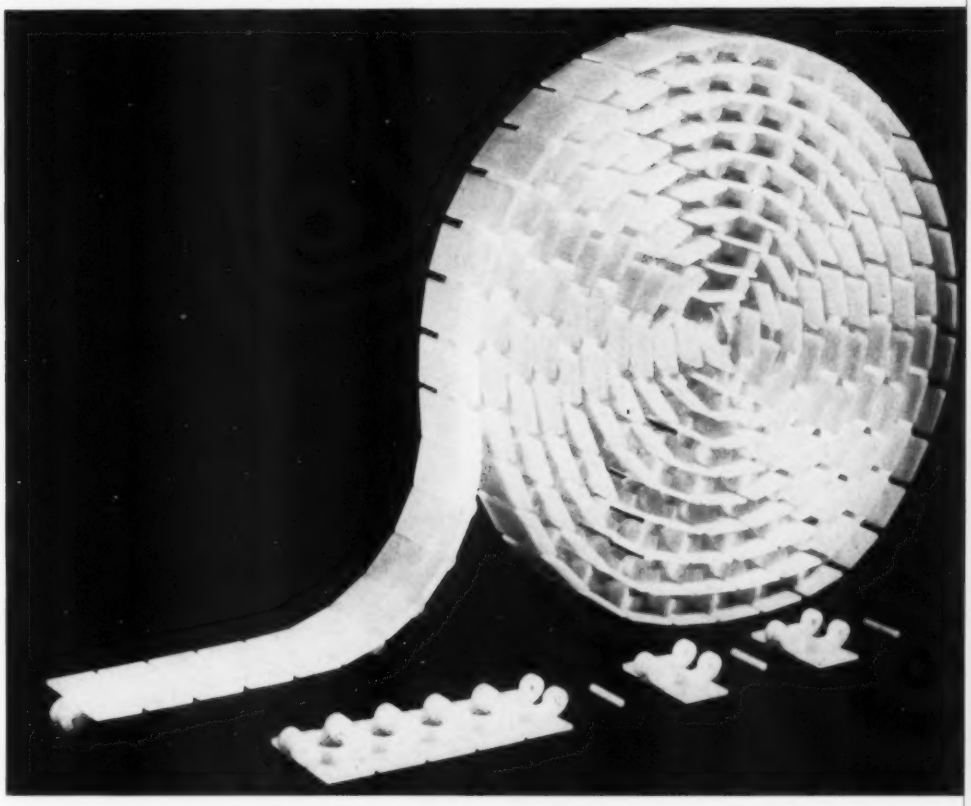
Leather radio
The case of this Philco 3-way portable radio uses leather as both a structural and finish material; the top grain cowhide is self-supporting and, in addition to being handsome, gives good impact-resistance and protection to the parts because of its slight resilience. Designed by Jon W. Hauser, the Philco Model 655, "The Sportster," operates on the standard broadcast band.



New nickel-plating process
A new method of chemical nickel-plating has been developed by Alco Products, Inc. Called Alcoplate, the process can be done by two different continuous-flow methods. One is for internal coating, primarily by a closed-cycle method, and the most practical and economical for volume plating of similar-sized products. The other method is the immersion process for both internal and external coating, and for selective plating of products.

Nylon conveyor belt

Many problems encountered with conveyor belts made with other materials have been overcome by using "Zytel" nylon resin. The nylon belt is particularly useful where corrosion resistance is required. It needs no lubrication, is resistant to food acids, alkalies, and brine solutions. The belt can be steam-sterilized, a great asset when food or beverages are involved.



Nylon shower head

Nylon has proved a practical material for the "Nylon Maid" shower head because it eliminates the possibility of corrosion and, having no chemical affinity for lime particles found in water, reduces the problem of clogging of the water holes. Designed so the force of the shower stream can be shut off at the head itself, the attachment has standard threading and can be used as a replacement in most showers.

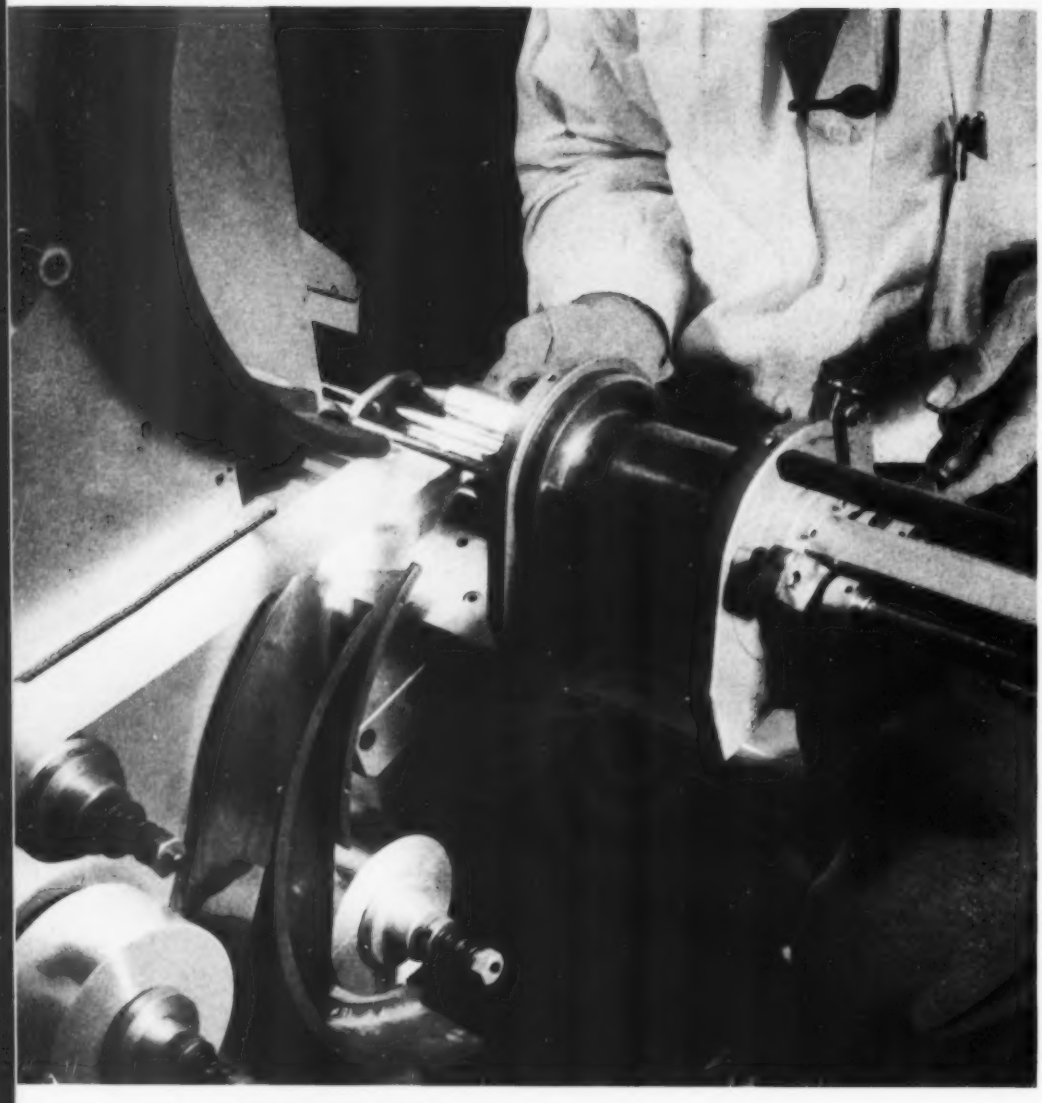
TV tube mask

A combination perforated speaker grille and picture tube mask vacuum formed from Campco S-540, a rubber-modified styrene sheet made by Chicago Molded Products Corporation.

Plastic truck

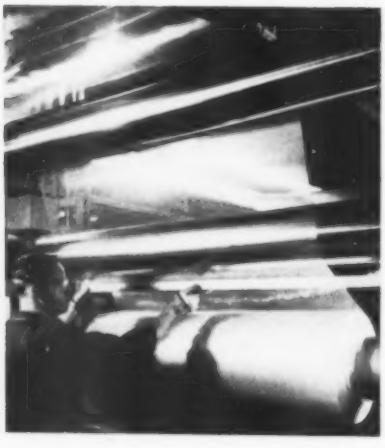
Made of Plaskon polyester resin and glass fibers, this plastic milk truck is easy to clean, has good insulation qualities, and has a high resistance to corrosion and rust. The truck body is made by Montpelier Manufacturing Company with the Plaskon polyester resin supplied by Barrett Division, Allied Chemical and Dye Corporation.

FILMS WITH A FUTURE—MYLAR AND PLASKON



Plaskon 8200

Barrett Division of Allied Chemical and Dye recently introduced nylon known as Plaskon 8200. An extruded film, it has an unusually high impact strength and abrasion resistance. Good for applications where a tough, permeable, flexible surface is needed. It is made clear, opaque or colored.



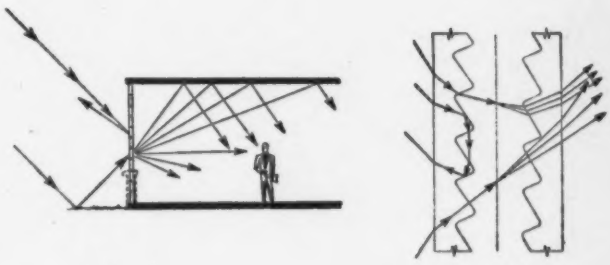
Mylar polyester film

The photograph above shows Mylar being wound with aluminum foil to make a condenser. Claimed to be the strongest of the plastic films, Mylar has high dielectric strength, making it very suitable as an insulating material. On the left, Mylar in its final stage of production. The film is made in a range of thicknesses from ¼ of a mil to 7½ mils. It can be used as a decorative material as well as in industry. Current uses include: insulation between turns in transformer coils, dielectric in capacitors, base for magnetic recording tape, drum linings, surfacing material for paneling and acoustical tile, decorative laminations, packaging for heavy or bulky items, etc.

TODAY'S MATERIALS ARE THE KEY TO TOMORROW'S DEMANDS

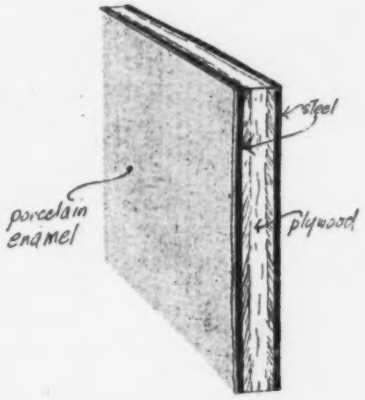
Glass blocks let in light and shut out heat

Glass, which goes back to prehistory, is still realizing major improvements. The diagrams on the right illustrate the function of a new glass block designed for use in areas with severe sun conditions. Manufactured by the Kimble Glass Company, a subsidiary of Owens-Illinois Glass Company, the new glass block rejects unwanted solar heat and light when the sun is 35 to 60 degrees altitude. Above and below this intense band, acceptance of light gradually increases, and the block is particularly efficient in transmitting cool ground-reflected light.



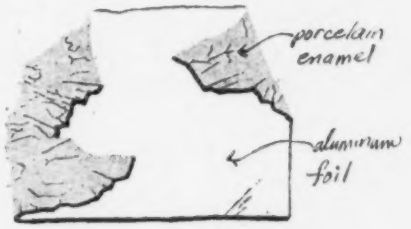
Laminated panel—light as wood, strong as steel

A new weatherproof building panel named Porc-lin-ply, now being made by United States Plywood Corp., is a laminated facing panel which can be used both indoors and out. Weatherproof, Porc-lin-ply is the result of improved adhesives and techniques of manufacture of porcelainized steel. It consists of a porcelainized steel face laminated to exterior-grade Weldwood plywood. A zinc-coated steel backing of .010 Wierzen steel balances the panel and keeps it flat.



Porcelain enameled aluminum foil

The third diagram on the right shows a brand new product—porcelain-enameled aluminum foil. In fact, it is so new that there are no established applications for it yet. Made by Ferro Corporation of Cleveland, Ohio, the brightly colored foil has an inorganic finish which is glass and can be run in any color from glossy to matte surface. The porcelain enamel is about .003" thick and is applied continuously at 975° F. The foil is .005" thick and can probably be increased to .016" or more. Possible uses for porcelain-enameled aluminum foil could be for table tops, for laminating wallboard or anything anybody might think up. The surface is washable, will not fade, is immune to heat, alkalies and most acids, and non-abrasive. The new material can be cut with ordinary household scissors, formed and drilled, and will not craze when lightly crumpled.



Mylar polyester film—uses coming up

Perhaps more attention has been given to Mylar than to any other material developed in recent years. There is no way of knowing whether Mylar is as much of a miracle material as it is hoped, but its characteristics warrant a great deal of consideration and investigation. Developed in 1952, but still in very limited use, Mylar is a polyester film that has a high dielectric, impact and tensile strength. It is water repellent, chemically resistant, and remains stable over a temperature range of from —60° to 150° C. Mylar can be used as insulation, for packaging, or for laminations. Using special inks and a modified press, it can be printed. It is still expensive for mass packaging of low-cost products, but for heavy or bulky items and where a very strong protective wrap is required, it does a good job. Mylar is still having growing pains. Problems with the new film include an affinity for static electricity and sealing difficulties. To help overcome these problems and to stimulate new uses for Mylar, Du Pont's Film Department opened a new million-dollar laboratory in October for sales and technical service. The laboratory will investigate applications, new markets, and the improvement of the quality, properties and utility of cellophane, acetate film, and cellulose, but the emphasis will be on Mylar.

"Cronar"

Du Pont's polyester photographic film base, "Cronar," which has been under development for eight years, went into continuous production for the first time in 1955. Related to Mylar chemically, "Cronar" is a condensation polymer. The toughness of the film and its high dimensional stability makes it especially suited as a base for motion picture film, graphic arts films, and microfilm. The toughness also permits the thickness of motion picture film to be reduced from the standard 5.5 mils to 4 mils, making the new base significantly thinner and reducing shipping weight and storage volume. "Cronar" is another example of how the characteristics of a new material make it particularly suited for special applications.

Polyflex polystyrene

Plax Corporation, Hartford, Connecticut, recently introduced a new oriented polystyrene sheet that they call Polyflex. The material is transparent, odorless and tasteless and has already found application in food packaging. Plax officials feel certain that when forming machinery is perfected Polyflex will eventually replace paper for packing meat and other foods. It would enable customers to examine both sides of a steak, and since Polyflex can be formed into rigid trays, the merchandise could be stacked.

Polyethylene finds new application

Polyethylene, whose big boom has been in packaging and home use, found increasing industrial use during the past year. For instance, it is now replacing slotted rubber tubing in Exide batteries, and it is anticipated that it will lengthen battery life and increase battery capacity. In Exide batteries finely slotted tubes keep the active material in contact with grid spines and permit it to be penetrated freely by the battery electrolyte. With polyethylene tubes, the slots retain their original designed dimensions, preventing loss of active material. Polyethylene can be slotted to a greater percentage of porosity than rubber, giving the battery higher initial capacity.

How about the future? As manufacturing techniques are improved and as the production of the newer materials grows in volume, and prices go down, there will probably be a much greater development in coatings and laminations. Because of their infinite variety, workability and economy, plastics have been one of the major driving forces behind the successful hobby and craft industry; this has already lapped over into the do-it-yourself market, and will increase as the trend itself grows. Today there are plastic greenhouses, plastic swimming pools, plastic signs, plastic domes; it has even been suggested that plastics could make a rational contribution in milk bottles, to take care of the familiar six a.m. clank for once and all.

Powder metallurgy development

Plastics, however, did not steal the entire stage this year. 1955 was important in the development and application of new metals and new techniques in metallurgy. Powder metallurgy, usually associated with the production of machine parts, porous bearings, filters, cutting tools, and iron cores, witnessed developments that produced engineering materials having new properties and providing new economies in fabrication techniques. These recently developed techniques include continuous rolling of strip or sheet directly from metal powder, special structures for high hot strength and resistance to annealing, the sintering of high-strength steels, the fabrication of sheet by flame spraying, the preparation of porous, corrosion-resistant sheet, and the sintering of reactive metals, such as zirconium, from their hydrides.

Big order boosts titanium

Titanium, the wonder metal that has given trouble until recently because of its eccentric behaviour and fabrication difficulties, is still very expensive and in limited use. This year, however, the first order of any significance on record for titanium fasteners, and the first big-money profession of faith in the metal by an aircraft manufacturer for vital structural applications, was realized when Convair ordered 650,000 dollars worth of titanium bolts from Standard Pressed Steel Company. The 5,000 pounds of titanium bolts ordered can replace a total of 8,750 pounds of steel bolts.

Aluminum and color

Excitement in the aluminum industry centered around color. Obviously a great deal of research has been done to develop colored aluminum that will stand up under sunlight and other corrosive natural elements. Although statements by manufacturers tend to be conservative about the immediate applications of aluminum for exterior use, the problems are being ironed out rapidly. There has been a noteworthy increase in the use of aluminum for automobiles. The 1955 Chrysler New Yorker Deluxe Sedan had more than 70 pounds of aluminum, reducing the car's overall weight by 210 pounds, and Alcoa engineers estimate that 262 pounds of aluminum could be feasibly used on a standard automobile.

Glass is made stronger

Not all the new developments in materials during 1955 were in spectacular newcomers; some of them were found in materials that have been around so long that it would seem almost impossible to do anything more to them. A new fabrication of a glass block has already been mentioned, but glass had other developments. A British firm, James A. Jobling and Co. Ltd., produced a glass which, although it is not indestructable, is said to have two or three times the strength of any other glass on the market. In addition to its extraordinary strength, the new glass has an unusual stainproof quality. In a delightfully British manner, Jobling scientists dipped the glass into solutions of strong tea for months and found that it did not stain—unscientific as it sounds, a very rigid stain test.

Wood has a big year

Wood, probably man's oldest useful material, shows no sign of being crowded out by new materials. It is, in fact, enjoying a bigger boom. Last August, for example, the largest single shipment of mahogany in the history of the United States was received from the African Ivory Coast by Palmer and Parker Company, Charlestown, Mass., the nation's oldest mahogany mill. More than 2,800 logs, weighing 9,500 tons will be made into 18,000,000 feet of high quality veneer.

Whether or not we are in the Plastic Age, Titanium Age, or Stainless Age is hard to say; more likely it is the multi-material age. We have more materials than ever before and nothing indicates that the trend will lose impetus in the years to come. Each material, new or old, presents problems, but much more challenging, it presents new design possibilities, new concepts, and new avenues for expression in 1956.

THE USE OF SELLING DEVICES IN '55

in the United States made more salesmen out of designers, and vice versa, than ever before. Lavishness and ingenuity were the distinguishing marks—not only in traditional packages but in displays for counter, window and lobby, in dispensers and shipping cartons, in promotional gimmicks pure and simple. Wherever a manufacturer could get into a customer's line of vision, design was called in for a selling job, frequently a comprehensive and three-dimensional one. Wherever the lavish and the ingenious in selling devices were combined with good design, elegance was the happy outcome, as in the colorful give-away paperweight below. Low-pressure though its message is, the purity of its material and the excellence of its design join to tell the story of Cortisone more persuasively, and more pleasurably, than a literal jab in the arm.

121 Give-away paperweight
National Drug Company, Philadelphia
Matthew Leibowitz, consultant designer

Glass ampoule vials (Wheaton), filled with material resembling ACTH—Cortisone, rubber-stoppered and aluminum-capped; methyl methacrylate resin (Rohm & Haas) poured, cooled, sawed apart, hand polished, hand silk-screened (Name Plate Products Company with Karv-Art Company).

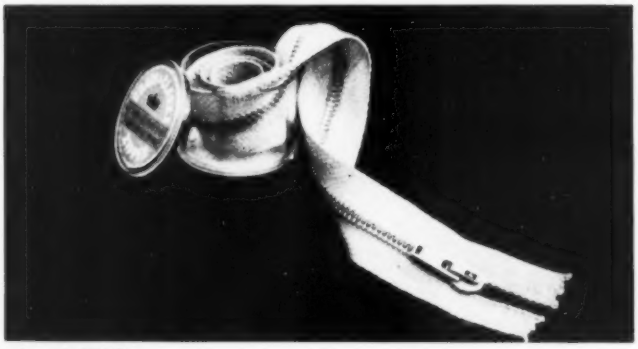
THE YEAR'S DISPLAYS PLAY ON VIVID COLORS AND SHAPES

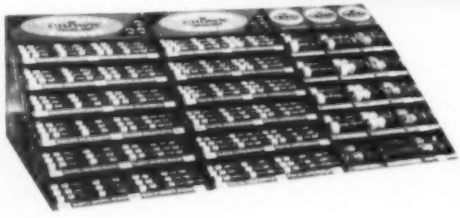
This year as always, color captures the fancy, and the displays on this page have been designed to provoke fancy into an impulsive reach across the counter, for lozenges or a pencil, zippers or a frothy draught. The Budweiser lamp shades (122), reminiscent of cans, are bold triangulations of color that revolve slowly on the wall behind a bar to bewitch the idle toper with ever-changing patterns. A novel point-of-sale treatment for zippers (123) is the combination of round, transparent packets for each zipper and a counter unit which divides into separate sections for each type of zipper and subdivides for each length available. The result is a fully visible, colorful array. The problem with throat discs is to have them express their nature as a medicant and still give candy on the same counter some spirited competition. Lippincott & Margulies' solution (124) is a red, white and blue box that is vividly medical and, on the display card, a cartooned chap who is relishing his throat discs with a candy-eater's sort of mania. The Liquid Lead pencil package and counter unit (125), latest in Dave Chapman's coordinated packaging-display program for Parker, are both worked out with the diamond emblem and a color scheme of black, white and mustard yellow.

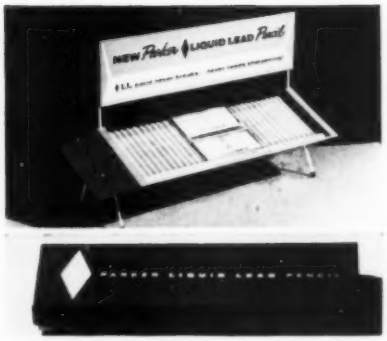
On the facing page is a recent CBS stunt (126) to promote increased daytime radio listening. Kits of ten folded houses, with one serving as envelope for the printed matter, were mailed to all network stations. The houses were to be set up in appliance stores with radio displays. Chic simplicity is Alexey Brodovitch's way of attributing a poodle elegance to Burlington stockings (128), while the frankest, most tangible sort of sales appeal is made by Marco's catalog (127), bound and covered with actual parts from the company's production line.

122 Heat lamp display
Anheuser-Busch, Inc., St. Louis
Jerome Gould, consultant designer

Wall brackets of iron wire include socket harp, cord, and bulb; silk-screened vinyl cylinders attached to rotor (Plastic Service Co.).







125 Pencil package and counter display unit
Parker Pen Company, Janesville, Wis.
Dave Chapman, consultant designer

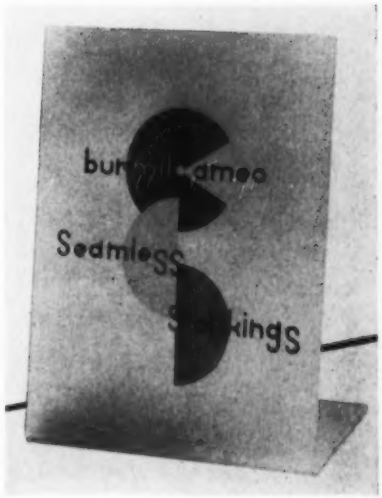
Box: flint paper, printed in gray on yellow stock (Dennison Manufacturing Co.). Display unit: wood, with glass protector (Harve Ferrill Co.).

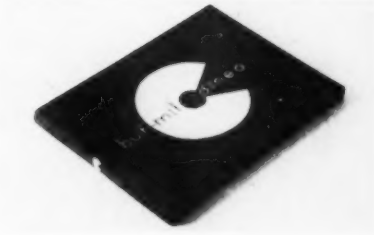
126 Radio-listening promotion set-up
Columbia Broadcasting System, New York
Louis Dorfsman, designer; Naiad Einsel, artist

Black, red and white printed on cardboard. Die cut house can be assembled without staples or glue.

127 Product catalog cover
Marvin Manufacturing Company, Los Angeles
Mitchell Babrick, designer

Heavy-gauge steel in chrome and black matte-actually a ceiling trim frame from one of the company's standard recessed fixtures; imprinted plastic panel.

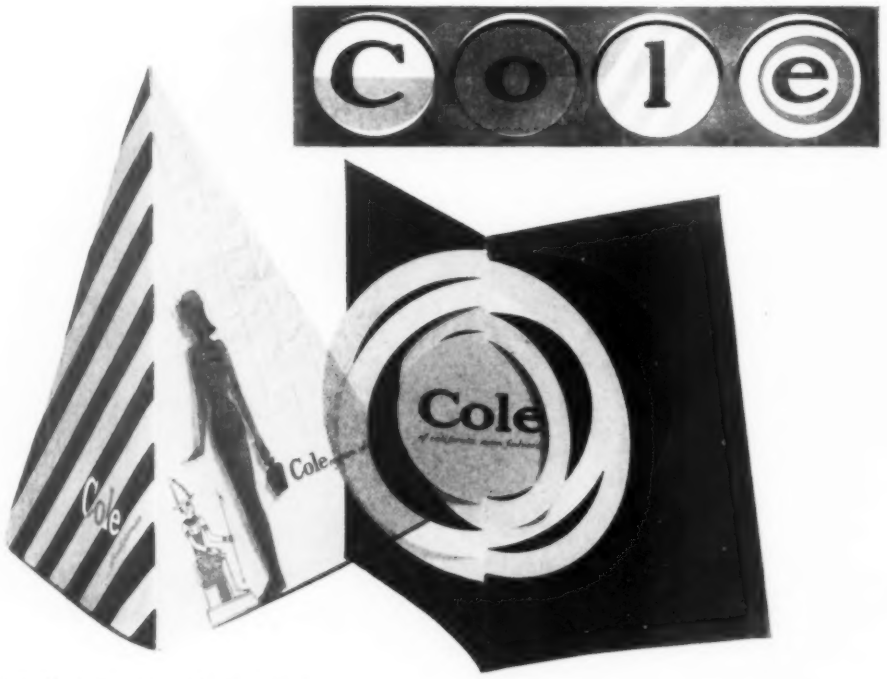




NEW DISPLAYS DECORATE OR EDUCATE; NEW DISPENSERS SELL

To remind shoppers of sunshine and health on the beaches, and thus to encourage the sale of beachware, Cole's series of window or point-of-sale mounts (129) colorfully evokes the sun in its orbits and the sands of Egypt. With equal subtlety, suede jackets are promoted by Marshall Field with an educational display (131) that roves throughout the store. A neat Fiberglas exhibit extolling Fiberglas (130) invites lobby-sitters at Owens-Corning to circulate, and then controls circulation with an ordered sequence of word and picture.

On the opposite page are some products related by an identical role: they dispense other products. Two of them, the paper-cup vendor and the portable cooler (132, 133), are perfectly traditional types of dispensers that have achieved considerable refinement. Two others, the cigarette machine and the tape dispenser (134, 135) are novel solutions to familiar dispensing problems, while the Alemite dispenser (136) is a new way of protecting and promoting someting inherently indifferent to display — grease fittings.

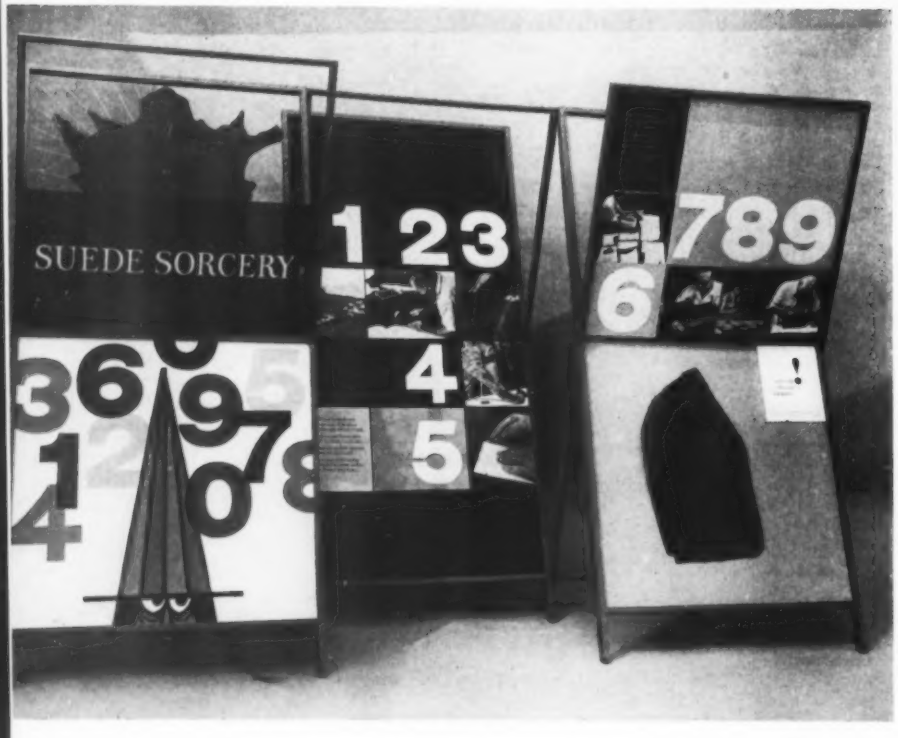


129 Window and point-of-sale displays
Cole of California, Los Angeles
Jerome Gould, consultant designer

Pyramid and counter cards (lower left and right); 70# offset book on 40-point board die cut and lithographed (Western Lithograph); Wall banner (upper right); 120# stock die cut and silk-screened (Royal Sign Craft) in red, yellow chrome and black.

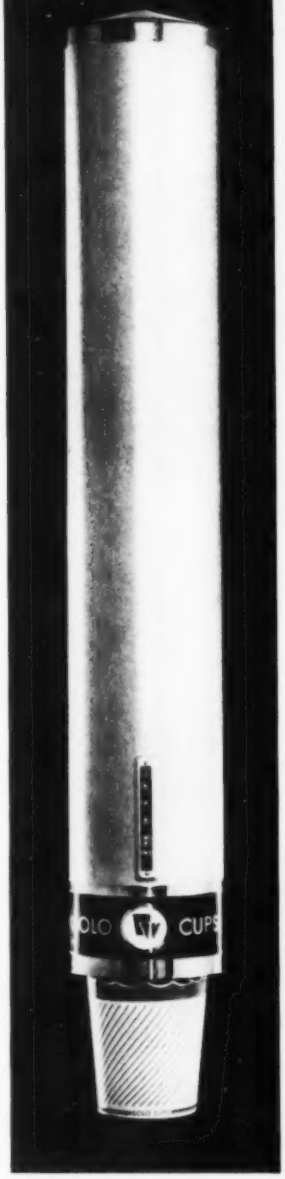
130 Lobby exhibit
Owens-Corning Fiberglas Corporation, Toledo
Harley H. Melzian of W. B. Ford Design Corporation, consultant designer

Fiberglas screening (Owens-Corning); copy panels and bugs suspended behind screening provide color. Mounted on poles and centered in lobby as island.



131 Product promotion display
Marshall Field & Company, Chicago
Saul Bass, consultant designer

Vermilion frames; white, black and yellow panels; blue-green transparent plastic sheet. Folds flat in three separate units. Fabricated by designer.

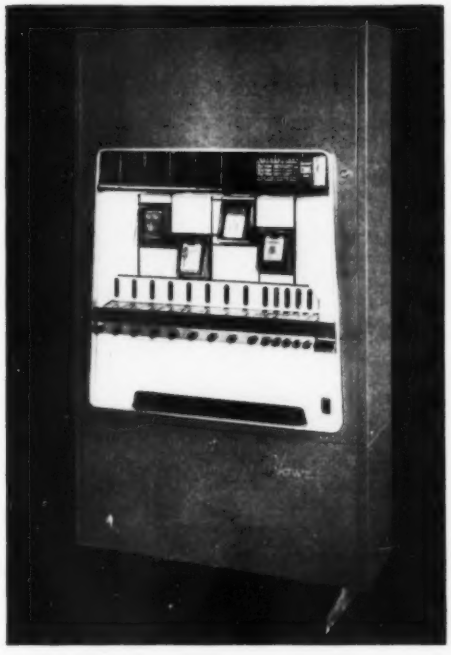


132 Paper cup dispenser
Solo Cup Company, Chicago
J. O. Reinecke, consultant designer

Anodized aluminum cylinder (Reynolds); stainless steel cap (Greer Steel); blue and white wraparound engraved nameplate (Northern Engraving). Fabrication of cap and cylinder by stamping (Griffith-Hope).

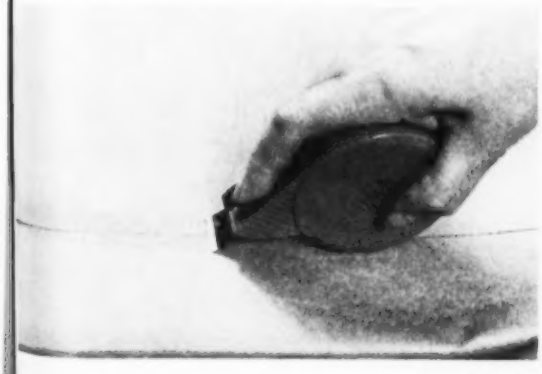
133 Portable cooler
Progress Refrigerator Co., Louisville
Peter Muller-Munk, consultant designer

Steel, finished with automotive-type red enamel; fiber glass insulation; chrome fittings. Refrigerant is ice.



134 Cigarette vending machine
Rowe Manufacturing Co., New York
Raymond Spilman, consultant designer

Steel case (U. S. Steel) finished dark blue; brass-colored anodized aluminum trim (Alcoa); display bubbles of Plexiglas (Rohm & Haas), injection molded (Sterling Plastics).



135 Cellophane tape dispenser
Cosom Industries, Inc., Minneapolis
Scharfenberg-Polivka, consultant designers

Red and gray polystyrene body (Bakelite), injection molded (Rainbow Plastics); serrated spring blade. Designed for one-hand operation.

136 Dispenser for grease fittings
Stewart-Warner Corporation, Chicago
A. Fuller Dean, designer

Metal display rack contains five die-cut cardboard dispensers, each in turn containing 100 fittings individually packaged in plastic.

TECHNICAL PACKAGING INNOVATIONS REVIVE OLD MARKETS

A lotion manufacturer once discovered to his own amazement that consumption of his product was increased when the orifice of his bottle was widened. This illustrates a point — technical innovations in packaging can revitalize a product's market. Polyethylene has introduced many packaging possibilities — among them, the bottom-filled bottle from extruded tube (137), and the roll-on deodorant dispenser (140). Dylite foam, custom molded packages for delicate objects (144) eliminate costly hand packing. They can be air-dropped, trodden upon by elephants, etc., and the colorable cushions are reusable as cold-storage containers or cigar humidors. Plastic capsules containing tiny machine parts are packaged in an orderly array (145) and are quickly stripped off in sequence by an assembler.

Rounding out this spread are three versatile cartons for storage as well as shipping or carrying home, one for children's records (142), one for croquet equipment (143), and one, the ingeniously cut, readily reusable Smarty Pak shipper or carry carton (141), for nearly anything that is given away at conventions or sold in stores.

137 Polyethylene spray bottle
Henry Thayer Company, Cambridge
Samuel Ayres, Jr., consultant designer

Fabricated of polyethylene (Bakelite) by a combination of extrusion and molding techniques (Bradley Container Corp.).

139 Pak-Lok
Lynn-Western, Inc., Los Angeles

Clips that clamp together units of 4, 6, 8 or 12 cans (Industrial Manufacturing Services Corp.).

138 Tetrahedron-shaped milk container
Akerlund & Rausing, Lund, Sweden

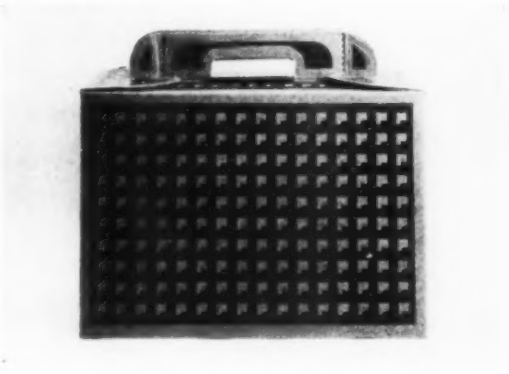
Filled and sealed on one machine from single roll of material; adaptable for pint quantities or less.

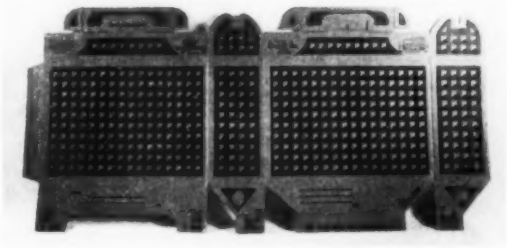
140 Deodorant dispenser
Bristol-Myers Company, New York

One-ounce glass bottle (Owens-Illinois Glass Co.); styrene marble (Grange Products Inc.); molded and precision-ground Pyro Plastics); polyethylene retaining ring and styrene cap (Owens-Illinois).

141 Smarty Pak
Ed Muhs Company, Berkeley
Helen and Ed Muhs, designers

125# to 275# test corrugated board; die cut (Robert Gair Co., Flintkote Co.); kraft finish; snap-lock assembly.



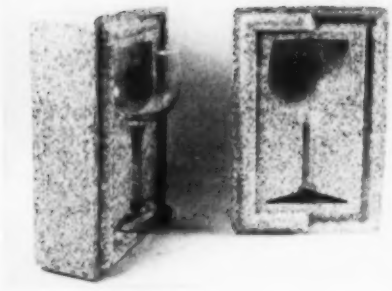


142 Box for children's records
Simon & Schuster, Inc., New York

One-piece construction (Hinde & Dauche); self-locking top and bottom; die-cut side flaps hold the eight records in place.

143 Carton for croquet set
South Bend Toy Company, South Bend
Good Design Associates, consultant designers

Red and blue on kraft board; die cut (Bell Fiber Corp.)

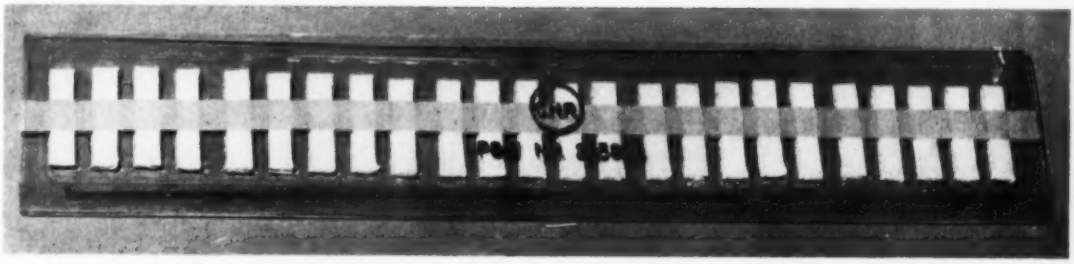


144 Plastic foam packages

Both clarinet nest (left) and goblet package (right) of Dylite (Koppers), a polystyrene, color-permeable foam; former molded by Bruce Molded Plastic Products, Inc., latter by Ambassador Plastics and Manufacturing Corp.

145 Machine parts package
Watertown Manufacturing Co., Watertown, Conn.

Engine parts in capsules of plastic (Plax).



SIMPLE PACKAGES AND LABELS WORK AS COLORFUL PROMOTERS

Unrelated though they seem, the items on this spread combine to demonstrate the effectiveness that packaging can have in identifying and promoting faucets or sponges, vitamins or ales or anesthetics. They are distinguished by clear, consistently graphic emblems and letters, and by the liberal use of suitable color. A new Lever Brothers soap (147) enters the market in gold aluminum foil, printed in blue and white; a new Molson brew (149) indicates its aristocracy with a regal lion, its lightness with gold and pale blue inks, its family status with the familiar racetrack lettering. Lester Beall's package labels for the Torrington Manufacturing Company (150) are one small part of his really comprehensive graphic design program for this industrial concern. (ID: June, 1955).

Multivitamins have been rehoused in a supremely reusable apothecary jar (151), labeled in black on gold foil, while Moen faucets are now appearing in a sprightly Christmas sort of wrap in red and black (152), complete with a seal. Saul Bass' detergent can (155) in four colors repeats the pink of the liquid in the cap and in a drop motif against a blue field, while Jerome Gould evokes a chilly product name, Ice Sprae (157), in jagged iceberg blocks of blue, black and gold.

146 Anesthetic dispenser
Doho Chemical Corporation, New York
Harry Zelenko, consultant designer

Standard aerosol canister; black cap; label of red and black on a soft gray-green field (Ramapo River Printers).

147 Dove soap wrapper
Lever Brothers Company, New York

Paperboard folding box overwrapped (R. A. Jones & Co.) in heat-sealed, gold-colored aluminum foil (Reynolds); printed in blue and white.

148 Box for "Clock of Tomorrow"
Westclox Division of General Time Corporation, La Salle, Illinois
Donald Dumont of Dennison Manufacturing Company, designer

Base, cover and shoulder (Baird and Bartlett); platform (Lydall and Foulds); fabric (Oberman Fabrics); paper (Wyomissing Paper Co.); fabricated by Dennison.

149 Golden Ale label
Molson Brewery, Ltd., Montreal
Lippincott & Margulies, consultant designers

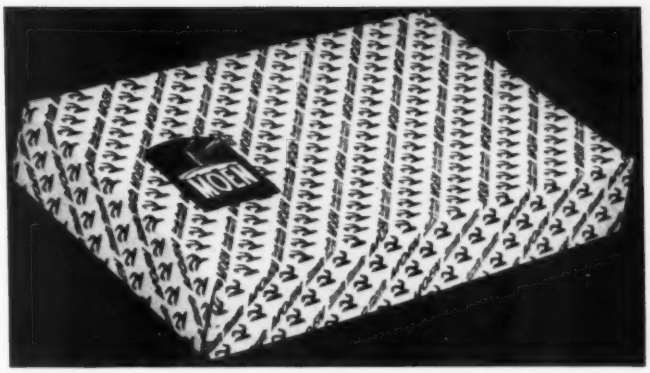
Body and neck labels printed in gold, light blue and white (Aluminum Rolling Mills).

150 Labels
Torrington Manufacturing Company, Torrington, Conn.
Lester Beall, consultant designer

Printed in blue and black (Tomkins Label Service).

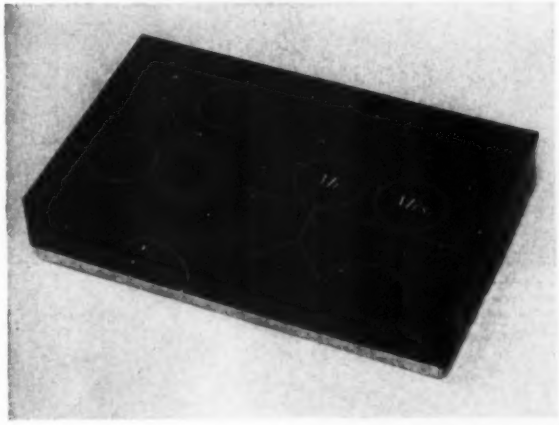
151 Unicap dispensing bottle
The Upjohn Company, Kalamazoo
Painter, Teague & Petertil, consultant designers

Glass bottle and ground glass stopper (Wheaton); foil label printed by Upjohn; cellulose neck seal (Armstrong Cork).



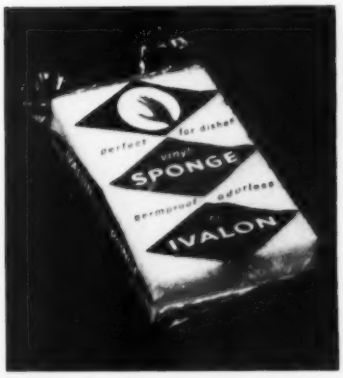
152 Faucets package
Moen Valve Division of Ravenna Metal Products Corporation, Seattle

Red and black printed on white; fold-down end flap fastened by seal (Gaylord Container Corp.)



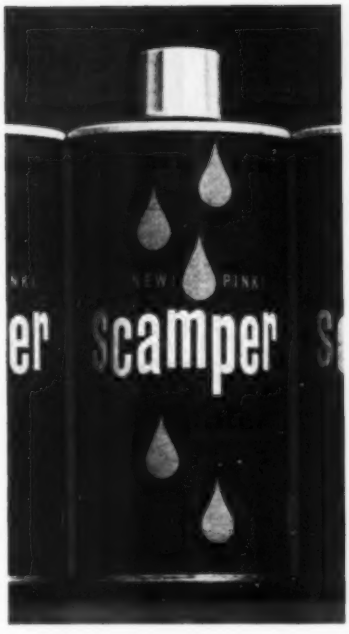
153 Gift box for hotel guests
Hotel Sahara, Las Vegas
Jerome Gould, consultant designer

Set-up box in gold and black (Gift Pak).



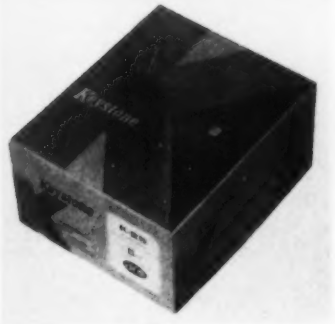
154 Ivalon sponge wrapper
Simoniz Company, Chicago
Lester Beall, consultant designer

Polyethylene fabricated on P.B.M. machine (Millprint, Inc.); finished in three colors with over-all lacquer.



155 Liquid detergent can
Safeway Stores, Inc., New York
Saul Bass, consultant designer

Standard can (American Can); lithographed in four colors (American Can) on metal.



156 Movie camera box
Keystone Camera Company, Boston

Kraft stock printed in red, black, white. The red "K" is company's trademark.

157 Ice Spray aerosol can
Lee, Limited, Beverly Hills, Cal.
Jerome Gould, consultant designer

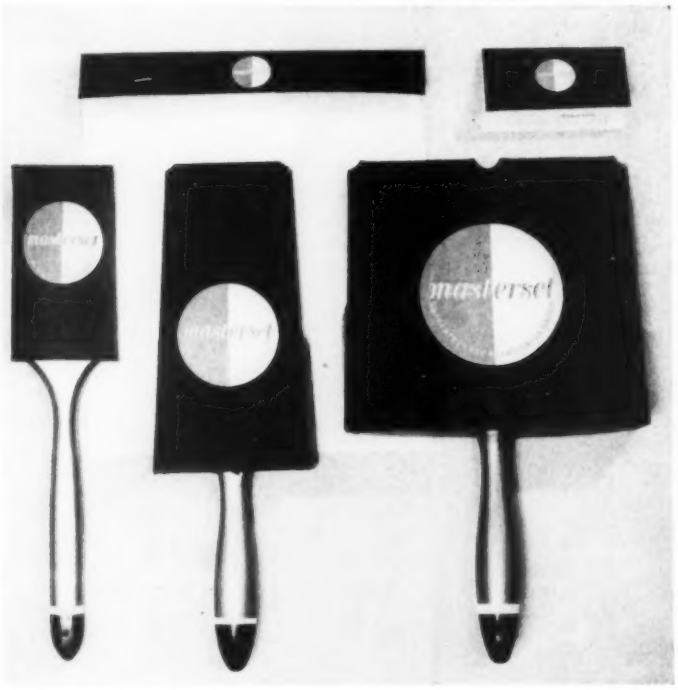
Blue, black and gold lithographed on metal container (Schmidt Litho).

DESIGN THEMES AND VARIATIONS RELATE PRODUCT GROUPS

Two approaches to the problem of packaging similar items in a company line are demonstrated on this page. The products must be made distinctive one from another, while expressing, somehow, their relatedness. This "how" is usually a trademark, and variations on a standard set of colors are often employed to this end. Alvin Lustig, for the Masterset brushes and letterheads, developed a simple, bisected circle of blue and white for a trademark, and carried it, and even the color combination, throughout, varying only its size. To make each brush distinctive, he highlighted the handles, with their various shapes, by setting them sharply against the bold, black sleeves, and the sleeves themselves loudly assert the different shape of each brush.

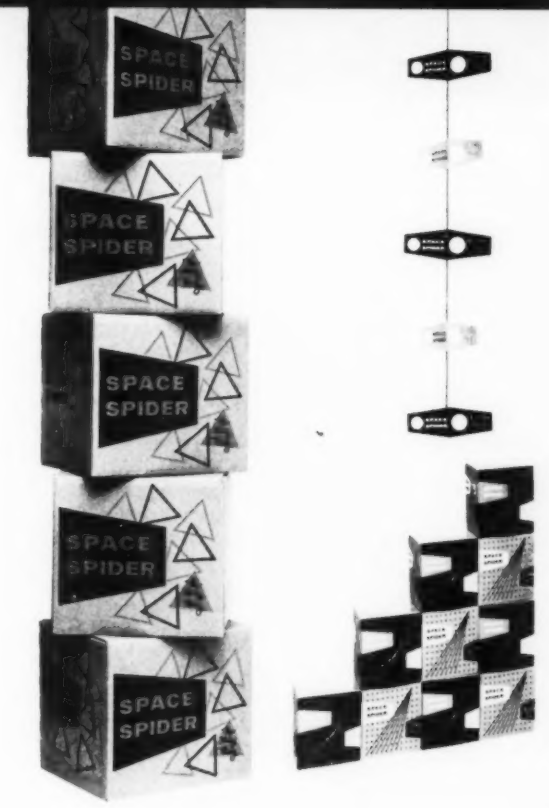
J. Chris Smith, after developing a trademark of irregularly concentric rings for the Courtley line, makes his product distinctions by variations in the printing of his four chosen colors—blue, orange, charcoal and white—the sloped package shapes remaining constant.

Space Spider (160), whose webs are woven with elastic thread, is a design toy with an angular accent, and its package, an equilateral wedge in red, black, gray and white, effectively dramatizes the contents. Adoption of the wedge shape cut weight by 40%, shipping space by 80%, and substantially reduced packaging costs, while making a geometry toy more tangibly geometrical. Pickering's hi-fi package (161) knits the various components—pickup and two individually packaged needles—into a miniature showcase that sells the delicate items as well as it protects them. Motorola's redesigned shipping containers (162) have a new trademark suggesting radio waves in an "M" motif and make use of modular printing plates, while a stylized lightbeam spotlighting a familiar trademark is Eveready's new flashlight salesman (163).



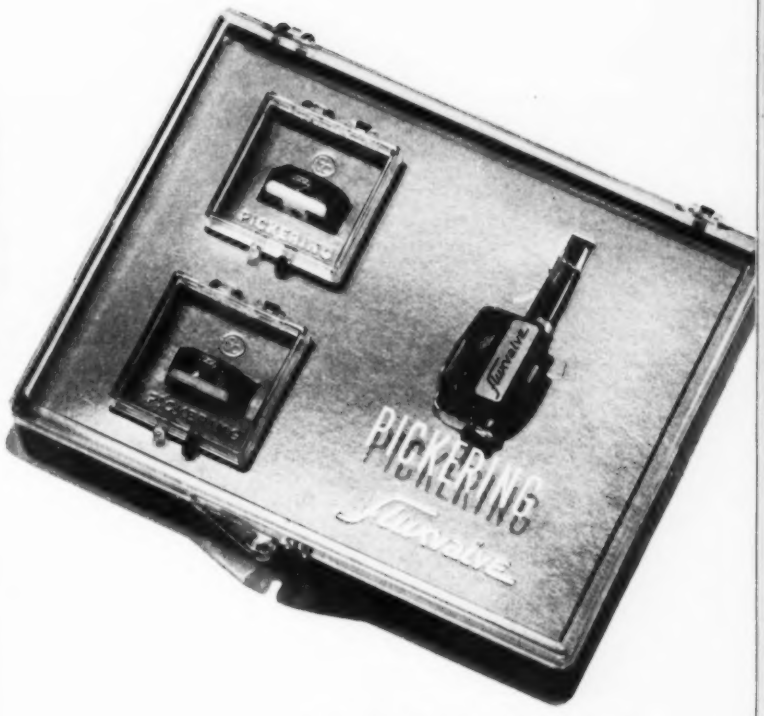
158 Paint brush packaging
Masterset Brushes, New York
Alvin Lustig, consultant designer
Black wraps (Carl Spiers); blue and white labels

159 Courtley toiletries packaging
Lee Limited, Beverly Hills, Cal.
J. Chris Smith, consultant designer
Aerosol deodorant: can (Continental Can); cap (Sterling Cap); offset label (Schmidt Litho); aerosol loader (George Barr & Co.). Boxes: board (American Coating Mills) printed by letter press.



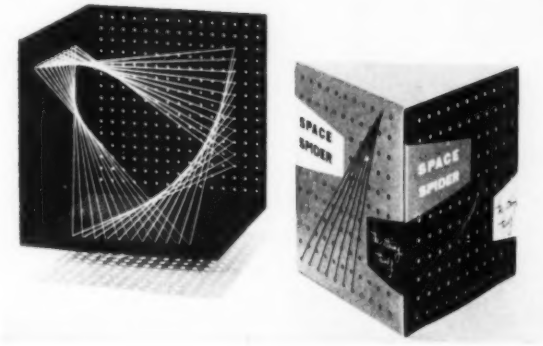
160 Space Spider box and shipping carton
Walker Products, Berkeley, Cal.
Walter Landor, consultant designer

Box: silk screened in gray, red and black (Velvetone Co.) cut on two-up die to minimize wastage. Carton corrugated board (Container Corp.).



161 Package for hi-fi pick-up and needles
Pickering & Company, New York
Raymond Spilman, consultant designer

Plastic boxes with clear tops and white lettering (Hake Plastic Box Co.); die-cut paper platforms with gold lettering on light blue; dark gray plaster of paris needle holders, die cut and glued.

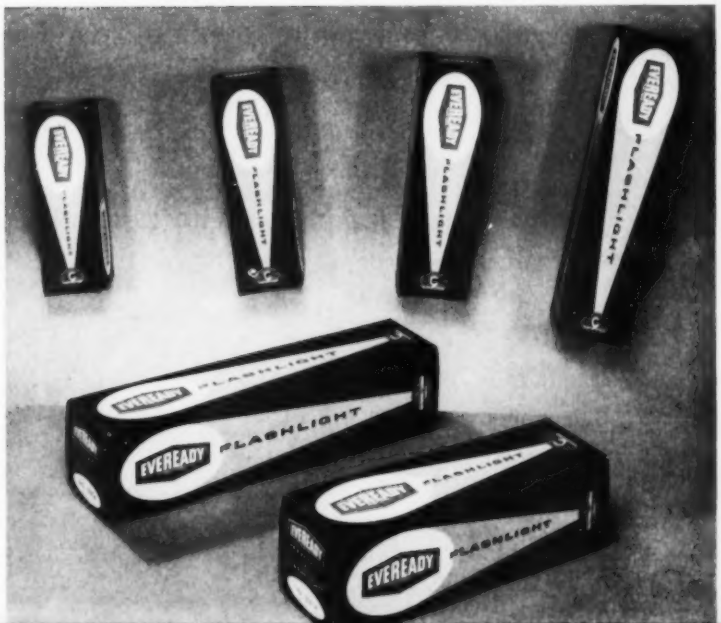


162 Radio, TV, hi-fi shipping cartons
Motorola, Inc., Chicago
Morton Goldsholl, consultant designer

Corrugated kraft liner printed in two colors.

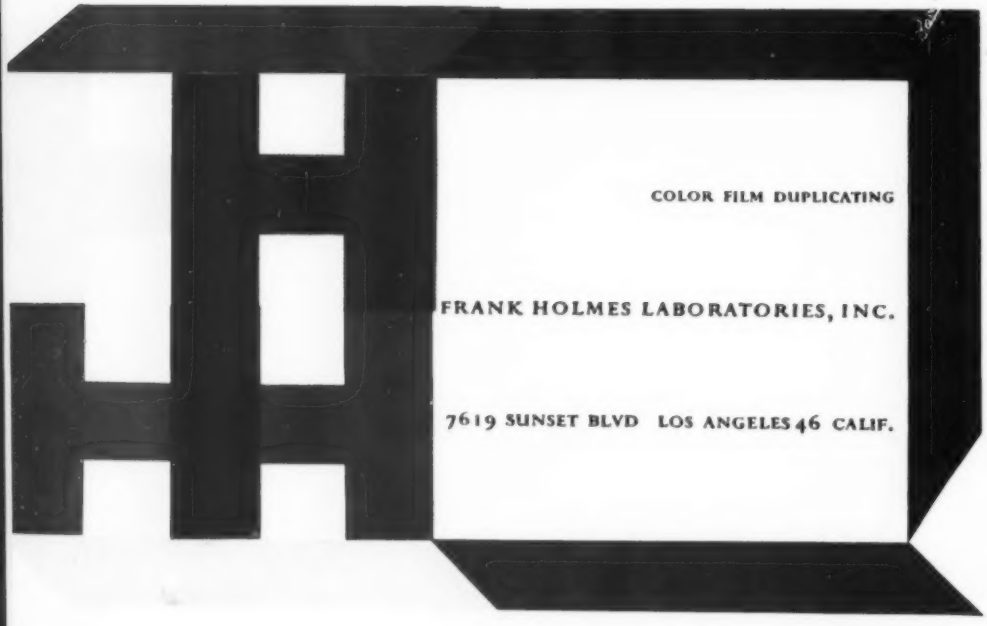
163 Eveready flashlight cartons
National Carbon Company, New York
Robert G. Neubauer, consultant designer

Folded cardboard (Fort Orange Paper Co., National Folding Box Co.).



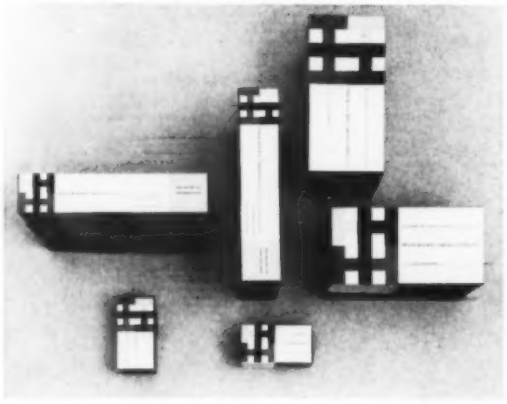
SELLING

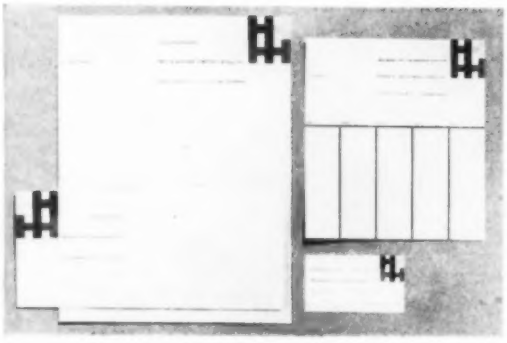
HOLMES FILM PACKAGING USES COLOR THREE-DIMENSIONALLY



164 Film cans, cartons and letterheads
Frank Holmes Laboratories, Los Angeles
Saul Bass, consultant designer

Can labels and carton wraparounds printed in black, blue, red and yellow by letterpress (Anderson, Ritchie & Simon); letterheads printed offset in same colors; carton box (Monarch Box Co.), plates (Mission Engravers), paper (Warren Coated Labels).

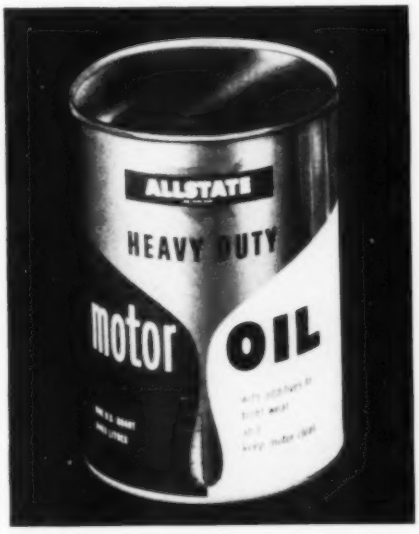




Some companies cater to specialized clienteles; others go out for one and all. On this spread are two family groups—one primarily tagged for professional use, the other directed toward John Q. and Mary. Both are excellent programs, demonstrating that good packaging, sophisticated or primitive, fastidious or ribald, must imaginatively express the product in a way apt for the product and meaningful to the prospective customer. The cans, boxes and letterheads which Saul Bass designed for Holmes Laboratories were calculated to appeal to people who have a vested interest in color—they submit color films to Holmes for duplication. The graphics had to be good, with an emphasis on color, and in the absence of specific product symbols, Bass worked out an H-theme in blocks of opulent inks that certainly suggest a quality duplication process. And when colors were carried to the secondary surfaces, his design became three-dimensional.

Sears, Roebuck's mass merchandising produces some built-in packaging problems. First of all, the vast number of package designs, staff and consultant, that are produced for this marketing empire must be coordinated. The Packaging and Labeling Division, managed by Mr. C. W. Harper, has this task, and its guiding hand is evident throughout the Sears line. Most of the package designs must be amenable to vertical as well as horizontal display and must be flexible enough to be repeated in different sizes. Meeting these demands, and making consistently decorative use of realistic motifs, Sears has managed to produce a huge family of packages that, set side by side, would make any respectable supermarket blush with shame.

SEARS PACKAGING USES REALISTIC MOTIFS DECORATIVELY



165 Allstate motor oil quart and gallon cans, shipping cartons
Sears, Roebuck & Company, Chicago
Nugent-Graham Studios, consultant designers

Cans (Continental Can, American Can) lithographed in gold and white with key color change of red, brown and blue for regular, heavy-duty and all-weather varieties; cartons fabricated of corrugated kraft (Fort Wayne Corrugated Co.), white as constant color with same key variety changes.

166 Packaged nail assortments
Sears, Roebuck & Company, Chicago
Bruce Beck, consultant designer

Fiber cans (Sefton Can Co.); varnished paper black on white is constant, with background colors varying for different types of nails.

167 Douche powder and tablet bottles
Sears, Roebuck & Company, Chicago
Hayward Blake, staff designer

Glass bottles (Hazel Atlas Glass); blue on white labels (M. L. Franklin Co.).

168 Tower camera boxes
Sears, Roebuck & Company, Chicago
Lawrence Muesing, staff designer

Set-up boxes (Congress Paper Box Co.); green and black on white stock, with high-gloss varnish. Format covers all photographic equipment.

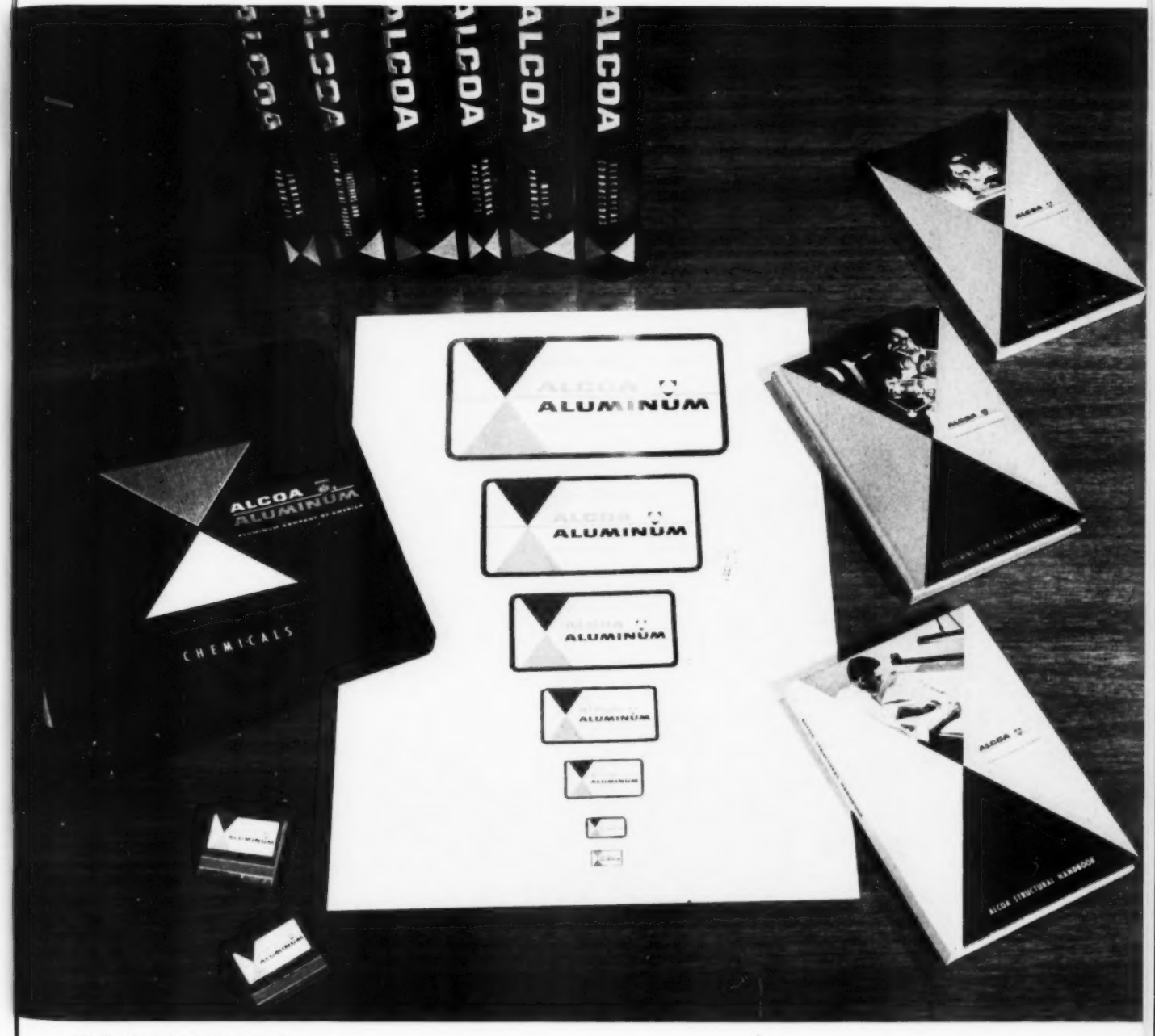
DESIGN PARTICIPATES IN ALCOA'S NEW CONSUMER APPROACH

Wall panel being installed on the Alcoa Building. Architects Harrison & Abramovitz developed an encyclopedia of new uses for Alcoa's product (stair railings of aluminum cable, aluminum plumbing, etc.) and, most significantly, a prototype for some 300 aluminum-curtained buildings that have appeared since.

For years, aluminum signified Alcoa, the Aluminum Company of America. Tradition, and the Hall patents, had defined their role as that of sole supplier of the raw metal and semi-fabricated mill products. Then, on the heels of the 1945 monopoly decision and subsequent government disposition of war-built plants, Reynolds and Kaiser emerged as competitors. They proved to be enterprising upstarts—Reynolds especially went straight to the consumers to sell their new metal—and Alcoa felt the pull. There was a need, finally, to identify their goods to builders and manufacturers—and to housewives—not just as "aluminum," but as "Alcoa Aluminum." This is where design entered the Alcoa picture.

In 1952 the company spent $20 million for a new headquarters in Pittsburgh (see caption at left). Its wall panels, designed to provide varying triangular patterns of reflected light, were the source of a symbol for the latest manifestation of Alcoa's new consumer approach in advertising and promotion: a graphic design program that so far embraces labels, catalogs, books and match folders—with more to come.

Harley Earl, Inc. is the design organization entrusted with this program. Covers of sales data catalogs and technical handbooks were redesigned with the unifying triangular symbol in various colors, while the labels, all of them white, blue and red printed on foil, come in various sizes. Introduced on April 26 of this year and thus far the most important aspect of the graphics program, the labels are designed for use on all Alcoa products, and for products manufactured in part or toto of Alcoa aluminum. They are intended to give end-product manufacturers direct benefit from Alcoa advertising and prestige, and, in turn, to entice more manufacturers into ordering Alcoa aluminum.



169 Coordinated graphics program
Aluminum Company of America, Pittsburgh
Harley Earl, Inc., consultant designers

Sales data catalogs (left, top) and technical handbooks (right) are color-coded according to subject. Matchfolders (lower left) are printed in white, blue and red. Labels (center) are printed in the same colors on .00035 aluminum foil (Alcoa) with pressure-sensitive, gummed and ungummed backs.

At registration, new ASID Secretary Ken Van Dyck (right) with Ray Spilman, J. M. Little (center).

Automation panel: John Diebold greets Joseph Harrington; moderator Chapman in foreground.

Major General Georges Doriot, of Harvard School of Business Administration, addresses dinner group.

Model making techniques at GE Small Appliance Division reviewed by Rudy Koepf.

Jean Reinecke and president-elect Arthur N. BecVar.

Albert Kner and Esther Foley during break in Motivation Research panel.

MR gets further kicking around: L. to R.: Jay and Annette Doblin, Dave Chapman (seated); Don McFarland, Esther Foley, Albert Kner, James Vicary, Joel Harnett.

Eero Saarinen in after-dinner discussion group.

Conferees.

Arthur BecVar, Raymond Spilman and Eliot Noyes listen.

photos arthur crapsey

Eleventh Annual ASID Conference:

For its 12th annual conference in Washington this fall, the American Society of Industrial Designers arranged a varied and ambitious program of speeches and panels touching on such divergent topics as automation and model-making techniques. The program, under conference chairman Whitney Stuart, attracted 59 members and 40 wives, and in addition nearly 50 visitors—educators, designers, foreign visitors and industrialists—who were admitted for the first time this year. Here are a few of the highlights:

Peter Muller-Munk, *retiring president of ASID, chose as the subject of his valedictory the relation between the emergence of a culture and the creation of everyday objects. Distinguishing between a civilization (the mechanical facilities to keep our forms of life together) and a culture (the distillation of all the creative and emotional aspirations of an age which is unified in its confidence in the value of its own existence), he pointed out that a culture cannot flourish unless the soil is properly nourished, and expressed the belief that* "The works of industrial design —tractors, refrigerators, filling stations, pots and pans—are today preparing the ground for a way of life . . . that will lead all men of good will out of the chaos of ugliness and into an era of refinement and machine-made elegance.

"It has become the accepted standard of criticism of some of our self-styled intellectuals to take a refrigerator on the one hand and the statue of Winged Victory on the other and proceed to compare them against the background of eternity. Or they compare a delicately carved sliver of wood with an electric coffeemaker. . . . But it is quite misleading to suggest that genius be taken as the measure of man's worth, for it is given to few of us to scale the freezing heights of Everest; and even if we do succeed, we must quickly return to the supporting warmth of the plains where we can live with work, with others of our own kind. . . .It is patently absurd to accuse anyone of not doing work that lacks the touch of genius, for this is hardly a matter of self-determination. It seems far better to go about planning and executing an intelligent design program for something quite humble and to remain modest in the doing. . . ."

The Effect of Automation on Design, *a symposium moderated by Dave Chapman, ranged from production problems to the effect on the individual, costs, and the peculiar problems of coordination and change in the shoe industry. Panelists had this to say:*

Dr. Joseph Harrington *of Arthur D. Little, Inc.,* "Once we have designed our products,

we must make sure our tools don't preclude changes in them. 30 minutes is too long a time to realign a production line to a new product. I believe basic product thinking comes ahead of machine design; if it is done right, you will have a machine that not only makes the desired product — fountain pen caps or whatnot — but will make lipstick covers and flashlight caps by a simple change of tools. Let us minimize the variable portion of the capital investment, and maximize the fixed portion, by making the product design flexible."

John Diebold, *automation consultant*: "The meaning of automation for industrial design is very clear. It is simply a change in the degree you think about how a product is made. . . . It also allows you to do things you couldn't do before. You can design surfaces which could never be machined before, because you couldn't achieve the degree of coordination that can be had by electronic means. . . ."

Jean Reinecke, *in a luncheon address on "The Psychology of Buying," discussed the intangible symbolic values which are so important in the product's effectiveness.* " . . . From birth we are all subjected to influences which affect our actions and what is known as our 'taste.' Habit and resistance to change preserve certain likes and dislikes long after the original reason has vanished. Symbolism and ornamentation abound and are revered by those who know nothing of their origin and would probably be shocked if they did know. We must, not only to convince our clients but to provide them with the proper designs, know more about how to predict the subjective reaction of people to design. . . ."

Industrial Design for Industrial Equipment *panel was introduced by* **Robert Hose,** *who pointed out that there are approximately* 300 *U. S. firms manufacturing tools alone—an industry that is the second largest industrial classification in the federal statistical index. Appearance, he pointed out, is only one of a series of considerations that the designer applies to industrial equipment development programs, the major problems being convenience, ease of operation and maintenance, safety, cost, and in many cases psychological considerations. He went on to discuss the designer's working methods:*

"The designer of heavy equipment must become an active and integrated part of production, engineering, research and manufacturing from the very inception of the design. It would be impossible to operate on the basis of being called in after the equipment was completely laid out merely to style it. The method of working on heavy equipment is quite parallel to work on any of his normal consumer problems, the primary difference being that the complexity of requirements demands that he understand intimately the limits—cost, time or techniques—before he starts. . . ."

J. M. Little, going into the differences between consumer and equipment design more fully, felt that "The future of the industrial designer as an influence on production equipment has only begun. It is now about to explode in our faces, and the shortage of qualified designers is more acute than that of engineers in this field."

What Can the Customer Tell Us?—Motivation Research in Industrial Design *produced one of the liveliest panel sessions of the conference, moderated by Anthony Morrow.* **Joel Harnett,** *manager of advertising sales for* Look, *introduced the subject of consumer research; designer* **Don MacFarland** *poo-pooed the obviousness of marketing studies to the perceptive designer, while Container Corporation's* **Albert Kner** *dissented amiably on the grounds that properly interpreted research could be a great assist to the achievement of the designer's aims.* **Esther Foley,** *home service editor of MacFadden Publications, introduced a slice of life that shocked and intrigued the group: color slides of the homes of her working class readers. Through their purchased symbols—the latest shiny "miracle" appliances in badly arranged kitchens, the inevitable chrome dinette set, the sentimental and unrelated living room furnishings tied together by expensive carpets and cheap cotton throw rugs—she pointed out the reactions common to this taste group. Finally, opinion researcher* **James Vicary** *discussed motivation research as a logical development of consumer testing because it asks not merely* who *buys something but* why:

"The new thing about MR is that it takes into account that people have opinions that are conscious, and often have unconscious attitudes that contradict their stated opinions. The benchmark of the new MR is indirection. We use projective techniques — word association, sentence completion; the stimulus is in some way vague, and in order to answer the question the respondent has to pour out some basic meaning which reflects these deep and often unconscious attitudes.

"By the common Consumer Jury technique, we were able to take two designs and ask the consumer her preference. The fallacy of this method is that two products rarely are seen in a simple comparison on the store shelf. By MR there are ways of finding out significant desires that will affect a preference in a real situation. If we ask respondents to draw the bottle outline of their favorite brand of gin, we find that light drinkers draw simple outlines and heavy drinkers draw in many details; the latter also tend to draw bigger bottles, and even more significant, tend to draw much shorter necks in relation to the overall size of the bottle. As unpretty as a short neck may seem to you, we may have here a picture in the mind of the consumer that can be appealed to. Contrarywise, if you are designing a bottle for the gift market, you might give some attention to the possibility of a longer neck. . . ."

Eero Saarinen, *architect, devoted his Saturday evening keynote talk to the problem of the total physical environment of modern man. Referring to European examples like Nurenburg, Rotenberg and Piazza San Marco, he made the point that their beautiful unity came not from being built in a single style (San Marco has four) but from their creators' consideration of the nature of the surrounding styles and other objects in the visual environment.*

"In our own time, we have achieved the highest standard of living, but have produced some terribly ugly surroundings. We live like pigs. . . . There seems to be in this modern movement a certain vitamin ER deficiency. ER stands for External Relationships. Not enough effort has been placed on the problems of relationship to external factors. The architectural profession is deficient in this. Most buildings are designed in a vacuum. An otherwise excellent architect builds a modern building next to some very fine historic buildings and ignores all relationships of scale, mass, material and texture. The architectural magazines publish his building, carefully cropping the photographs so that no conflict is apparent. Everybody is happy, but when one sees the building on the site it looks terrible because it is in disharmony with its surroundings, and the total view is more important than the individual building.

"It is my feeling that the same deficiency exists in your profession. Think of the hours of modeling and sketching and planning you have done on the ice box—but not until very recently was there one on the market that could be integrated with the community of objects that makes a kitchen. Every object, small or large, has a relationship to its neighbors. There is too much egocentric concentration on the object itself. Perhaps the most important thing I learned from my father was that in any design problem look for its solution in the next largest thing. If the problem is an ash tray—how it relates to the table will influence its design. If the problem is a chair—look for its solution in its relation to the room cube. If it is a building, the townscape affects the solution. . . ."

photo Walt Johnson

IDI symposium *draws large crowd to hear industrialists discuss design futures*

More than 280 industrial designers attended the Second Annual Industrial Designers Institute Symposium at Silvermine, Connecticut, on October 1. Representatives from every IDI Chapter (Boston, Chicago, Detroit, New York, Philadelphia, and Syracuse) gathered at the Silvermine Guild to hear five industrial leaders speak authoritatively on developments in industry and what the industrial designer may expect in the future in market research, materials, and engineering. The speakers gave the attending industrial designers an added awareness of the changing industrial scene and how these changes might affect the industrial designer either directly or indirectly.

The following excerpts enumerate the speakers and their points of view.

Market research and design

Karl H. Tietjen, *Vice President, Nowland and Company, Inc.*

The emphasis of Mr. Tietjen's talk was on the fact that the industrial designer cannot stand apart as an aesthetic creator of products with the attitude that, "You cannot expect people to design products themselves. People do not know what they want until they see it." Rather, according to Mr. Tietjen, the designer and the manufacturer should plan cooperatively and, with the help of market research, learn what appearance changes are necessary to enhance the saleability of a product and understand the other factors that affect sales.

Product design, Mr. Tietjen said, is only one among many factors which determine the purchase. He cited as major "Purchase Determinants": price, basic concept, quality, the reputation of the manufacturer, the recommendation of the dealer or salesman at the retail level, features and characteristics of the product, price-feature-quality relationships of model to model, and advertising themes.

One of several examples presented by Mr. Tietjen concerned a manufacturer of electrical ranges who intended to bring out a smaller, more compact range. He thought of it as an economy range and had it styled accordingly. Prior to production, customer research showed that the customer was interested in a smaller range because of its space-saving features, but wanted it a deluxe, rather than economy model.

Mr. Tietjen concluded by saying, "It is vital to integrate customer research with the function of industrial design. Some designers feel that this knowledge is an inhibiting force on their creativity. The purpose of deriving information from markets is not to have customers design their own products, but to provide a framework within which the designer can express his creativity."

The Olivetti story

Dino Olivetti, *President, Olivetti Corporation of America*

In telling the story of his successful and handsome business machines, Mr. Olivetti made it clear that there is no rigid formula to the design of Olivetti business machines. He quoted his father, who wrote in an article shortly after the first Olivetti typewriter was produced in 1910, "A typewriter is not a parlor knick-knack with superficial decorations of doubtful taste—it must have a serious and elegant appearance. Special care has been placed in the aesthetic qualities of the Olivetti machine." This has been the basis of the design of all Olivetti machines as well as their plants and salesrooms. Mr. Olivetti said that almost all people connected with Olivetti, from the workers to the highest official, are conscious of the basic concept of refinement and strict regard for the visual aspect of all functions of the Olivetti Company. He said that Olivetti has no special trademark and follows no special rules or regulations of aesthetic values, but has maintained a high though heterogeneous standard of quality in its visual expression through the calibre of the people allowed to express themselves.

photos Leonard J. Provato

Olivetti exhibit

Alcoa exhibit

Olivetti's recognition, he pointed out, was not brought about by specific form, but by its quality and the visual aspect of the product itself. Mr. Olivetti asked, "Who or what is an industrial designer?" He answered the question by saying, "The industrial designer is the 'Spirit of Freedom' and a basic philosophy of doing things as well as possible—each contributing his best."

The engineer-scientist

Frank J. Oliver, *Editor, "Electrical Manufacturing"*

Mr. Oliver's talk was somewhat technical, dealing with men, methods, and materials and their changing interrelationships. He quoted Dean John R. Dunning of Columbia's School of Engineering, who said that there is a continuous spectrum of development from the most abstruse idea in mathematics or theoretical physics to engineering, research, development, process design, and production. Mr. Oliver pointed out that scientists in general have pursued knowledge for its own sake and until recently appear to have developed a distinct aversion to anything practical.

"Product design engineers," he said, "are something of a ceramic chemist, a metallurgist, a plastics engineer, a physical chemist, as well as being familiar with mechanics and electricity." He pointed out that the shortage of engineers is a matter of grave concern to the nation and the military. "Within the last year," he said, "some 200 large companies interviewed by the Bureau of Labor Statistics agreed on the need for more highly trained scientists and engineers. A sizeable number said that they had to curtail projected increases in research and development programs because of lack of qualified personnel."

As for what is being done about the shortage and inadequate training, Mr. Oliver stated that Columbia's School of Engineering, for example, favors added liberal arts background to give the engineer knowledge of the social and economic effect of his work. Columbia has asociated itself with 43 liberal arts colleges from coast to coast. Students attend the college of their choice for three years and then go to Columbia's School of Engineering. After five years they are awarded two degrees—a BA and a BS. Harvard is doing the same on its own campus. Not much has been done to change the curriculum, according to Mr. Oliver, except at M.I.T. where courses have been revised in line with fundamental science as contrasted with a more vocationalized applied engineering course.

Design possibilities of light metals

Frederick J. Close, *Manager, Market Development Department, Aluminum Company of America*

Mr. Close gave little attention to two of the three light metals—titanium and magnesium—but concentrated enthusiastically on aluminum. He presented interesting and useful information and announced that the Aluminum Company of America is thoroughly aware of the importance of the industrial designer to the proper and wide application of aluminum.

Mr. Close said that aluminum is available in every form known to the metal working industry and is the only metal that occupies this unique position. He pointed out that its advantages range from a high degree of corrosion resistance and a high reflective value to the capacity to be finished by all practical means from paint to oxide coating.

Alcoa, Mr. Close said, has 700 people

in their Research Division and a large Process Development Laboratory where they show customers how to use Alcoa's products. They have found out, he said, that a product must look good as well as function properly.

"At Alcoa," Mr. Close said, "we are convinced that much of the future of the country is in the hands of the industrial designer. Improvement in product design is necessary so the public will want to buy new products and discard old."

He pointed out that at Alcoa they have the tools, the teachers, and the classrooms to teach people about aluminum. They are anxious to transfer their knowledge, if industrial designers will be the willing students. He said they have appropriated the money to hire an industrial designer who will tour their plants, laboratories, and processing locations to gain information that will be directed specifically to industrial designers to keep them completely abreast of developments in the aluminum industry.

Nuclear energy and its design

Harvey Brooks, *Professor, Division of Applied Science, Harvard University*

After pointing out that the public is usually led to expect too much of a new discovery because the revolutionary character of the discovery itself, from a scientific viewpoint, tends to obscure the basically conventional nature of the engineering means by which it is to be exploited, Professor Brooks outlined the possibilities of nuclear energy in a manner that was

both clear and informative. "From the point of view of the designer," he said, "the most important fact about nuclear energy is that it is fundamentally just a new heat source." He said that the ultimate consumer will have no way of knowing whether his electricity comes from nuclear or fossil fuel any more than he can tell now whether it comes from coal or oil.

Professor Brooks explained that the fine thing about nuclear fuel is that it is potentially very cheap, but it will not, even when it is used widely for power, have a radical effect on living standards. He reminded the audience that, "Power consumption is the result and not the cause of high living standards."

By way of summary, Professor Brooks said that nuclear power outside of military applications will be in large central station power plants. The influence it will have will be twofold: 1. It will cause a gradual change in the competitive power situation as it pertains to the location of industry, especially large power consumers; 2. It will be a great competitive stimulus to the exploitation of conventional fuels to keep prices competitive with nuclear power.

Lunch on the grounds

Chairman Robert Redman with the speakers

more
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decanters

Guises and disguises for Christmas spirits create the packaging contest of the year

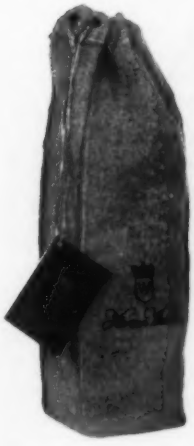
Historical
Using traditional forms are Glenmore with a pint flask and a half-gallon Captain's Decanter, both by Donald Deskey Associates, Beam's Italian carafe, and Coronet.

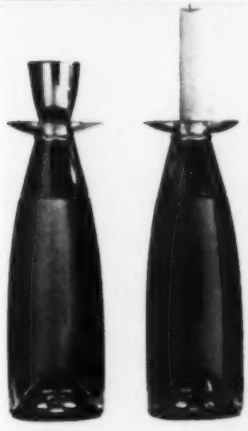
Allegorical
Like muses to the trade are: Brown-Forman's Old Forester, designed by Raymond Loewy; Four Roses' full quart, Frankfort Distillers Co.; I. W. Harper; and two of Heublein's.

If the rash of decanters for Christmas '54 brought little cheer to the men behind the sales, the coming season promises still bigger headaches. For despite high costs to the distillers—averaging 40 cents a bottle—and extra-stock problems to the dealer, the industry has re-opened the battle of the bottles in a big way, and once again the whiskey bottle is being festooned like the lowly pine tree.

Not that the decanter boom has been spurred by pure success last season. There were several slow-movers in '54, and few companies enjoyed anything comparable to the success of Old Forester's shapely Raymond Loewy-designed flask, which upset not only the sales race but the entire industry's design and marketing ideas. The inherent gamble of special bottles is still high this year, but the risks have been more carefully calculated; most better-brand distillers have adopted Old Forester's tactics in hiring big-name designers to concentrate on creating appealing bottle forms.

This all-out effort to beat Old Forester's new look has posed some tricky design problems. With its smooth, slim, un-whiskyish shape, O.F. introduced a new idea of style in a field traditionally bound to stalwart masculine appeal. Perhaps because sculptured form is more suited to modern glassmaking than cut and decorated surfaces, the majority of this year's designs follow O.F.'s approach—some carrying





Categorical
Masculine entries are I. W. Harper's straight bourbon, James Pepper's bonded, and Beam's six-year-old blended, which tries hard to suggest masculinity by painted ducks.

Metaphorical
Towering or tapering are: Hiram Walker's Carleton Tower by W. B. Ford; Calvert Reserve by Russel Wright, Lord Calvert by George Nelson; and Melrose by Schenley.

Phantasmagorical
Decanters with non-liquid uses include: Old Fitzgerald designed by Walter Landor for Stitzel-Weller; Beam bourbon in a porcelain tray; and Old Forester as a lamp.

it to lengths that border on a cosmetic approach. The question of how to make a svelte bottle convey aged-in-the-wood contents—as I. W. Harper and James Pepper do with their squarish forms—remains largely unanswered.

Old Forester, meanwhile, has converted its waistline into a glided neckline and widened its base; and, with its Lucite stopper which is also usable as a jigger, it has joined an even newer bottle trend: built-in bonuses. A decanter is by definition a re-use container, but as customers have apparently been hard put to find ways to re-use them, the industry is scrambling to think them up. Brown-Forman features a Do-It-Yourself manual for O.F. empties; Old Fitzgerald is one-up on the jigger trick with its metal cap that works as jigger or candleholder, with or without bottle. Heublein is among those offering a cocktail shaker, and Beam manages to disguise one of its bottles completely; you turn the dented shape on its side and it's a porcelain tray for cocktails, shaving brushes, or peanuts. On the prestige of bottles and the lure of bonuses the industry pins its hopes for a 25% revenue increase this season. With prospects like that, both dealers and distributors can apparently tolerate any number of merchandising nuisances —just as long as the merchandise itself isn't prone to post-holiday hangovers.

TECHNICS *a catalog of new products, materials, processes and finishes*

Straddle carrier is redesigned

Clark Equipment Co. introduces a new carrier with hydraulic load hooks

Ross Carrier Division of Clark Equipment Company has redesigned their 10,000 pound capacity straddle carrier. The new model features synchromesh transmission, full hydraulic control of load hooks, and radi-arc steering. The hoist mechanism consists of a simple lever and link system which is actuated by a double-acting hydraulic cylinder. For loading, the hooks are pivoted inward so they meet at the center of the load cavity (center picture), and then they are hoisted by means of vertical roller slides (bottom picture).

On the new model, the driver's seat has been moved to the center of the machine, instead of over the rear axle, for greater operator comfort and visibility. Four-wheel steering permits a short turning radius, an important feature with this type of equipment, since loads must frequently be picked up and set down in cramped locations.

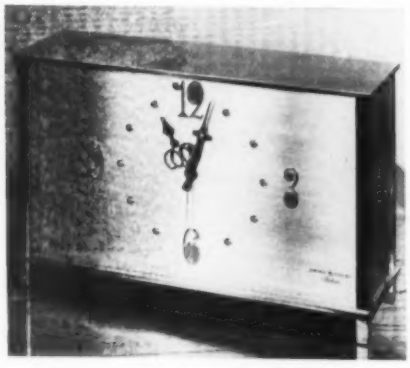
For greater engine accessibility, the hood on the new carrier was redesigned. It is a one-piece hood which, when folded back, exposes the whole engine.

Manufacturer: Clark Equipment Company, Benton Harbor, Michigan.

Electronic clock has no cord

General Electric clock keeps perfect time with new wireless principle

A timekeeping device that picks up electrical impulses from the air rather than being plugged into an electrical circuit is now being made by General Electric. The "wireless clock" picks up 60-cycle impulses that are broadcast from a transmitting pylon that is plugged into 115-volt, 60-cycle alternating current. The pylon can be concealed from view under a sofa, chair, table, or whatever is handy.



If power is shut off for a short period of time, the clock will not stop and its accuracy will not be affected. However, extended power interruptions might affect the accuracy.

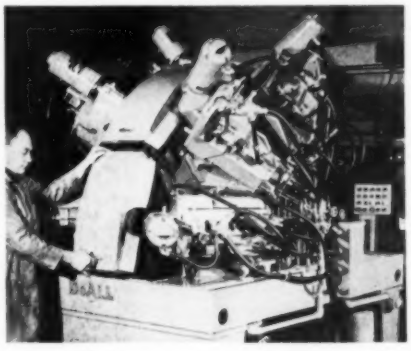
In limited production, the electronic clock has polished brass hands, side panels of brushed silver on aluminum, and crystals for the hour dots. It costs $175 plus tax.

Manufacturer: General Electric Company, Small Appliance Division, Ashland, Mass.

Automation for color TV parts

DoALL's three-stage section grinder makes deflection yokes automatically

The DoALL Company of Des Plaines, Illinois, has designed and developed an automatic three-stage segment grinder for color television reflecting yokes. These



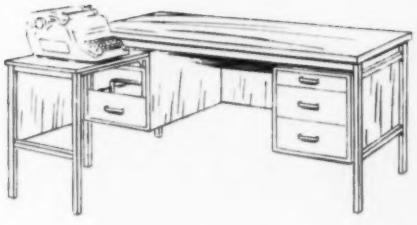
yokes are made up of four coils with a core molded in four segments to provide the desired electrical characteristics. The segments are molded from a special ferrite mix process, similar to the powdered metal process. After molding, the parts are fired at high temperature and become very hard. To get maximum efficiency from the cores it is necessary to form the eight mating surfaces between the four segments very accurately to produce an exact cylinder. Extremely accurate grinding is required on both ends of each segment to produce a smooth surface and true 90° mating ends.

The DoALL automatic three-stage grinder maintains the necessary tolerances and is designed to meet large production demands. In operation, the new machine will automatically load the part, align it, grind it, and discharge it. It grinds both ends of the segment simultaneously, automatically taking the part down to the desired dimension, finish, and flatness in three fast, successive grinds (finish 16

Macey-Fowler, of course

Combining the beauty of wood with the strength of steel.

Walnut grained plastic top and genuine walnut drawer housing with steel frame and steel drawers.



Macey·Fowler NEW YORK: 305 EAST 63rd STREET • TEmpleton 8-5900
BOSTON: 150 CAUSEWAY STREET • RIchmond 2-1800

micro inches, flatness within 20 millionths across the entire surface). The machine maintains the planes of the ground ends at 90° to each other within 50 micro inches. Production rate is one piece every three seconds.
Manufacturer: DoALL Company, 254 North Laurel Avenue, Des Plaines, Ill.

Railroad crossing made of rubber

New crossing is smoother, easier to maintain, and will stand up longer

Rubber for railroad crossings is being used for the first time commercially across U. S. Highway 42 at West Salem, Ohio. This particular crossing was a good choice for the first installation, since it is known as a "problem crossing" and takes a beating from a constant stream of cars, trucks and trains night and day. The rubber crossing was made by the Goodyear Tire and Rubber Company, and it is anticipated that it will result in drastic reductions in maintenance and a smoother, cushioned crossing.

The new crossing consists of rubber slabs with a seven-gage steel supporting member embedded in the rubber. The slabs are secured by bolts through railroad tie shims to regular road-bed ties. Tapered flanges on the rubber slabs make a watertight seal with the rails. The tough, long-wearing rubber, which is similar to that used in tire treads, has a diamond design molded into it for skid resistance. The

rubber pads are shock-absorbing, and, being flexible, break up ice formations. They reduce installation time and can be readily removed and replaced.
Manufacturer: The Goodyear Tire and Rubber Company, Akron 16, Ohio.

New fastener has neoprene washer

Tuff-Tite fastener eliminates leaks, rust stains, and surface shipping

A new fastener, designed with a built-in neoprene washer, is finding application in the metal-working field, appliance, automobile and construction industries. Developed by the Townsend Company of New Brighton, Pa., the Tuff-Tite, as the new fastener is called, contributes to the elimination of leaks, chips, scratches, and squeaks. The neoprene washer is highly resistant to weather, chemicals and oil. In addition it has excellent dielectric properties which make the fastener suitable for use where electric insulation is required, such as radios, television sets and other electronic equipment. Acting as miniature shock absorbers, Tuff-Tite fasteners help dampen vibration when they are used in railroad cars, automobiles and farm equipment.

The Gulf Oil Company has used more than a million Tuff-Tite fasteners to replace regular metal washers to attach porcelain enamel signs to service station pumps. Previously, it was found that the fastener chipped the enamel on the signs, caused a rust stain, and did not serve as a seal to keep water out of the pumping mechanism. The neoprene washer in Tuff-Tite fasteners, by virtue of its conical design, eliminated the leaking problem, and acting as a cushion between the sign and the pump it prevents chipping, and it will not rust.

The head and washer of the Tuff-Tite fastener are made in one piece instead of two. The heads have a low profile for a neat appearance and, since the neoprene washer will move in any direction to conform to contour, the fastener can be used on flat, concave, or convex surfaces.
Manufacturer: Townsend Company, Brighton, Pa.

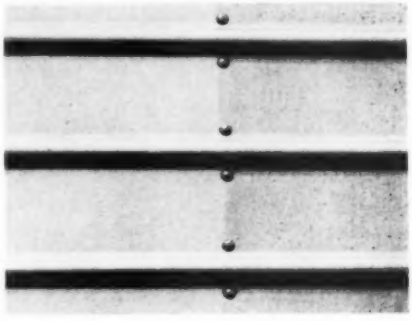
Lacquer protects aluminum

New butyrate lacquer protects truck-trailers from weather and corrosion

The development of a new butyrate lacquer by Eastman Chemical Products, Inc. and the Egyptian Lacquer Manufacturing Company promises to reduce an expensive maintenance problem encountered by carriers using aluminum-fabricated equipment. Aluminum truck-trailers begin to oxidize as soon as they are exposed to the elements. On the road, the oxidation is accelerated by sand and gravel, road salts, and severe and continuous exposure to the sun, snow and rain.

Known as "Clear Coating-CH-64," the new lacquer can be sprayed on aluminum trailers as they come off the production line or after they have been in service. No priming coat is necessary, only a solvent wash to remove all traces of grease, wax and other foreign matter. The lacquer can be sprayed on with standard paint-spray equipment and will dry at room temperature in under fifteen minutes. The cost per trailer is between four and five dollars.

Recently, grueling road tests were undertaken with the cooperation of the Mason and Dixon Lines, Inc. A trailer was partially covered with the new lacquer and sent on the road to work a normal routine. After some sixty days and 10,000 miles, the trailer was carefully inspected. The lacquered areas were in excellent condition, while the uncoated areas showed definite evidence of corrosion, pitting and dulling.



Coated area (left) shows no sign of wear compared to uncoated area (right).

A side advantage of "Clear Coating—CH-64," but one that adds up over periods of long service, is that trailers treated with the butyrate lacquer are much easier and faster to wash.
Manufacturer: Eastman Chemical Products, Inc., New York, N. Y.

A new proficiency trainer, the Convair TF-102A, makes its first flight
A new combat proficiency trainer, the Convair TF-102A, recently made its maiden flight from Edwards Air Force Base, California. The new aircraft, which is a trainer version of the Convair F-102A all-weather jet interceptor, features side-by-side two-place seating. Reported to handle just like the supersonic F-1-2A interceptor, the trainer, if necessary, could be flown as a fully tactical interceptor either by one or two pilots. Manufacturer: Convair Division, General Dynamics Corp., San Diego 12, Cal.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912 AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

INDUSTRIAL DESIGN, published Bi-Monthly at New York, N. Y., for October 1, 1955.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, Charles E. Whitney, 18 East 50th Street, New York 22, N. Y.; Editor, Jane Fiske Mitarachi, 18 East 50th Street, New York 22, N. Y.; Managing Editor, None; Business Manager, Alec E. Oakes, 18 East 50th Street, New York 22, N. Y.

2. The owner is: Whitney Publications, Inc., 18 East 50th St., New York 22, N. Y. Following is a list of stockholders owning one per cent or more of the total amount of stock:
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4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

CHARLES E. WHITNEY,
Publisher.

Sworn to and subscribed before me this 22nd day of September, 1955.

ANNE HARMSE
(My commission expires March 30, 1957.)

Technics, continued

X-ray motion pictures are diagnostic aid

First commercial availability of cine-fluorography equipment important to medicine

X-ray motion pictures—known technically as cinefluorography—are now commercially available. General Electric's X-ray Department has announced that they will turn out the first x-ray motion picture apparatus to be manufactured in this country. Although there have been x-ray motion picture machines in use for several years at various medical centers, no commercial equipment has been commercially available, limiting the clinical and research application. The heart of the General Electric machine, which was designed and developed by Dr. James S. Watson and Sydney A. Weinberg of the University of Rochester Medical Center, is the very fast f/0.71 lens. The equipment has an electronic triggering mechanism which turns the 100,000 to 130,000 volt x-rays on and off up to thirty times a second, in perfect synchronism with the motion picture camera, minimizing the x-ray dosage that the patient receives. The apparatus can be used with conventional x-ray equipment, and has been designed for taking pictures with the patient seated, standing or prone. Manufacturer: General Electric Company, X-ray Department, Milwaukee, Wis.

Traffic is electronically controlled

Radio control system to unsnarl Chicago traffic is the first of its kind

An electronically mechanized traffic control system is now in operation in Chicago. Believed to be the first of its kind in the world, the system was designed for Chicago by the Electronics Division of General Electric Company. Electronically equipped stop-and-go signals are controlled by coded radio tone signals which are sent out from a central control station located at City Hall. The traffic signals are located at all intersections along La Salle Street and at two outlying locations.

The traffic problem in Chicago was caused in part by the great variance of volume from hour to hour and day to day. Traffic control signals without interconnecting cable could not possibly cope with the changing traffic conditions. But even with interconnecting cable, which is very expensive, signal timing changes are limited. Radio coordination was believed to be the answer, both for proper control and because the cost of such a system would be substantially less than a conventional underground cable system.

Manufacturer: Electronics Divisions, General Electric Company, Syracuse, New York.

Books

(*continued from page* 8)

tional Design Review, however, delimits its products to the most domesticated of these. Porcelain begins with the whitest—Holland's Bellefroid and Germany's Loffelhardt—glassware with the clearest, from Austria and Germany. This includes Loffelhardt's ashtray in pressed colored glass (with three bumps which vividly suggest a bloated face with half-closed eyes, made even more repellent in the illustration with a half-burned cigar) and his casseroles, which demonstrate that ultimate point of academicism when simplicity becomes insignificant. Stainless and silver flatware and bowls suffer from the same perfect monotony. Vitality enters into some of the small appliances: an egg beater by Loewy; an animated table radio by Yoshio Akioka of Japan for Chrysler Electric Co.; Gio Ponti's superb sanitary ware (how much more sensitively sculptural is his simplicity than Loffelhardt's) and, somewhat belatedly, considering that it came out in 1948, Eliot Noyes' IBM electric typewriter. Britain dominates the series of white boxes—home appliances—and these generally have an honest, albeit sometimes clumsy, look. Karl Otto's boiler for Rayburn stands out with its strong contrast between white enamel and the black top and pipe; in the end, however, the Japanese demonstrate a much neater approach to washers and refrigerators. The final section on lamps is severely limited to one "praying mantis" shape after another—from Finland, Italy, Austria, and Knoll, USA, a dismal international redundancy prevails—and Noguchi's graceful lantern lamps are included, all hand-fabricated. The awkward angular designs are writ large in floor lamps, with the exception of one nicely erect model by Paul McCobb.

These are esthetic surveys and make no other claim; there are no case histories, and none of the illustrations are documented beyond their attribution. "*New Furniture*," writes John Peter, " is not a book of conclusions or even recommendations. It is an interim report on the condition of modern furniture in 1954." As such, it seems less arbitrary than *Idea* 55, and the furniture selection is much more venturesome than the so-called industrial designs, which have been compiled frankly on the basis of their relevance to the handicraft tradition. This excludes so many fields of industrial endeavor—transportation, machinery, electronic equipment, engines, water towers—as to make the "ideas" as well as the prevailing third-generation Bauhaus esthetic seem very dull indeed. Excellent though a few of the examples may be, the ensemble only serves to demonstrate that a design must be judged first on its own merits, not on the extent to which it conforms to one idiom. Handicapped by a romantic attachment to an international style, and lacking an editorial definition

Books

(*continued from preceding page*)

of purpose, the book avoids taking up any of the larger challenges of 1955. Far more provocative than the illustrations is the comprehensive design bibliography compiled by Bernard Karpel, librarian of the Museum of Modern Art, which appears in both volumes.—*s.b.*

Sports cars surveyed

SPORTS CARS, *by John Wheelock Freeman. Photographs by Alexandre Georges.* 190 *pages,* 215 *illustrations. Random House, New York.* $12.50.

This is large, handsome and expensive collection of pictures, with running commentary covering most of the important sports cars made at present with references, both verbal and photographic, to the important landmarks in the sports car history. The result is a curious book, one well worth examining from several different points of view. The oddity of this treatise is a reflection of the strange nature of the sports car, its strong but ill-defined attraction, its variously eager and uncertain acceptance in the United States. It seems clear that the author remains at a loss, from first to last, as to what his readers are looking for, and he accordingly tries to provide coverage of his subject from every possible viewpoint. As a result the text is a consumer's report containing exact data about costs, performance, availability for the prospective purchaser; thoughtful commentary on the ways in which each car reflects the attitudes of its country of origin; and then, of special interest to the designer, long discussion of the appearance of each car.

There can be no question that the freest and most creative automobile design (as well as some of the worst) occurs in the area of sports cars. From the standpoint of the designer who might wish to have a full and well-presented record of this activity, this book offers a large collection of illustrations that are fine photographs in their own right and are also calculated to reveal the vital design data about each car discussed.

There are a few causes for complaint about *Sports Cars.* Although this work is intended to be a definitive and thorough record of its subject, it does not hold up up too well in comparison with its predecessor by the same authors (*Sports Car Album*, Fawcett Book 181), which sold for $.75, less than one-sixteenth the price of the new book. The text does not go beyond that of the older book (except to add some new consumer report data on new cars) and the illustrations have dropped from 322 in the old book to 215 in the new. To be sure, many of the illustrations are larger and many are in color, but even this fact is somewhat offset by the inferior mechanical production of the new book. Although it has the general style and appearance of a fine art book, the printing is sloppy and, in particular, the many color illustrations are both poor in color and invariably printed out of register, producing the fuzzy look of a cheap post card. If the subject of sports cars is to be taken seriously enough to deserve a book of this magnitude and pretension, there should be enough concern with the outcome to make sure that the result is not marred by the sloppiness that suggests the overblown picture books that pour out every year, intended only to be given as Christmas gifts and never to be looked at thereafter.

John Pile

Index to Advertisers In This Issue

Classified Advertisements

10c A WORD PER INSERTION, $3.00 MINIMUM, PAYABLE IN ADVANCE. BOX ADDRESS COUNTS FIVE WORDS.

Positions Wanted

INDUSTRIAL DESIGNER—*Capable with thorough knowledge of materials and processes. Successful experience in styling, engineering and production. Supervisory or administrative ability. Desires permanent position with progressive manufacturer. Box ID-60,* INDUSTRIAL DESIGN, *18 E. 50th St., N. Y. 22.*

Help Wanted

ARCHITECTURAL AND DESIGN PERSONNEL AGENCY—MURIEL FEDER—*A personalized placement service for top level architects, designers, engineers, draftsmen, interior decorators, and home furnishing personnel. Selective contacts arranged in a confidential and professional manner. Interviews by appointment.* 58 *Park Ave., N. Y. MU 3-2523.*

HELEN HUTCHINS PERSONNEL AGENCY—*Specialist Industrial, Architectural, Interior Design; Decorative Arts, Trades, Home Furnishings. Helen Hutchins' long association with a leading industrial design organization insures intelligent and individualized screening of all types of personnel for industrial designers. 767 Lexington Ave., New York 21. TE 8-3070. Interviews by appointment.*

INDUSTRIAL DESIGNERS—*We need designers who can produce and grow with our well established office. Many opportunities available to the right men. Excellent salaries. Write for interview. All applications held in strict confidence. Jon W. Hauser Associates, St. Charles, Ill.*

INDUSTRIAL DESIGNER, *top calibre experience and design background absolutely necessary. Must possess complete understanding of better design objectives. Comprehensive knowledge of industrial materials, processes and assembly techniques required. Must be capable of developing and working in the diversified fields of design including industrial design, product design, interior design, furniture and graphics. Paul McCobb Design Associates, 139 East 57th St., New York, New York, contact Chon Gregory.*

WANTED
INDUSTRIAL DESIGNER

for well-known New York industrial design organization. Must have at least 10 years' experience working with production and engineering groups of large manufacturers, either as staff designer or consulting firm. Should be able to handle client contacts and conduct meetings with large companies. Excellent future for man who can prove he is the one we are looking for. Complete resume first letter. All replies strictly confidential. Our organization knows of this ad. Box ID-63 INDUSTRIAL DESIGN, *18 E. 50th St., N. Y. 22.*

PETER MULLER-MUNK ASSOCIATES

We have openings for designers having 2-3 years experience and for talented beginners.

Opportunity for creative work on a full range of diversified product development.

We guarantee complete confidence during negotiations.

Address resume of biographical and professional background to:

Peter Muller-Munk Associates
725 Liberty Avenue
Pittsburgh 22, Pennsylvania
Attention: William A. Richards

INDUSTRIAL DESIGNER—*We are searching for an experienced designer who possesses creative ability and versatility that has been demonstrated by success in diversified field of product design. The work is interesting and varied with pleasant working conditions. In addition to a five-figure salary, there are unusual monetary benefits. Periodic reviews assure progressive advancement. The person selected will function at executive level but must primarily be a creative designer. Wire, Write or Phone,* REINECKE & ASSOCIATES, *155 East Ohio, Chicago 11, Illinois. DElaware 7-2886.*

DESIGN PARTNER WANTED—*Free-lance industrial designer, 31, located in N. Y., seeks person in similar position, interested in joining forces. Write particulars. Box ID-61,* INDUSTRIAL DESIGN, *18 E. 50th St., N. Y. 22.*

WANTED
INDUSTRIAL DESIGNER

Pioneer industrial design firm in New York seeks individual who can make quick and professional presentation sketches and renderings. Right man should have 5-10 years' experience with leading industrial design organization. Complete resume first letter. All replies strictly confidential. Our organization knows of this ad. Box ID 62 INDUSTRIAL DESIGN, *18 E. 50th St., N. Y. 22.*

WANTED
MODERN ARCHITECT-DESIGNER

for large N. Y. industrial design firm. Must have thorough knowledge of contemporary trends in architecture and interiors as they relate to office design, stores and other commercial interiors. Knowledge of modern furniture design and detailing helpful, but not essential. Must be able to meet with and sell ideas to top level clients. Interesting and active future for the man who can contribute to our firm's growth. Send detailed resume. Box ID-64, INDUSTRIAL DESIGN, *18 E. 50th St., N. Y. 22.*

Turn the page for a comprehensive Index to ID, 1955, providing cross-references to subjects, designers, manufacturers and products mentioned throughout the year.

SCHOLARSHIPS

Architecture • Design • Painting
Sculpture • Ceramics • Weaving
Metalsmithing

Four $1320 merit awards for the 1956-57 scholastic year, covering tuition fees and a portion of incidental expenses, are available to advanced students. Degree candidates receive B.F.A., M.F.A., or M. of Architecture. Applications accepted until March 1, 1956.

CRANBROOK
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It costs each American this many pennies a year for the United Nations–

World War II cost each American almost 1000 times that much a year!

This is the 10th Anniversary of the UN — the 10th Anniversary of man's first completely organized search for peace

Nobody has ever said that they were sure the United Nations will prevent a war.

But then, nobody ever said they were sure a cure for cancer could be found.

The fight for a cure for war must go on, just as the fight for a cure for cancer must go on.

The United Nations is now 10 years old. With each passing year, it has gained the support of more and more people. In fact, a recent survey shows that only 7% of the American people are for quitting the United Nations. The rest believe, and rightfully so, that we can never find lasting peace unless we look for it . . . unless we work for it.

Above, you counted 54 pennies. That's what the UN costs each American per year. Look at just a few of the things that your 54¢ buys:

1. The UN Children's Fund (UNICEF) has helped organize health campaigns that examined 400,000,000 children in 88 countries.
2. Through the UNICEF, 14,000,000 children were vaccinated against tuberculosis.
3. 9,000,000 children were vaccinated against malaria and typhus.
4. The World Health Organization helped wipe out yaws in Haiti where this scourge affected ⅓ of the population in 1950.
5. The UN's Food and Agriculture Organization helped farmers in Iran locate 50 new wells for irrigation.

By attacking some of the underlying causes of war —*hunger, poverty* and *disease*—the United Nations is helping prevent war. At every opportunity, support the United Nations. You support it best by knowing what it's doing —and by letting others know what it's doing. A better understanding of the United Nations means a better chance of peace for the world!

The United Nations works for you

The United States Committee for the United Nations

An accredited citizens' organization whose chairman is appointed annually by the Secretary of State

816 21st St., N. W., Washington 6, D. C.

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For Your Calendar

Through February 23. Built in Latin America. Museum of Modern Art, New York.

January 5-18. Winter Furniture Market. Waters and Exhibitors Buildings, Grand Rapids.

January 9-13. Society of Automotive Engineers' Annual Meeting. Detroit.

January 9-20. International Home Furnishings Market. American Furniture Mart and Merchandise Mart, Chicago.

January 16-27. Chicago Area Industrial Design Exhibition. Illinois Institute of Technology's Architecture-Planning-Design building, Chicago.

January 18-20. Society of Plastics Engineers' Annual Conference, Cleveland.

January 19-20. Industrial Design Symposium. Commons building, Illinois Institute of Technology, Chicago.

January 19-26. National Housewares and Home Appliance Manufacturers Exhibit. Navy Pier, Chicago.

January 23-26. Seventh Annual Plant Maintenance and Engineering Show. Convention Hall, Philadelphia.

January 30-February 3. Winter Market. Los Angeles Furniture Mart.

February 6-10. Winter Market. Western Merchandise Mart, San Francisco.

February 7-9. Annual Meeting of the Reinforced Plastics Division, Society of the Plastics Industry. Hotel Chalfonte-Haddon Hall, Atlantic City.

February 22-March 2. British Industrial Fair. Earle Court, London, England.

February 26-March 2. New York Gift Show. Hotel New Yorker and New York Trade Show Building.

March 6-8. Society of Automotive Engineers' Passenger Car, Body and Materials Meeting. Detroit.

March 8-9. Annual Conference, Society of the Plastics Industry of Canada. Sheraton-Brock Hotel, Niagara Falls, Ontario, Canada.

March 14-16. American Society of Mechanical Engineers' Aviation Division Conference, Los Angeles.

March 18-21. Society of Automotive Engineers' National Production Meeting and Forum, Cleveland.

March 18-21. American Society of Mechanical Engineers' Spring Meeting, Portland, Oregon.

March 19-23. American Society of Tool Engineers' Industrial Exposition, Chicago.

March 26-27. American Society of Mechanical Engineers, Instruments and Regulators Division Conference, Princeton, New Jersey.

March 27. Annual Meeting, Pacific Coast Section of the Society of the Plastics Industry. San Francisco.

March 28-May 13. Signs on Broadway. Museum of Modern Art, New York.

April 21-25. The Decorators' Big Show. San Francisco Civic Auditorium.

April 23-25. 25th Anniversary Conference of the American Institute of Decorators. Palace Hotel, San Francisco.

April 23-May 4. 1956 British Industries Fair, Second Edition, Birmingham, England, and Olympia Hall, London.

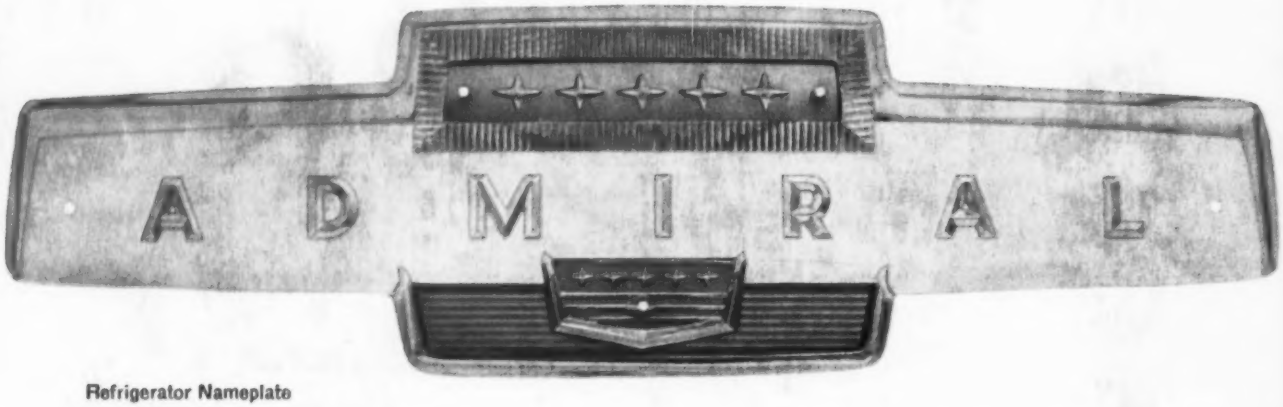
May 14-17. First Design Engineering Show. Convention Hall, Philadelphia.

Air Conditioner Panel

Steering Wheel Cap

Range Control Knob

Tail Light Lens



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Molded parts like those shown above combine functional value with gleaming beauty because they are made of PLEXIGLAS. This acrylic plastic has outstanding resistance to breakage, discoloration, weather and corrosion.

The combination of rich, brilliant appearance and rugged durability is the reason PLEXIGLAS acrylic plastic is chosen by manufacturers to give added sales appeal and serviceability to their products. You find parts molded of PLEXIGLAS, for example, on cars, home appliances, outdoor lighting fixtures, optical equipment and industrial pumps. Our brochure "Molding Powder Product Design" tells how and where to use PLEXIGLAS. We would like to send you a copy.

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