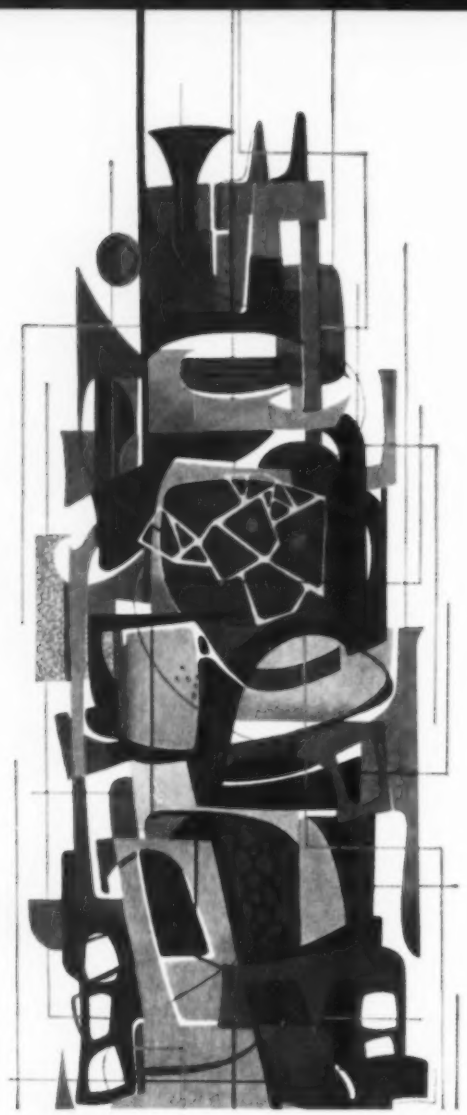
INDUSTRIAL DESIGN

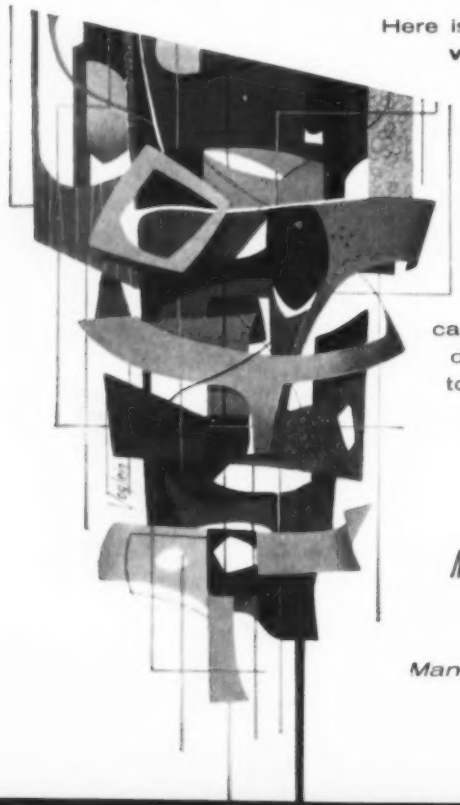
5 May 1960 $1.50 per copy

PUBLIC RELATIONS in the design profession

ALUMINUM in design — past, present, future



AS YET WE HAVEN'T SCRATCHED THE SURFACE



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Manufacturing Achievements in Molten Aluminum.

MAY, 1960 VOLUME 7 NUMBER 5

INDUSTRIAL DESIGN

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

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Coming

IN JUNE—Research and Development: an examination of the organization and "operational creativity" of the consultant research firm of Arthur D. Little, Inc.

IN JULY—Product Development: how special services are used to bring products from research to market.

COVER: The horn refers to "blowing one's own" and Art Director James Ward has cut it to pieces. The background texture is a new aluminum sheet, the result of a new process developed by Kaiser Aluminum that creates patterns in various color combinations.

FRONTISPIECE: A photograph of an extruded aluminum landing mat being stretched in the 1,000-ton stretcher at the Dow Metal Products Company in Madison, Illinois.

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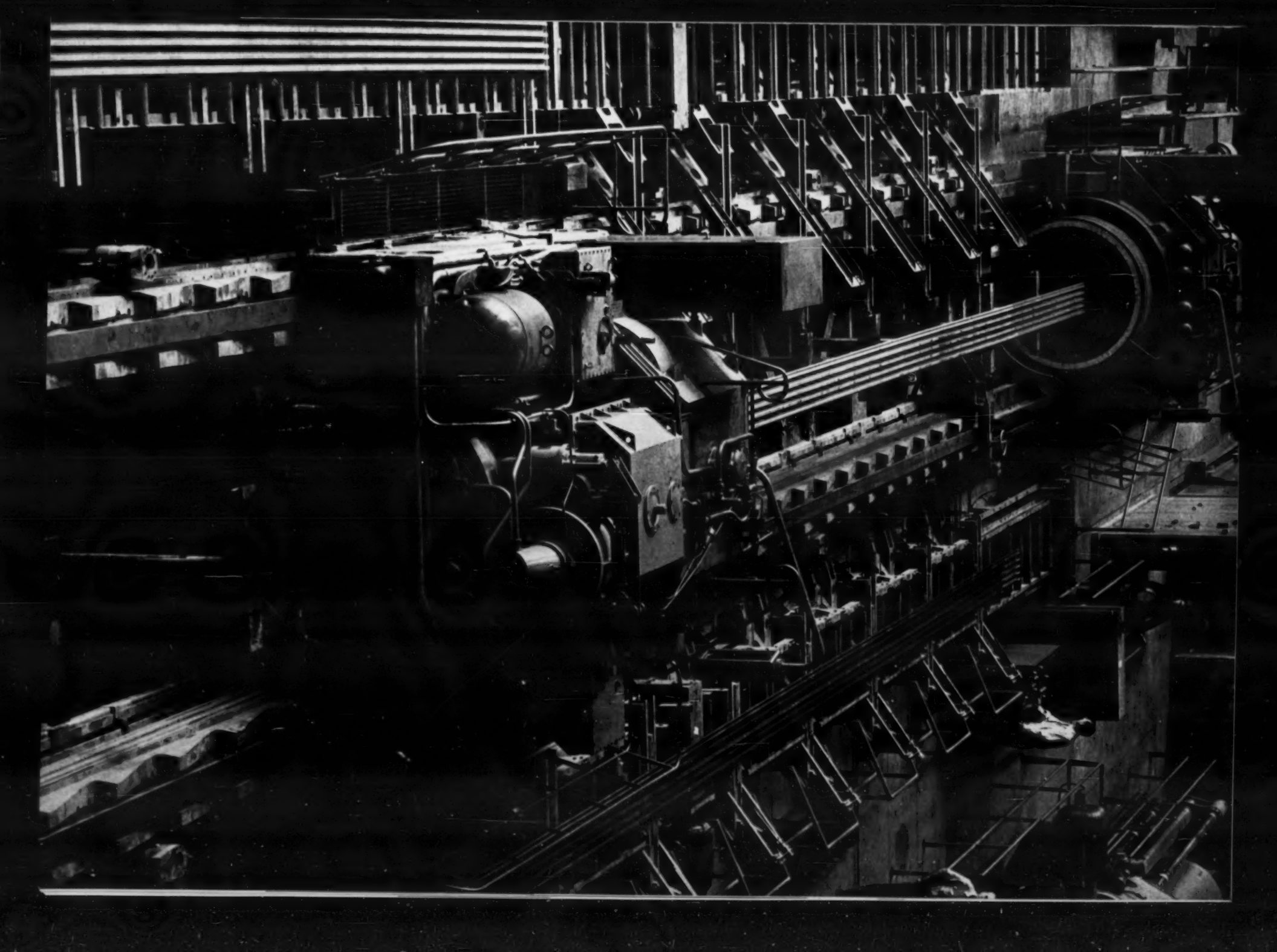

imagination AND DU PONT PLASTICS

LUCITE®
acrylic resins

New LUCITE acrylic sirup, combined with glass fibers, makes possible the manufacture of reinforced acrylic panels for the first time. Designers are finding that these panels are offering a variety of new opportunities. Their sparkling beauty is matched with excellent physical characteristics. Housings for equipment, signs and structural parts are all possibilities. Typical is the use of these panels in patio covers and side panels which can add decorative charm and functional advantages to any building. These panels are available with either flat or corrugated surfaces. The applications illustrated below demonstrate some of the many things that can be done with reinforced panels made with LUCITE sirup.

What these panels offer to designers

Durability: Strength, rigidity and toughness are characteristic of reinforced panels made with LUCITE acrylic sirup. In applications such as the motel sign, acrylic panels withstand buffeting from heavy winds. They resist abrasion and impact damage from hail, flying pebbles, debris, even at sub-freezing temperatures.

Weatherability: These acrylic panels are ideal for outdoor applications. The carport illustrated will remain attractive because the panels will not discolor due to the adverse effects of sun and rain. It will preserve its surface gloss, translucency and physical properties.

Workability: These lightweight panels are readily drilled or sawed, and fastened with screws, nails or bolts. They are easily bonded, sealing with high strength and practically invisible glue lines. Since LUCITE sirup provides a smooth, glossy surface, polishing is not required. These panels are easily cleaned.

Light Transmission: Translucent acrylic panels are available in a variety of colors which provide interesting and unusual lighting from soft diffusion to complete shade. Panels made with LUCITE sirup have excellent image-hiding power and practically eliminate the problem of glare. They create decorative and functional effects to enhance any building.

Heat Transmission: In applications such as industrial glazing, skylights and awnings, panels made with LUCITE sirup permit a high degree of light transmission with a relatively low per cent of heat transmission. Attractive lighting is achieved in cool comfort.

Indoor comfort, outdoor fun

Any home gains gracious living space with a colorful patio cover. These translucent panels provide a variety of decorative effects. Ideal for entertaining or relaxing, a patio with panels made with LUCITE sirup becomes an extra room with the refreshing fun of being outdoors.

What problems can panels made with LUCITE help you solve?

acrylic sirup

The applications shown on these pages may suggest ways in which the unique properties of panels made with LUCITE acrylic sirup can help you solve some of your design problems. Du Pont technical personnel are ready to assist you in your evaluation of these modern acrylic panels. For more information about these beautiful and useful new panels, write: E. I. du Pont de Nemours & Co. (Inc.), Dept. T-5, Room 2507L, Nemours Building, Wilmington 98, Delaware.

IN CANADA: *Du Pont of Canada Limited, P.O. Box 660, Montreal, Quebec.*

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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

ALATHON® polyethylene resins **DELRIN®** acetal resins **LUCITE®** acrylic resins and sirups **ZYTEL®** nylon resins

Du Pont's problem-solving plastics

in this issue...


Dobias


Kern


Mahood


Petterson


Wright


Reese

Raymond Kern, Frank Mahood and **William J. Dobias,** the three students whose art work took first place in Du Pont's cookie package design project (page 88), all hope that the project will help in landing full-time design jobs after graduation. William Dobias of IIT wants to work in advertising design or illustration as soon as he has finished an Air Force tour of duty. Raymond Kern, Philadelphia Museum College, expects summer experience as an architect's assistant and model maker to be useful in finding work after graduation next month. Frank Mahood has specialized in painting as well as design at Carnegie Tech. Right now he is planning an exhibition of his prints and drawings for the Pittsburgh Press Club.

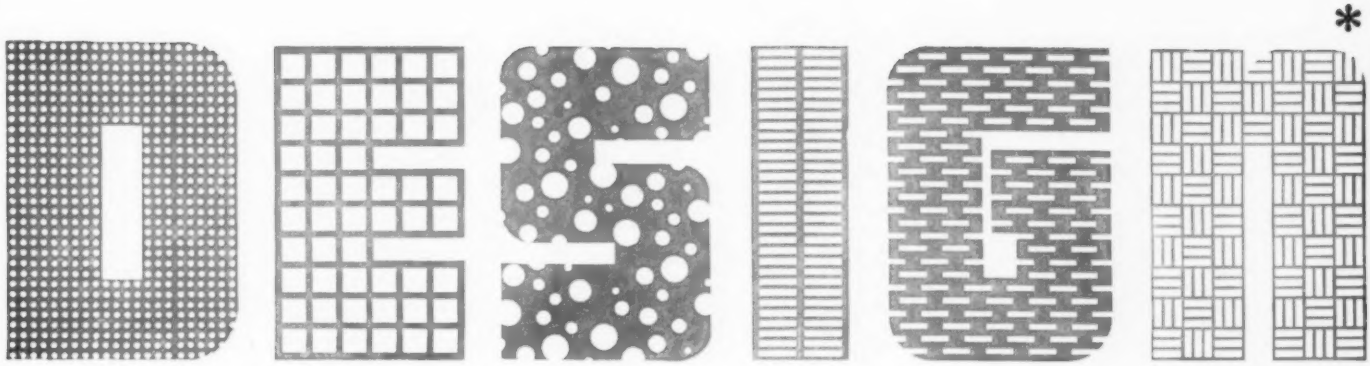
Tor Petterson, whose aluminum-cased watt meter is featured on page 57, first learned about design from his designer-father in Tönsberg, Norway. After the invasion of Norway, Petterson escaped, served with the allies, was captured and finally—in 1947—resumed peace-time activities with his own Pasadena design office which has kept him busy ever since.

Russel Wright, when this picture was taken nearly thirty years ago, was busy liberating aluminum from the kitchen and adapting it to an array of new products (page 46). Recently, his designs for Melamine dinnerware have introduced another pioneer material *into* the kitchen. Princeton-educated Wright has worked in sundry materials and produced designs ranging from housewares and home furnishings to packaging and exhibitions since, like Bel Geddes and some of the other early pace setters, he moved from stage design into industrial design.

Although a great many public relations specialists contributed to the story on page 74, in most cases their wish for anonymity precluded photographs on this page. A particularly photogenic exception is **Betty Reese,** vice-president of Raymond Loewy Corporation ("It's nice to be called a vice-president; actually, I'm a press agent.") Miss Reese, a former dancer who was in vaudeville at the age of 13, is regarded by both editors and colleagues as an extraordinarily astute business publicist. At her Long Island beach house, where she vacations summers, she is regarded as a menace by local fish.

H&K perforated materials

a perfect medium of



*

for functional and decorative uses

Whether your project calls for the decorative or functional use of perforated materials, Harrington & King has the answer. You'll find a vast selection of inspired patterns available from existing dies . . . at no charge for tooling. Or, if necessary, tools for special designs will be made to order.

And, H & K can perforate the proper design, pattern and open area in practically any metallic or non-metallic material available in coils, sheets or plates . . . from foil-thin to 1″ thick.

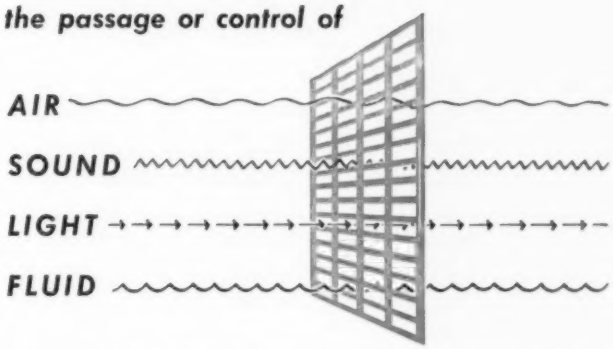
Specify H & K perforated materials on your next job—see what a difference over 75 years of experience can make!

H & K sales engineers will be pleased to work with you on your perforating requirements.

Mail coupon to nearest H & K office—today!

* Just a few of the many H&K patterns are illustrated—in reduced size.

Wherever a product requires the passage or control of



or just for their inherent aesthetic qualities, H & K perforated materials can serve you . . . best!

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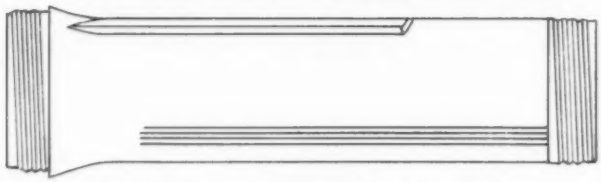
All-plastic case shows finely-drawn functional detail

Tube, lens ring, and cap are all molded of BAKELITE Brand high-density polyethylene. The designer made good use of this material's functional properties. Fine details are reproduced with extreme fidelity—serrations on the tube are precisely formed and provide a firm grip. Minimum finishing after molding helps keep mass production costs low. Tough and rigid with excellent chemical resistance, the flashlight will take hard industrial usage. Its gloss adds sales appeal. On top of all these design advantages, the low price of this material makes it an even stronger value.

Molded-in threads, hidden parting lines make this design unusual



NOTE: EXTERIOR SURFACE OF TUBE TO BE FREE OF ALL PARTING LINES

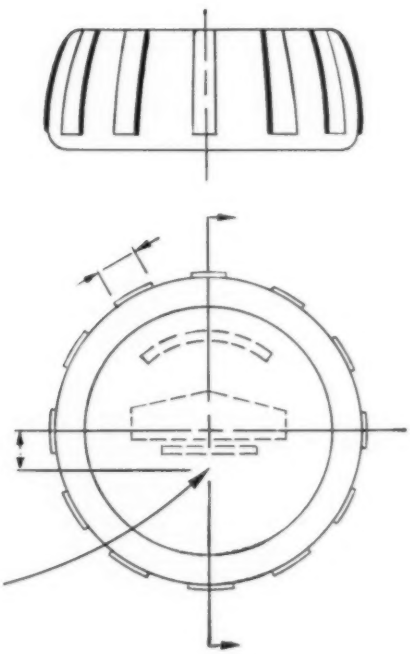
Because of the high temperature resistance of BAKELITE Brand high-density polyethylene, these flashlight components always hold their shape. The molded threads don't soften, keeping the lens ring and cap firmly in place. These are ten-pitch threads, easy to work, hard to strip.

While the threaded sections at the bottom and top of the tube required a parting line, the designer specified that the main body of the tube have no parting line. The one-piece mold used for this feature costs more, but the appearance of the finished product makes it worthwhile. A slight taper in the tube permits easy removal from the mold. Since holes for the switch plate are molded in, there's no need for subsequent operations such as drilling or piercing.

HIGH-DENSITY POLYETHYLENE ...

Clean mold gating, color, feature high-density polyethylene

The designer called for a conventional gate on the flashlight cap mold; the tube and lens ring molds have a "diaphragm" gate used in fabricating tubular plastic designs. See how the finished part compares with his design. The cap and lens ring come in three glossy colors—red, yellow, and green—an attractive combination with the black tube.



This was an informal test—

...but it demonstrated the toughness and impact resistance of the BAKELITE Brand high-density polyethylene used in the EVEREADY "Shop Lite." It came through the bump, bounce, and batter undamaged.

IDEA-MATERIAL for NEW DESIGNS

The EVEREADY "Shop Lite" gained several advantages when the designer chose this new polyethylene. Check the high points on these pages...

A new material often expands the designer's opportunities to try new ideas. This is especially true of high-density polyethylene, which offers properties that can reduce costs, extend performance, and improve appearance. Polyethylenes are only one group of BAKELITE Brand plastics—the others are epoxies, phenolics, styrenes, and vinyls—that you can draw on. Molded, laminated, extruded, or in coatings, BAKELITE Brand plastics can be a source of genuine product improvement.

Check their properties in Sweet's Product Design File, section $\frac{2a}{ui}$

Visit our booth at the Design Engineering Show, New York Coliseum, May 23-26.

UNION CARBIDE

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The type of application being considered is _____

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INTERNATIONAL DIGEST

Soviet magazine offers rare glimpses of Russian design as Russians see it

Design for an intercity bus (*July*, 1958)

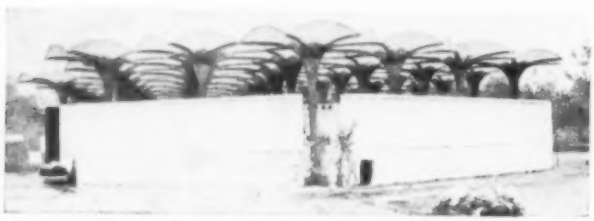
"The Capital," by Amashokeli (*October*, 1959)

Wall storage system (*July*, 1958)

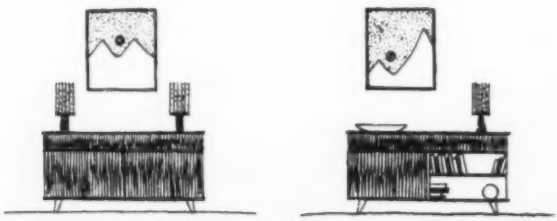
DECORATIVE ARTS OF THE USSR, Ulica Gorky 9, Entrance 6, Moscow K9, USSR. Price 12 rubles per issue.

Now that Soviet industry has relaxed sufficiently to think beyond basic problems, increasing attention is given to design, architecture and interior planning. The selections in Russia's monthly professional design magazine show that this interest ranges from serious studies on automotive design (left) to an article giving the most naive advice — apparently for country cousins beyond the pale of Leningrad sophistication—on the acceptability of asymetrical furniture arrangements (below). But another article shows that the Russians are sufficiently *au courant* to have developed their own wall storage system (left). And, while critic B. Villensky looked for things to question at the American Exhibition (below) at Moscow last summer, his review is at once perceptive and generous in praise of the show, especially the architecture. Mr. Villensky was most impressed with the geodesic dome, less with what was shown in it. Although he calls the Eames movies "an unforgetable experience," he tags the George Nelson display a "metallic jungle" in which the viewer gets lost.

Decorative Arts of the USSR fills out its pages with a number of less pertinent articles. One, discussing the special character of various Russian cities, praises a gigantic sculpture (left) — which could have been inspired by an early DeMille movie prop—as the element which gives the beautiful city of Tiflis its special character. But partly *because* of such inequality of material, *Decorative Arts of the USSR* makes fascinating looking (there are no translations). For those seriously concerned with the course of foreign design, it deserves far more careful study.—A.F.



American Exposition at Moscow (*December*, 1959)



Symmetrical and asymmetrical furniture arrangements (*July*, 1959)

M&T offers new versatility
in product finishes for designers...

SPRAYED-ON VINYL WITH TEXTURE

The amazing durability of vinyl coatings, countless variations of pattern, and spray gun applicability—this is the new dimension in modern finishing available to trend-setting designers.

Now, a full-bodied vinyl finish can be spray applied to even complex parts—producing a distinctive texture on smooth surfaces—or reproducing an underlying metal pattern with high fidelity. It must be seen and touched to be truly appreciated. Mantled with a thick-film vinyl finish, any product looks richer, feels warmer. Its appeal is heightened.

A full-bodied M&T Vinyl Finish combines many other desirable design features. Outstanding durability is one of the most important. Remarkable protection against a whole spectrum of strong corrosives is another. It has high resistance to abrasion. It aids in muffling noise, insulates electrically and thermally. To cap it all, the sprayed-on finishes developed by M&T are exceptionally immune to marring and other physical damage.

• *A milestone in product finish development*

Laboratory tests and production controls assure uniformity and overall quality of M&T vinyl coatings. Spectrophotometric tests as shown guard against undesirable contaminants in raw materials and in final coatings.

Tensile tests and other tests are made to check important physical properties which contribute to the outstanding durability of M&T Vinyl Finishes.

Superior wearability is demonstrated on abrasiometer, which wears down coating samples for comparison. One thousand cycles of abrasive wheel produced only 35 mg weight loss in sample of one M&T Vinyl Finish, as against 350 mg loss with a textured enamel—clearly a ten-time improvement in durability.

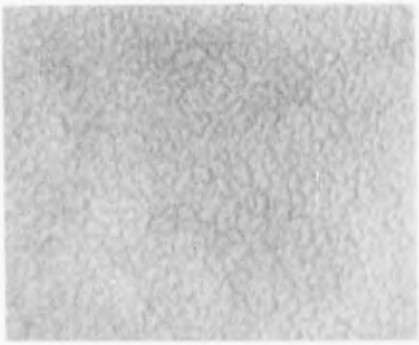
Of all the finishes formulated from vinyl resins, some of the most dramatic—and durable—are provided by the plastisol family. M&T has pioneered in such coatings. The special coatings recently developed for smooth and textured finishes offer all the chemical advantages of vinyls plus some unique features all their own. The finishes look, feel and wear like highest quality embossed vinyl film—but are easier to use, especially on intricate shapes.

Through these sprayed-on M&T Vinyl Finishes, "custom" effects can be achieved by simple changes of texture and color. The finish can be applied at the *end* of the production operation, thereby avoiding problems in forming, welding . . . and leaving no raw, unfinished edges as with pre-finished materials. Colors can be changed at will, without creating an inventory of obsolete precoated metal.

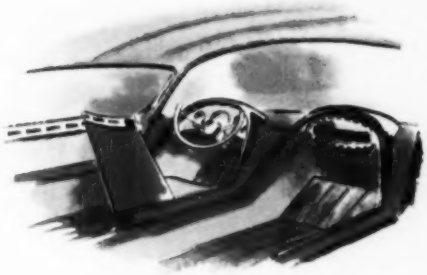
Texture can be achieved in several ways. One is to apply to a smooth surface a vinyl finish that can be textured chemically. Another is to spray a suitable vinyl finish over mill-patterned metal or other pre-textured substrate.

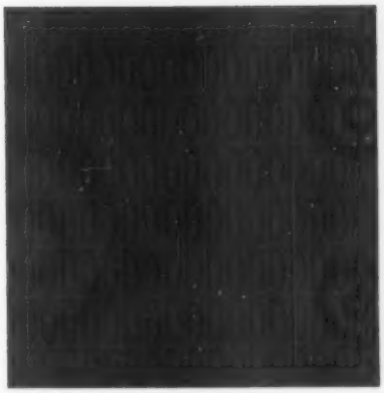
M&T supplies several spray-on vinyls for chemical texturing. The line also includes materials especially suited to the special requirements of finishing mill-textured or perforated metals. These finishes must be capable of delivering uniform coverage without fill-in of delicate tracery. M&T Unichrome Finish 4225, for example, will reproduce the underlying pattern in finest detail even when applied in thicknesses up to 12 mils.

Architectural products *gain both in distinction and durability from a sprayed-on M&T Vinyl Finish. Protection from corrosion goes up—maintenance goes down. Surfaces are far better equipped to resist damage from scuffing and abrasion. And the finish won't chip or peel in this service.*

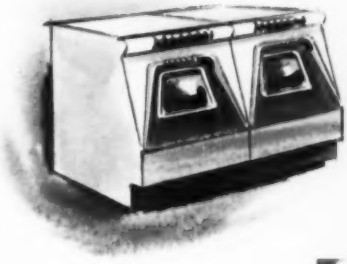


Automotive interiors *require both high styling and scuff resistance. Both requirements are satisfied with M&T sprayed vinyl finishes. Parts not only get a richer looking finish, one that feels warmer to the touch, but they retain their beauty for the life of the car. Parts can be fabricated by any method, and subsequently finished at decentralized plants in color ordered.*

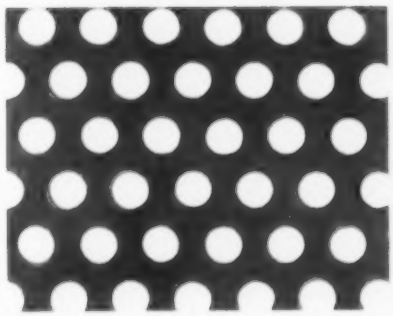




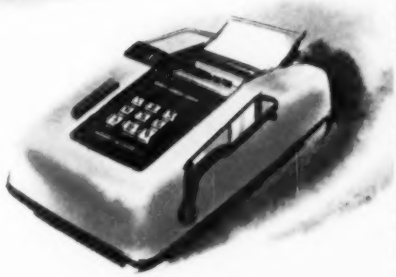
Appliances *achieve a novel effect with colorful decorative trim and touches of texture supplied by an M&T Vinyl Finish. As for service, there is hardly a finish that so economically offers so much protection against food acids, soaps and detergents, alcohol, water and the deteriorating effects of constant handling.*

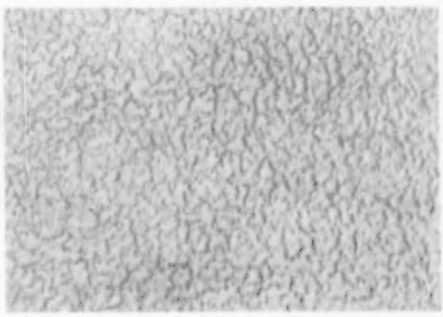


Metal furniture *comes better clad for the wear and tear of everyday service with sprayed-on M&T Vinyl Finishes. The finish absorbs impact without chipping, refuses to stain or fade despite constant handling. Not to mention the improved appearance contributed by tasteful texture . . . and the thermal insulation afforded outdoor furniture.*



Business machines, *from adding machines to electronic computers, carry a finish befitting their quality. In addition to presenting a handsome, hand-crafted effect, housings with sprayed-on M&T Vinyl Finishes resist the encroachments of "age." The finish remains remarkably free from fading, stains, worn areas, chipping and similar unsightly service deterioration.*





The texture you can choose for your product varies from the random appearance of leather to the numerous perforated, coined or embossed geometric patterns available in steel or aluminum. But whatever the pattern, the durability of the product is assured when it has a sprayed-on and baked M&T Vinyl Finish.

BASIC TYPES

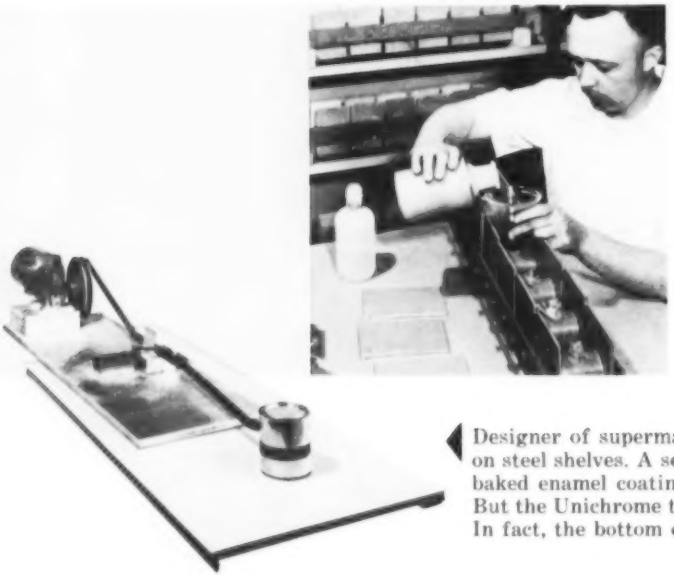
Type of Finish Desired	Metal Surface	M&T Vinyl Finish	Film Thickness	Baking Temperature
textured	smooth	Unichrome 6400	2 to 12 mils	350-375°F.
smooth	smooth	Unichrome 6440	2 to 12 mils	350-375°F.
textured	smooth	Unichrome 6470	6 to 15 mils	350-375°F.
patterned	patterned	Unichrome 4225	2 to 12 mils	350-375°F.
smooth or textured	smooth	Unichrome B-65	1 to 4 mils	250-300°F.
patterned	patterned	Unichrome B-65	1 to 4 mils	250-300°F.

APPLICATION

Pressure spray gun or electrostatic spraying can be used. Spraying permits coating upon completion of fabricating operations. The textured or smooth metal is formed and welded without problems encountered with prefinished metal. Seams, raw edges are eliminated. So is scrap loss from prefinished parts. Reclaiming of rejects for any refinishing—impossible with prefinished metals—is greatly simplified.

M&T Vinyl Finishes are normally two-coat systems, with a primer used to assure tenacious bond. Finish B-65 which delivers thinner coatings applies over phosphated surfaces without priming for some applications.

PROPERTIES OF M&T SPRAYED VINYL FINISHES



As determined by contact with corrosives in test cells as shown at left, finishes display inertness typical of the vinyl coatings:

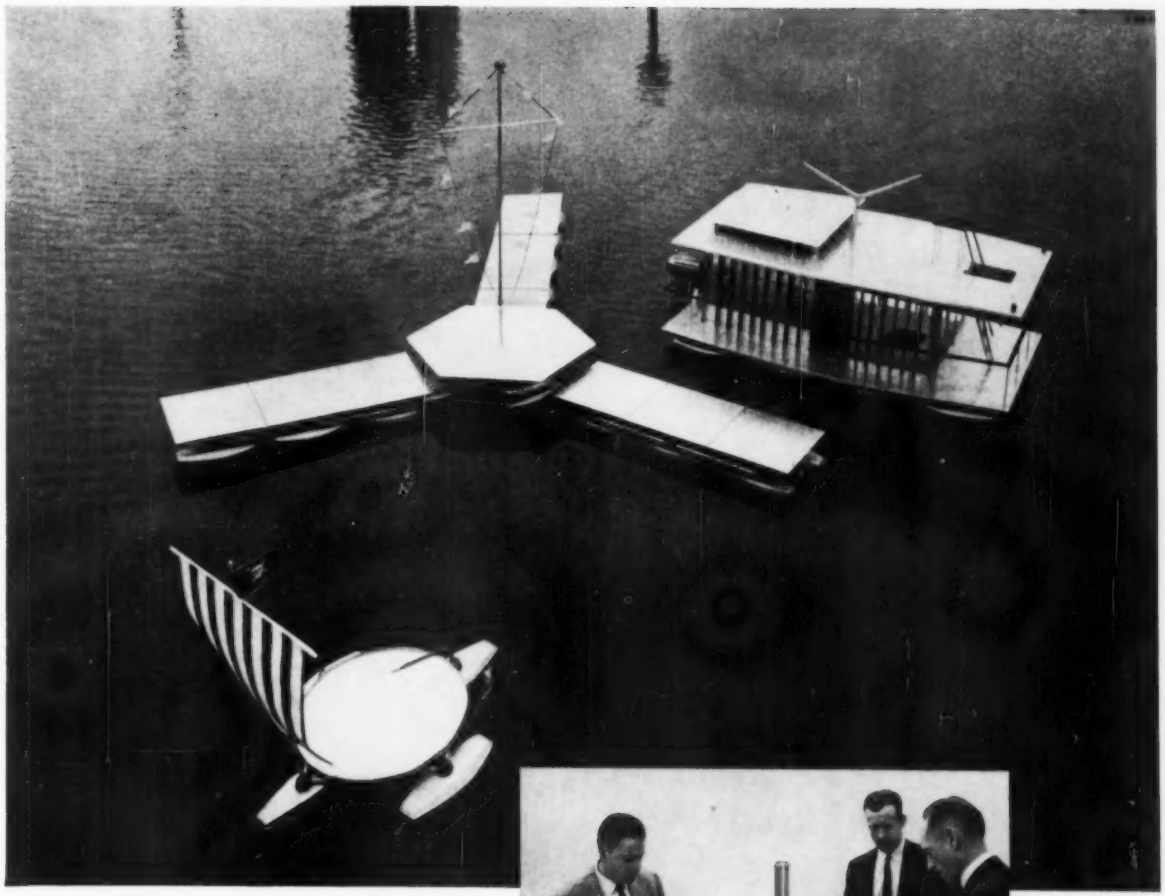
- Excellent resistance to acids, such as hydrochloric, sulfuric, acetic acid.
- Immune to caustics, cleaning solutions, detergents, wetting agents, oxidation.
- Inert to water, salt solutions, alcohols.
- Unaffected by mineral oils, grease, perspiration, foods, inks and other stain-producing agents.

Designer of supermarkets used this practical test to compare coatings on steel shelves. A seven-pound can of tomatoes, sliding continuously over baked enamel coating, produced marked wear after 30,000 rubs. But the Unichrome textured vinyl finish was like new after 535,000 rubs. In fact, the bottom edge of the *can* had worn off.

For more information and engineering cooperation, write Metal & Thermit Corporation, Rahway, New Jersey.

M&T coatings and finishes

METAL & THERMIT CORPORATION



Above, models built by DiSesa show the versatility of his floating building blocks. They serve as the basic feature for a dock, a houseboat and a catamaran. *Right*, Student DiSesa; Jack Hamilton, Alcoa industrial designer; and Robert Redman, head of Industrial Design Department, University of Bridgeport, examine the components of the floating building block.

ALCOA STUDENT DESIGN AWARD

FRANK DiSESA'S FLOATING ALUMINUM BUILDING BLOCKS have earned him an Alcoa Student Design Award in his senior year at the University of Bridgeport. This award, part of an integrated Alcoa program with leading design schools, is administered by the school faculty.

Mr. DiSesa's design was selected by a faculty committee from class experiments on "something new in aluminum," according to Robert E. Redman, head of the Industrial Design Department. DiSesa won because he displayed "imaginative flexibility without losing sight of the 'nuts and bolts' thinking so important to successful design."

Twin aluminum stampings filled with a buoyant material are joined by a combination sealing gasket-rubber bumper to form a pontoon unit. A hemispheroid depression in the pontoon accepts a forged aluminum ball (a "connector") with six receptacles. Bayonet-type connecting rods snap into these connectors, lock together any number of pontoons in any desired pattern. They form, for example, a dock, a sailboat, a houseboat hull or a working platform for heavy equipment.

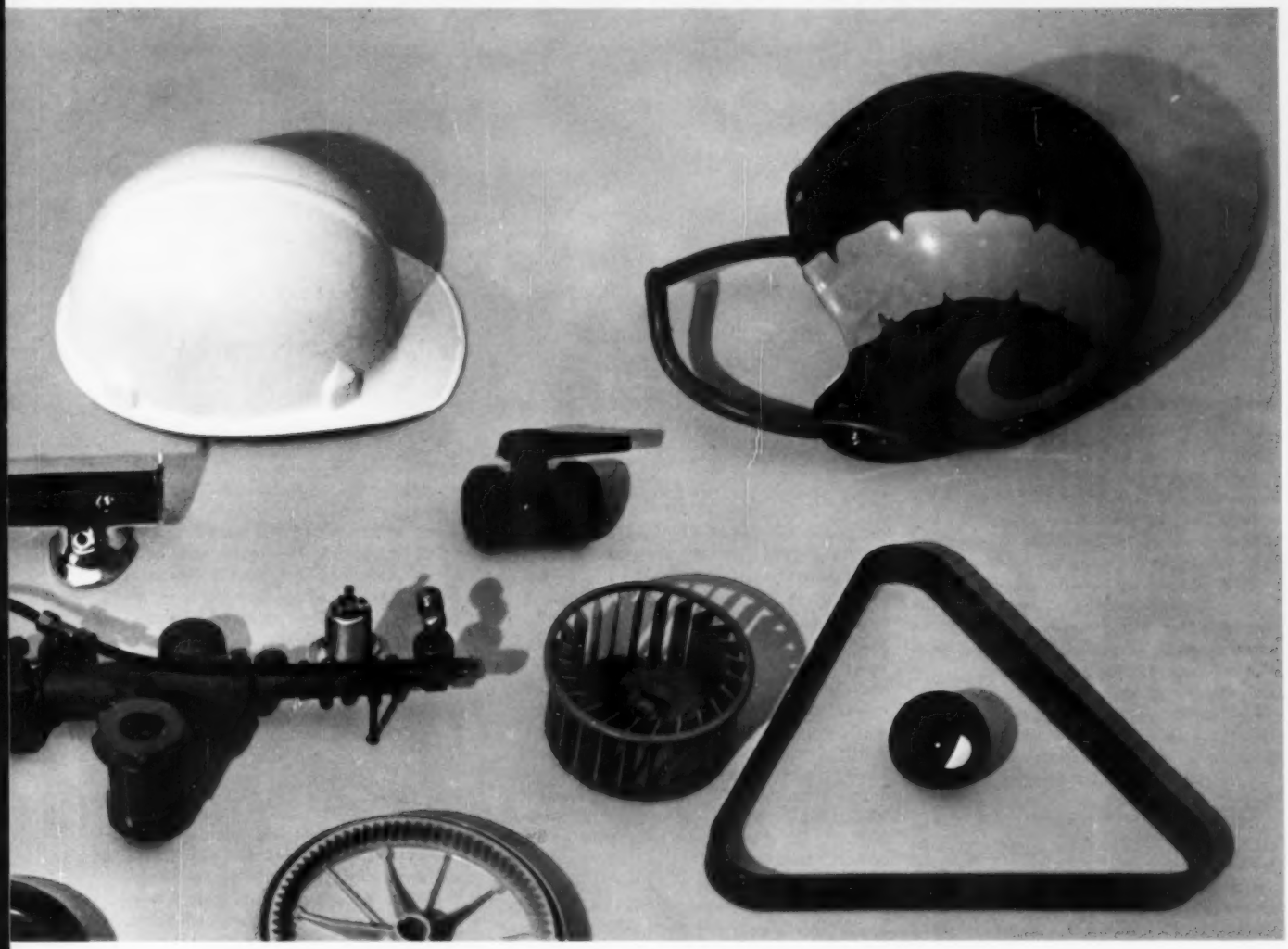
DiSesa chose aluminum because it alone combines the strength to take rough treatment in stride, the light weight to make handling and assembly easy, the corrosion resistance to assure long service life in salt water or fresh.

The Alcoa Student Design Award encourages and rewards college students who, like Frank J. DiSesa, Jr., already show great promise as designers.

ALUMINUM COMPANY OF AMERICA · PITTSBURGH 19 · PENNSYLVANIA

Announcing
KRALASTIC MH
...newest in the
family of
Design-Engineering
ABS Plastics

- HIGH GLOSS
- EASIER PROCESSING
- FASTER MOLDING
- EXCELLENT APPEARANCE



Newest in the constantly expanding family of tough KRALASTIC® compounds, the original ABS resins, KRALASTIC MH has been developed especially to meet the requirements of those whose operations call for faster production cycles.

Yet with all its ease of processing, it sacrifices none of the impact strength which has made KRALASTIC the preferred material for hundreds of toughness-demanding applications.

In addition to its unusual combination of processability and impact strength, KRALASTIC MH also offers a high heat stability exceeding that of many other plastic materials. And its ability to take and hold a high gloss produces a lustrous product with strong and lasting sales appeal.

MH shares with the other KRALASTICS such typical properties as wide chemical resistance, unusual ability to withstand abrasion, and good electrical characteristics. These properties recommend this new material highly for sheet and profile extrusions, injection moldings . . . for a wide variety of products ranging from appliance housings to shoe heels.

Send for further information on the properties and application possibilities new KRALASTIC MH offers.

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Naugatuck Chemical Division

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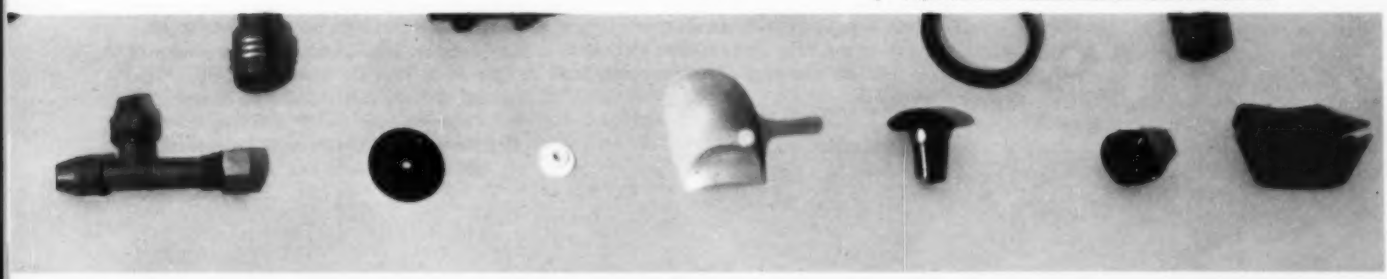
KRALASTIC RUBBER-RESINS • **MARVINOL** VINYLS • **VIBRIN** POLYESTERS

Akron · Boston · Gastonia · Chicago · Los Angeles · Memphis · New York · Phila.
CANADA: Naugatuck Chemicals · Elmira, Ont. · Cable: Rubexport, N.Y.



LETTERS

Design Credit on Films

Sirs:

Your article on industrial films in the April issue of Industrial Design is, in my opinion, a real ten-strike—far and away the most objective discussion of the subject we've had the opportunity to see.

This objectivity in the face of your built-in "bias"—looking at films from the standpoint of the designer—is almost as amazing as it is praiseworthy, and as a writer I congratulate you roundly.

However—strictly as a footnote—as an industrial film writer of probably more films than Saul Bass has directed, I take sharp exception to his reportedly unqualified statement that "the director is the designer of the film."

His statement is accurate only for a very small minority of the industrial films produced today, partly because there simply aren't enough qualified directors to direct more than a minority. A look at the Directory of Directors will show you what I mean.

For the vast majority of industrial films, it's the writer who is the designer, and in the sense you mean the term "designer." With complete accuracy you wrote, "The problems—like most design problems—are problems not of technique, but of talent."

The principal talent lacking in the field of industrial films is writing talent. Producers themselves will tell you that finding good writers is almost impossible. Yet in the next breath they will tell you the pay they offer is no higher than they paid in the old days when they quoted film prices at only a thousand dollars a minute.

In short, industrial film writing fees are generally not high enough to attract young talent to the field, or to keep older men. I might mention that almost all the other "talents" in the field are organized, *including the directors.*

Oeveste Granducci
Washington, D. C.

Innocents Abroad

Sirs:

The international scope of the March issue of Industrial Design was excellent. I think something of such a universal nature as good product design should be thought of on an international plane.

National characteristics are an interesting topic but a number of the articles from abroad tended to be excessively wordy—a charge which I might also level at Industrial Design. I think it is so simple to become verbal about something which is highly visual. I would rather see the proof of an effort in the product itself, with possibly some very limited observations as to what makes it tick, and let it go at that.

European product design, on the whole is definitely less mature and advanced than American design. Some of this obviously stems from a difference in cultural patterns which demands that a product "wear" for extremely long periods of time while *we* place a more temporary value on a given product. I feel, however, that the basic design understanding in terms of form, trim, and detail is less developed. The I.B.M. electric typewriter as compared to the much touted Olivetti is an excellent example.

The American effort is obviously a superior one in every way and this can be supported intellectually. I don't think this is a matter of ego. I think, in other words, that the learning must proceed from here to there. We do not have too much to learn from abroad unless it is to be more serious about designing to age "gracefully," and possibly to inject into basic design an inherent quality. But once again, different attitudes towards basic selling costs, obsolescence, etc. vary so much between Europe and America that this may be difficult to put into practice. However, I do feel that there are occasional sparks of good work achieved over there.

The very fact that they are thinking "design" is excellent, but there is a tendency on the part of the European to think that just because he thinks of something, this is automatically the answer, and the superior answer. I am sure this would be the attitude of such people as Olivetti whose efforts I can't help but think of as very naive. They use the obvious solutions that the high school boy would apply to a design—round over the corners, keep the radii constant, smooth and flatten all the surfaces, and you have a design. I am afraid that integrating the elements that go into a product such as a typewriter, or an adding machine or any other such complex product are somewhat more involved than this.

Harold Zierhut
California

An International Perspective

Sirs:

The entire March issue on International design was extremely interesting to us, especially for its objective and receptive attitudes towards the European design situation. Although the issue was compiled for American readers, it has also been useful for us to see how we are considered from a foreign point of view and it gives us the opportunity to explain many of our ideas.

A. Tito Anselmi
Stile Industria
Milano, Italy

Win an Award

Sirs:

You may recall that last month we developed an advertisement for our client, Atkins & Merrill, entitled: "Image Molders," March issue, page 121. This advertisement has engendered more comments, confusion, and curiosity than any Atkins & Merrill can recall. We think this reaction may be universal, and on the strength of this thought we wish to suggest the following idea:

1. To the reader of Industrial Design who is able to accurately figure out how we "molded" the image onto the mechanical eye goes an inscribed award printed in two colors on good stock. We hasten to add that retouching and other forms of commercial art magic were not a factor.

2. Further recognition will go to the reader who can best synthesize the whole method used. Whether it is the same as ours or not is of secondary importance, if in our opinion it makes sense and would at least approximate the results obtained in the ad.

Donald W. Gardner Advertising, Inc.
41 Mount Vernon Street
Boston, Massachusetts

Errata

On pages 105 and 106 of the March issue William Schmidt and Associates are credited with collaborating on the 1960 Amana refrigerator. The design was the combined effort of J. William Mason, consultant designer; Howard Ketchum, color consultant; and John Wagner, staff designer. William Schmidt and Associates have been retained by Amana since January of this year.

Even Gentian Violet won't leave its mark on Colovin® vinyl metal laminate

COLOVIN VINYL METAL LAMINATE in a special finish now offers unique stain resistance. Due to a new development, you can even get Colovin which resists stains as stubborn as gentian violet. In addition, a Colovin Laminate finish won't chip, scratch or crack.

Design and decorative possibilities are practically unlimited when you use Colovin Laminate. Colovin sheeting is available in over 30,000 colors, patterns and textures. It can be laminated to steel, aluminum or other non-ferrous metals—even to many non-metal bases. And when laminated to metal, you can form it or machine it as precisely as metal alone without damage to coating or bond. And because it's a pre-finished metal and can be fabricated on existing machinery, there is no need for costly finishing areas, labor and equipment. It's the world's most versatile decorative material that can give your product a real merchandisable difference!

For more information on COLOVIN VINYL METAL LAMINATE, write for your copy of "Colovin Meets Metal."

COLUMBUS COATED FABRICS CORPORATION • COLUMBUS 16, OHIO

Colovin

vinyl metal laminates

NEWS

Major new design award

The first recipient of a new $20,000 international design prize, the Kaufmann International Design Award, will be chosen by a five-member jury in Lugano, Switzerland, next September. The award, established earlier this year, is the largest in the field of design. It is administered by the Institute of International Education and will be given this year to a person or group "for an outstanding record of achievement in the practice of design."

For purposes of the award, design is defined as "the forming of useful, meaningful and expressive products, delightful beyond the satisfaction of needs or the provision solely of entertainment." To be given in 1960 for a direct contribution to the character of present-day design, in future years the award will focus on such specific areas as design education, philosophy and history of design. The fields of area planning, landscape design, architecture and structural engineering are specifically excepted from eligibility because, according to the sponsors of the award, "healthy international recognition is already accorded them."

Members of the jury this year are: Arthur N. BecVar, Manager of Industrial Design for General Electric; Erik Herlow, Professor of Design at the Danish Royal Academy; George Nelson, designer; Sir Herbert Read, British art critic; and Dino Olivetti, President of the Olivetti Corporation of America.

Candidates eligible for the Kaufmann award will be proposed to the jury by a group of fifty consultants from different countries, to be chosen by IIE's Advisory Committee for the Arts. Direct applications for the award will not be accepted. For the 1960 prize, a presentation ceremony will be held in New York in November. At that time the design field for the 1961 award will be announced.

The award has been established in memory of his parents by Edgar Kaufmann Jr., former director of the Department of Design of New York's Museum of Modern Art. The award is financed by the Edgar J. Kaufmann Charitable Foundation.

"Canadian Design in Retrospect"

Canadian design has had a busy winter: The National Industrial Design Council has been reorganized, the Design Center has reopened in the new National Gallery building in Ottawa and, to mark the event,

Above, recent Canadian design show included electric stove-refrigerator-sink designed by M. Nathanson, and a chair by Jacques S. Guillon.

the NIDC mounted a major exhibition of "Canadian Design in Retrospect" (above), on view at the Design Center during the past two months.

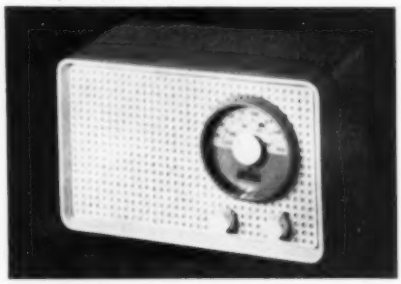
Organization of the NIDC has been revamped chiefly with a view towards upgrading the quality of design for export goods and towards educating its members, the public, and particularly manufacturers in the power of design to sell products abroad. To this end, plans for a yearly Design Congress have been made (with the first proposed for 1961); the Design Award program, hitherto yearly, will be triennial and will stress significant new developments, rather than annual model changes, in Canadian design; and NIDC's new bi-monthly bulletin has been designed to include case histories of Canadian products which have achieved success on the export market.

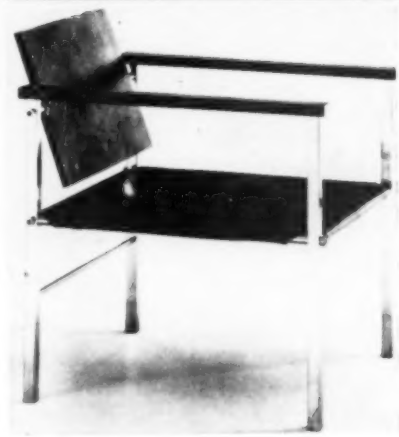
Gute Form kommt nach Amerika

A major exhibition of contemporary German design will travel to the chief cities of the United States under the auspices of the Smithsonian Institution, with a first showing tentatively scheduled for this summer at the National Housing Center in Washington.

The exhibit was originally mounted during this past winter at the Neue Sammlung (New Collection) of the Munich State Museum for Applied Art and includes over 180 objects (a few of which are shown below) of the best contemporary German craftsmanship and industrial design in ceramics, textiles, metals, glass, wood, light furniture, household appliances and office machines.

Below, "Gute Form"





Escon* POLYPROPYLENE

assures economical production of sure-sealing closures!

Here's another interesting use of versatile Escon: as closures, the seal can be built-in because the versatility of Escon allows thin sections for a positive seal, and stiffness necessary for assured grip. This combined with its ability to snap-back provides full, automatic production with stripper plate molds maintained on short cycles. Because polypropylene is the world's lightest plastic, Escon yields more pieces per pound. It also exhibits high torque strength; fatigue better than any other thermoplastic; and allows brilliant coloring. Escon makes excellent hinge closures with under-cut locks plus snap closures that pop on and off. In addition, Escon provides many more properties. Escon can help produce better closures as well as countless other products. Investigate Escon today! *Trademark

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PLASTICS

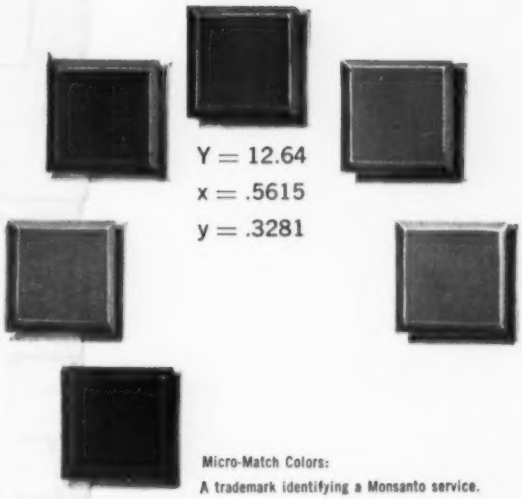
WHAT SIZE RED FOR YOU?

Monsanto Micro-Match Color Service offers you a new reason to explore limitless plastic colors. For the first time, styrene colors can be translated into absolute "sizes"

The Micro-Match Color System has reduced the matching and reproducing of styrene colors from six time-consuming steps with subjective accuracy, to one step that assures objective accuracy and uniformity. In this new system, spectrophotometric data, fed into a specially developed electronic computer, measures colors in precise chromaticity coefficients. Variances too minute for the human eye to distinguish can be determined and corrected. Colors of Monsanto Lustrex® styrene, ordered by coefficient number, will be uniform batch-to-batch, shipment-to-shipment, year after year—even if every sample should be lost or destroyed!

Micro-Match colors join the impressive list of Monsanto achievements in styrene color technology and service, which include the first colored styrene molding powder, the first pelleted colors, the first dry coloring and the first consumer color trend service. These are all part of a continuing program to set new standards of excellence for plastics.

Write for the Micro-Match brochure and call on Monsanto guidance in capitalizing on the rich design possibilities of plastics colors. Monsanto Chemical Company, Plastics Division, Room 716, Springfield 2, Massachusetts.



Y = 12.64
x = .5615
y = .3281

Micro-Match Colors:
A trademark identifying a Monsanto service.

MONSANTO ACTIVATOR IN **PLASTICS**

Monsanto

Art Directors Club awards

At its 39th annual exhibition held in New York last month, the Art Directors Club of New York awarded medals for advertising design to Edson C. Newquist (Needham, Louis and Brorcy, Inc.) for his color page for Renault (below); to Arnold Varga for his newspaper advertisement for Cox's Department Store (below); and to George Lois (Doyle Dane Bernbach, Inc.) for a color spread for Volkswagen and for his Goodman's Matzo poster.

In other categories, the club awarded medals to Carl Fischer (advertising art); Robert Gage, John Wilson and Stan Freberg (tv commercials); Otto Storch and William Cadge (editorial design); and Ernst Haas and Andre Francois (editorial art).

Four awards to management ("for inspiration and encouragement to art directors") were given to David L. Luke, president of West Virginia Pulp and Paper Company; Herbert R. Mayes, editor of *McCall's Magazine;* Frank Pace, chairman of the board of General Dynamics Corporation; and Warner S. Shelley, president of N. W. Ayer & Son, Inc.

In connection with the awards dinner and exhibition, the Art Directors Club held its fifth annual conference on visual communications April 13th and 14th at the Waldorf-Astoria. The theme was: "The differences in people are not as important as their samenesses."

Edward S. Marcus, executive vice president of Neiman-Marcus Company, received the Dallas-Fort Worth Art Directors Club's annual Cultural Award at the club's awards dinner, held in Dallas April 9th.

Design Engineering Show

This year's Design Engineering Show will open at the New York Coliseum on the 23rd of this month for a four-day display of everything new in the way of product design and manufacture.

Over 400 companies will exhibit recent developments in mechanical and electrical components, power transmission equipment, metallic and non-metallic materials, fasteners and adhesives, finishes and coatings, production processes, and engineering and equipment services.

Reynolds Metals, for example, will feature an electronic data processing machine that is pre-programmed to provide answers to the 450 most-asked questions about aluminum as a design material.

In conjunction with the show, the ASME is sponsoring a Design Engineering Conference at which a number of technical papers will be delivered on the application of the most advanced research in design theory and techniques to the manufacture of consumer products. The conference will include a discussion of product reliability prediction and another on the use of computers in design.

ID will publish an analytical review of the show in July.

WESCON expands design contest

The second annual WESCON (Western Electronic Show and Convention) will be held in the Los Angeles Memorial Sports Arena August 23-26. As in last year's show, there will be an industrial design competition in which prizes for outstanding designs, selected from among the products of the 900 exhibiting companies, will be awarded both to manufacturers and individual designers. The competition will be directed by Kenneth J. Slee, advertising director of Librascope, Inc., of Glendale. The jury, not yet appointed, will be made up of designers and electronics executives. Mr. Slee says that the competition will be significantly larger and of greater scope than last year's initial program (ID October, 1959).

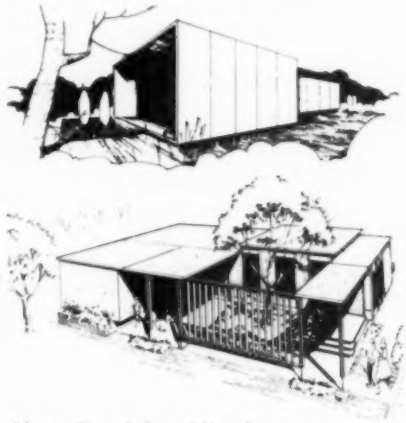
WESCON is sponsored by the Western Electronic Manufacturers Association and the Los Angeles and San Francisco sections of the IRE.

Inquiries about the industrial design competition should be addressed to Mr. Slee, c/o WESCON, 1435 S. La Cienaga Blvd., Los Angeles.

Mobile homes design competition

Winners of a new nation-wide student competition in the design of mobile homes were announced last month in Detroit by Rogers Industries, Inc. (formerly Winter Seal Corp.), sponsors of the contest.

James H. Fox, a student at the University of Cincinnati, took the first prize of $1,000 with a design for a trailer house that can be arranged in any of three floor plans to suit the owner. (A rendering of one of these is shown below). Fox's



Above, Fox; below, Litzenberger

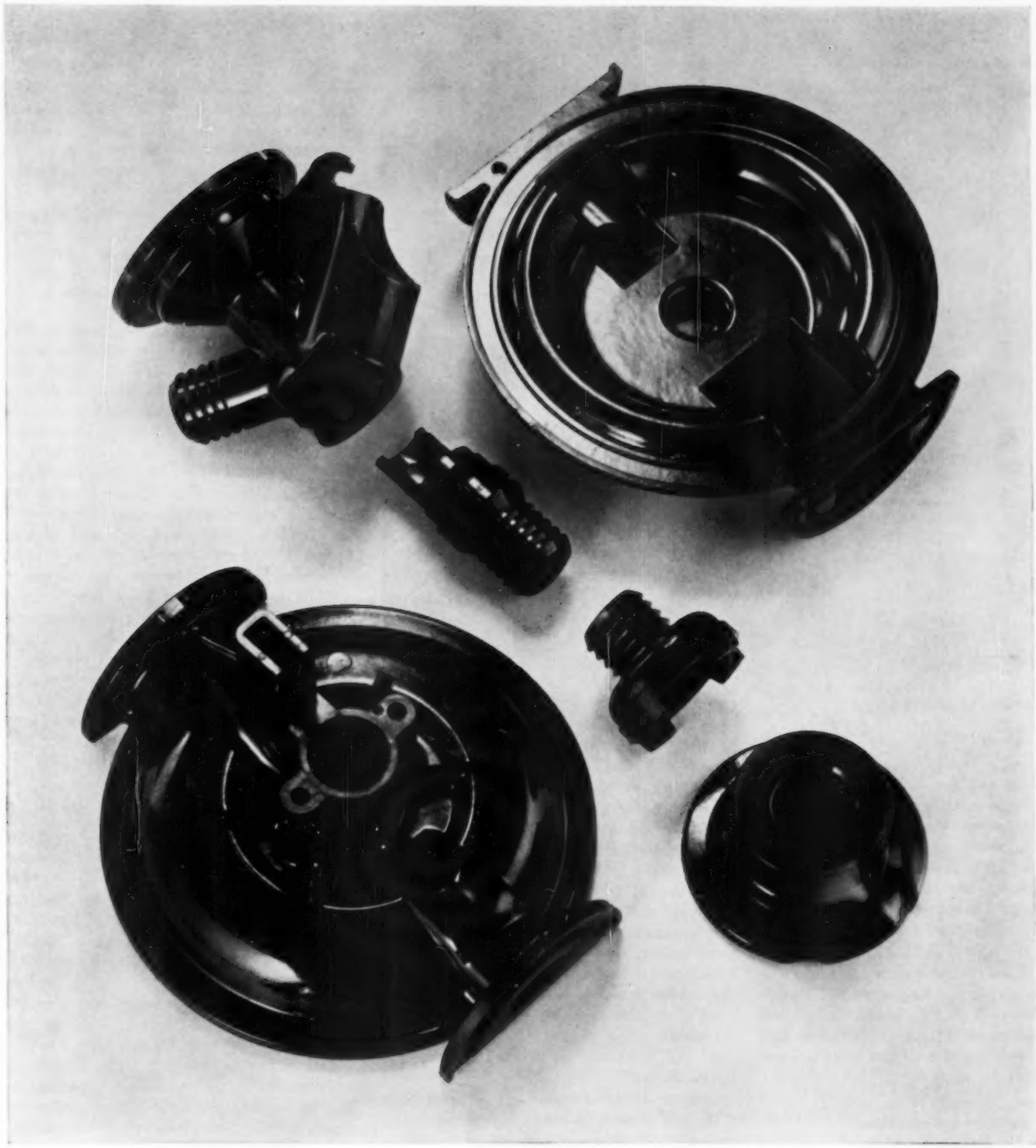
design calls for movable sleeping and living units which, in combination with a series of modular doors and windows, provides the flexibility of layout.

Second prize of $500 went to Theodore Litzenberger for a trailer house whose rear-end unit, a bedroom, can be swung around on hinges to form an "L"-shape final installation (above). Litzenberger, who lives in a trailer house himself, is a student at Pennsylvania State.

Both houses could be manufactured for less than $5,000, and both are designed for transportation on an 8′ x 50′ frame.

Judges of the contest were: Donald B. Gooch, Professor of Design, University of Michigan; Detroit designer William M. Schmidt; and Angelo P. Lucia, Assistant Professor of Architecture, Michigan State University.

Rogers Industries manufactures aluminum doors, windows and extrusions, and is a major supplier to the mobile home industry. The company announces that it will conduct at least one design contest each year.



If you now die cast it, maybe you should mold it

These parts are used in the assembly of a low-cost hand pump for emptying drums of gasoline, lube oil, chemicals and other liquids.

They used to be die cast. Now they're molded from a Durez phenolic.

This change in manufacturing *method* eliminated many finishing and assembly steps which lowered the cost of making the pump.

The change to *phenolic* added chemical and corrosion resistance. Sparking was eliminated. By selecting the proper molding compound, adequate structural, flexural and impact strength were assured.

Maybe you have a similar application where a change in method and a new material would cut your costs and improve your product. How about airing your problem with us?

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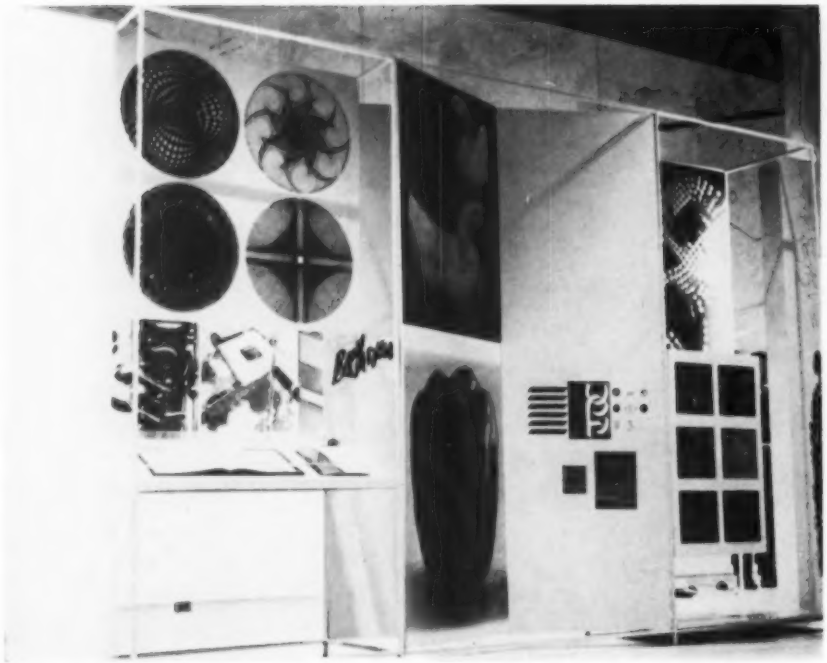

Cooper Union student show

As part of its centennial celebration, Cooper Union is mounting an exhibition of student work on May 2nd in the lobby of the Pepsi-Cola Building in New York. The exhibit illustrates the school's courses in architecture, design, and fine and graphic arts with original designs (above), paintings, sculpture, and architectural models and drawings. Photographs supplement the installation of original student work.

The exhibition, already displayed at the Corning Glass Building in March, was planned by Professor Raymond B. Dowden and Matthew Wysocki, assisted by Art School graduates Stanley Glaubach and John Alcorn. Glaubach has constructed and installed the show.

Package design symposium

For the first time in several years, the conference and panel discussion on package design, held in connection with the National Packaging Exposition in Atlantic City last month, numbered professional designers among its participants.

Walter Stern, technical director for packaging at Raymond Loewy Associates, declared that supermarkets must not only sell products but educate housewives in their preparation and handling. "The anxiety of the housewife," Stern said, "comes from her insufficient knowledge of the things she eats and feeds her family. Since she spends an increasing amount of time shopping, she will demand that the supermarket become a source of information on a subject she wants to know more about. Packaging is an answer."

In another conference address, Carmon M. Elliott, manager of package design for Eastman Kodak Company, predicted that packaging in this country would evolve into a form of art. "Most of us have been far too cold and calculating about this package design business," Elliott said. He predicted that "honesty will prevail."

Morton Goldsholl, Chicago designer, criticized motivational research as a basis for packaging design. "I never tolerate motivational research in advance of design," he said. "Some of us who remain in the mainstream of life don't require that kind of so-called research. And why should designers who know human experience need it? Technical research, yes; people research, no."

College administrator Jay Doblin took a slightly tongue-in-cheek exception to the demands of other panel speakers for "suggesting artistic expression in packaging that doesn't need it." "Art," he said, "is a minor consideration; packaging is 49 per cent construction, 49 per cent communication and 2 per cent art. If functionalism and communication are properly designed into a package, there is no harm in utilizing what remains for purposes of esthetic expression. But if a package contains a bargain," Doblin continued, "let the package holler and let the colors shriek for attention. That's what the package has to communicate. Let the package do its job."

Other members of the design panel were: PDC president Karl Fink; Paul O. Vogt, packaging consultant; Charles R. Gustafson, chief packaging engineer for American Radiator and Standard Sanitary Corp.; William H. Enzie, director of packaging for General Foods; James K. Fogelman, design director for CIBA; and Robert B. Etter, plant manager for Lewis-Howe Co.

Walter Stern will review the packaging show, from the point of view of new materials and processes, in the June ID.

Polish source opens in New York

A new source for unusual fabrics, ceramics and decorative objects is now available in New York, and its most unusual feature may be that it offers Americans a first-hand look at design behind the Iron Curtain. Cepelia (Polish abbreviation of "Center for Folk and Fine Arts") at 5 East 57th Street is an attractive, peasant-modern style shop which will offer the public a regularly changing collection of the best in Polish traditional and modern design. Of special interest are the Kilims — decorative, hand-loomed tapestries in one-of-a-kind patterns. They can be used as table and bed covers, wall hangings or rugs. Although the quality of most of the goods is excellent, prices are high—understandably so with a 100 per cent import tax on all items. Cepelia, an official agency of the Polish government, collects its wares from 100 cooperatives located all over Poland.

PDC packaging "clinics"

Two seminars in package designing for the supermarket will be held simultaneously in New York and Chicago on May 10th under sponsorship of the Package Designers Council. Described by PDC national president Karl Fink as "supermarket on-location clinics," these seminars will be the second in a series of conferences originated last year with a meeting on variety-store packaging held at the Kress Fifth Avenue store in New York.

This year's seminars will be devoted to an appraisal and analysis of packaging for the supermarket. Package designers, supermarket executives and representatives of related advertising, manufacturing and journalistic groups will participate

The New York meeting will be held at the Grand Union store, Garden Plaza Shopping Center, Paramus, N. J., and the Chicago meeting at the Jewel Tea Supermarket, 2235 North Milwaukee Avenue, Chicago.

Le Corbusier exhibition

An exhibition of the architecture of Le Corbusier is on view at the San Francisco Museum of Art until May 15th. Organized to honor the architect's 70th birthday, the show includes photographs and photo-murals, plans and sketches from Le Corbusier's notebook displayed on large panels, and 14 models of his buildings.

Bridgeport Pre-painted Aluminum Strip is downright unique! Mirror smooth surfaces possess unusual hardness, are wear-resistant and virtually scuff-free during all forming operations. The special 2 coat finish utilizes a remarkable primer bonded tightly to the metallic surface. It strengthens the final coat, eliminates chipping, and insures maximum density and uniformity of color. Corrosion creep is simultaneously inhibited—even along metallic edges exposed in punching or shearing.

Bridgeport Pre-painted Aluminum Strip eliminates painting, insures a *superior* finish *without* finishing costs ...is proved by billions of feet now in worldwide use on Flexalum Venetian Blinds and exterior awnings. *Here is the ultimate in long lasting, exterior durability, resistance to chemical attack, sun, salt spray, wind and rain!* Now available in an almost unlimited range of sun-fast colors for a wide variety of applications.

For more beauty—for maximum formability use Bridgeport *Pre-painted* Aluminum Strip!

NOW AVAILABLE
NEW METALLICS AND WOOD GRAINS!

Here are the newest developments in Bridgeport Pre-painted Aluminum Strip designed to attract and please!

METALLICS in soft pastel colors, two finishes—glossy bright and satin sheen.

WOOD GRAINS with remarkable authenticity, lending new charm and attraction to indoor trim!

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Specialists in Metals from Aluminum to Zirconium

Events

Contemporary design possibilities of **porcelain enamel** are on view in the Panorama at the National Design Center, N. Y., through July 1. The grillework panel in the patio vignette (right) is a luminous green wall of panelescent tiles—a solid-state lamp which produces light by sending an electrical current through a layer of phosphors on a porcelain enamel and steel base.

Approximately 50 members are expected to join the **Far Eastern Tour** to Japan, Hong Kong and Hawaii May 6-27, sponsored by the NSID. **The World Design Conference**, with the theme "Our Century: The Total Image," in Japan is included as a tour privilege.

Professional training for the craftsman, the crafts teacher and the industrial designer-craftsman will be offered at the University of Illinois beginning September, 1960, and will lead to the bachelor of fine arts degree in two areas—metals or ceramics.

Leaders in industry, education, and the press will attack the growing crisis in **technical communications** at a conference entitled **"The Critical Million**—How to Talk to the Nation's Scientists and Engineers . . . Industry's Most Vital Audience," sponsored by New York University, May 17. Address inquiries to Aaron Feinsot, Director of Special Services, NYU, Gallatin House, 6 Washington Square, N. Y. 3.

A major exhibition of **art nouveau** will be held at the Museum of Modern Art from June 8-Sept. 6. It will include several hundred paintings, sculptures, prints, books, posters, design objects and furniture from fourteen countries.

Eight members of the **Central N. Y. Chapter of the IDI**, including national president H. Creston Doner, George Beck and Robert Robb, joined with the students of Rochester Institute of Technology in an exhibition of student work in the gallery of the School of Design of RIT.

The **1960 Chicago International Trade Fair** is scheduled for June 20-24 at the Navy Pier Exhibition Hall.

Designers present at a **week-end conference**, March 18-20, on industrial design, sponsored by Alcoa at its Scona, N. C., retreat, were: William Snaith, Brooks Stevens, Raymond Sandin, Douglas Kelley, Harold Cohen, George Pollard and Samuel Fahnestock. The conference will be reported in the next issue of Alcoa's semi-annual **Design Forecast.**

Panelescent grille

Company News

RETAINED: **Latham-Tyler-Jensen** by the U. S. office of International Trade Fairs to design the U. S. exhibit at the Vienna Trade Fair to be held Sept. 4-11. . . . **Donald Deskey Associates, Inc.**, by the Waldorf-Astoria to design interiors for their new Marco Polo Club; by U. S. Office of International Trade Fairs to design the exhibit at the "Salonika-Greece 1960" trade fair to be held Sept. 4-25. . . . **Design Analysts** by the Waldron-Hartig Division of the Midland-Ross Corp. to plan and implement the appearance design and human engineering of their products, including extruding and coating equipment. . . . **Carreiro Design Associates** by Black & Decker Co. for company identification and product design; by Robert John for a line of office chairs; and by Computer Controls for a complete company identification program. . . . **Peter Quay Yang Associates, Inc.** by Power Sources, Inc. to develop the panel designs for their power supply unit. . . . **Robertson-Montgomery** by Pacifica Foundation as design consultants for the foundation's three listener-supported educational FM radio stations; the work will consist of an identity program and continuing assistance in the planning and preparation of promotional material.

Carreiro Design Associates have designed the U.S. exhibit for the 16th Casablanca International Trade Fair, April 28-May 16. . . . **Peter Schladermundt and Associates** are designing the U.S. exhibit for the 29th International Trade Fair in Poznan, Poland, June 12-26.

GOING PLACES: **Design Dynamics, Inc.** to 456 West Frontage Road, Northfield, Ill. . . . **Charles Butler Associates** to 554 Fifth Ave., N. Y. . . . **Robert Zeidman Associates, Inc.** to 250 Park Ave., N. Y.

NEW OFFICES: **Albert Storz** (below), formerly with Mel Richman, Design Associates, Inc., opened his own office for graphic and packaging design at 3 Penn Center, Philadelphia on April 1. . . . **R. Karl Ostrander Associates**, industrial design, 3328 West Seventh St., Fort Worth.

APPOINTMENTS: **Hangwind Lippisch** as associate member of Leon Wirch Associates. . . . **Elliott A. Manaker** (below) as staff member for Peter Quay Yang Associates, Inc. . . . **Glenn W. Monigle** (below) as associate of Peter Muller-Munk Associates. . . . **James J. Dermody** (below) as N. Y. coordinator for Smith, Scherr & McDermott of an expanded design counseling and market planning program geared to promote U.S. interest in Korean handicraft products. The possibility of Korean handicraft industries, producing brass lighting fixtures and hardware on a custom basis for architectural firms will be particularly stressed.

INSTALLED: **Robert W. Cutler** (below), partner of Skidmore, Owings & Merrill, as president of The Architectural League at the League's inaugural dinner April 7. . . . **Gordon G. Rolph** as president of the Packaging Association of Canada at the annual meeting.

ELECTED: **Paul R. MacAlister** as Fellow of the Royal Society of Arts, London.

AWARDS: Award of Distinction to **Eero Saarinen** at the annual convocation of the Yale Arts Association sponsored by the university's School of Art and Architecture. . . . First NSID Fellowship presented to **Raymond Loewy** for distinguished achievements in the field of interior design and for leadership in interior design and home furnishings. . . . Annual Brunner Award of the National Institute of Arts and Letters given to an architect who has contributed to architecture as an art, to **Louis I. Kahn** on May 25.

Dermody

Cutler

Monigle

Manaker

Storz

CELANESE MATERIALS REVIEW

- FORTIFLEX linear polyolefins
- FORTICEL cellulose propionate
- ACETATE molding compounds
- ACETATE sheeting
- POLYESTER resins

CELANESE TECHNICAL SERVICE

How to put more experts on your team without extra cost

Celanese has the technical experts who can help you get the most out of plastic materials at any stage from design to final product testing. Here's a rundown on the technical services Celanese can provide with respect to molding.

DESIGN CONSULTATION

In the final stages of a design, you can call on Technical Service to review the design from the standpoint of molding technology. At this point it is possible to forestall problems of moldability and strengthen critical points by simple means such as changing a radius—without affecting basic design.

ASSISTANCE WITH MOLD DESIGN

Celanese Technical Service is prepared to review mold designs and offer recommendations. This includes mold cooling, gate location, sizes of gates and runners, etc. It's surprising how much a slight variation from optimum in mold design can affect the quality of the molded piece. Form retention, surface quality, freedom from warping and sinks, demand a precise knowledge of the geometries involved as well as of the materials.

MATERIAL SELECTION

Literally dozens of basic formulations of the Celanese plastics exist, and new formulations are possible to meet the needs of molders. They vary in melt index, flow temperatures, molding properties, and end-use properties. Often, formulations are available for special needs, such as flame retardant or light stabilized properties. Here Celanese technical assistance is invaluable in coming up with formulation recommendations that will be most suitable for your product.

EQUIPMENT AND ITS ADAPTATION

Celanese Technical Service will be glad to discuss your equipment requirements or needed modifications. For example, you may benefit from their knowledge of auxiliary molding equipment, or cooling processes, or the details of molding machinery.

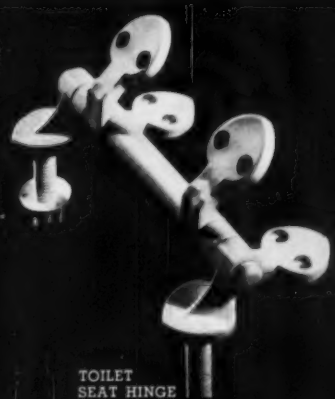
PILOT MOLDING SUPERVISION

Celanese technical experts will help you supervise the first run of material. If material difficulties arise at the molding trials, they will make suggestions for changes and cooperate with you on additional trials. If you desire, they will send samples of the molded parts to Celanese Service Laboratories for evaluation.

This service is available to you now. It can help you avoid pitfalls and save you time and money. For further information, check the coupon.

RUGGED, ECONOMICAL MOLDINGS ARE MADE OF CELANESE FORTIFLEX

SILVERWARE CYLINDER FOR DISHWASHER



TOILET SEAT HINGE

CONTAINER FOR VAPORIZER

SEND FOR THE NEW FORTIFLEX DESIGN BROCHURE. Gives detailed property and application data on Fortiflex and many suggestions for its use in industrial design. Shows Fortiflex Plastic used to make injection moldings, blow moldings, high-tensile filaments. Write today! Celanese® Fortiflex® Forticel®

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PLASTICS and RESINS

CELANESE PLASTICS COMPANY, a Division of Celanese Corp. of America, Dept. 116-E, 744 Broad St., Newark 2, N. J.
In Canada: Canadian Chemical Company, Limited, Montreal, Toronto, Vancouver
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., N. Y. 16

☐ Please send me "Designing with Fortiflex"
☐ Please get in touch with me regarding Technical Service

Name_____

Title_____ Company_____

Address_____

the Industrial Designers' Institute announces

1960 — marking a decade of recognition to designers

The IDI Design Award is a token of recognition bestowed on a designer or team of designers for outstanding design of any product mass produced prior to May 1, 1960. The award is open to all designers regardless of affiliation.

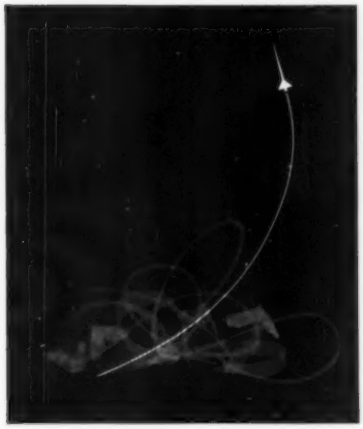
Submissions Entries may be made either by the designer himself, or by anyone else on behalf of the designer. Copies of the submission form may be obtained from the Chairman. Forms must be returned, postmarked no later than May 14, 1960.

presentation Announcement of the designers to be honored and presentation of the award medals will be made at a luncheon on June 23, 1960 at the Hotel Ambassador, Chicago.

Request forms from Paul R. MacAlister, Chairman, 1226 North Dearborn, Chicago 10, Illinois.

THIS IS GLASS

A BULLETIN OF PRACTICAL NEW IDEAS FROM CORNING



THE UNEARTHLY USE OF GLASS

Some day the stellar equivalent of an archeologist will ferret his way through space, collecting debris from the sundry objects we are thrusting out past the pale of gravitation.

That man is going to find a lot of glass.

Next to the metals, glass is *the* basic material for space work. Big claim? Big fact.

You can blast glass out at the stars, shine the sun at it full open, slide it into the cold void of the earth's shadow, plummet it back into the searing atmosphere, recover it from the bobbing waves. And, all the time, glass will hold to its integrity, its properties, its dimensions.

You can design glass *into* a piece of space hardware; you can only know the beauty of this if you have had to design *around* some other material that has interesting properties but is hard to work.

Glass has hardly any design limitations. We can mold it, blow it, fuse it, press and roll it, etch it, temper it, or try any of a dozen other controlled techniques to meet exactly the shape you want, exactly the size you want, exactly the exactness you want.

We have some 60,000 glass formulae to select from, so matching your specs on properties is a snap.

We have combinations of glasses that transmit or attenuate all of the visible light spectrum and most of the infrared and ultraviolet as well.

We can take a mass of glass yards thick and make it as transparent as the objective lens on a microscope, as surface perfect as the facet on a ten-carat diamond.

Big claims? Big facts. Radomes, windows for space capsules, giant mirrors for balloon-floated telescopes, electronic components, macro and micro in size . . . these are just a few of the things you can do with glass . . . and, with all that, you haven't begun to tap the possibilities of glass in space.

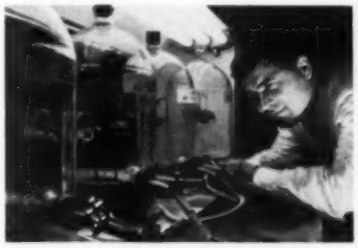
We have two brochures that tell about these properties and design potentials: *This Is Glass* treats of the material itself. IZ-1 discusses the applications. Check the coupon for copies.

WE'LL GROW RED ROSES IN JUNE, JUST YOU AND I UP ON THE MOON

It goes without saying that you cannot grow terrestrial plants in a 10^{-12} mm Hg atmosphere . . . but just how high does the pressure have to be to bring a plant to maturation? What about the effects of a lower gravity? What sort and how much light will you need to make a seedling stir? How about temperature?

Republic Aviation is engaged in some research of this sort, which will form a sort of almanac for the lunar farmer.

We come into the picture with a vacuum-tight greenhouse, often referred to as a PYREX brand bell jar. Besides serving as the perfect lunar greenhouse, it recommends itself on a weight basis.



You might remember this "Moon Garden" if the time comes when you want an environment you can play with and observe. Many are the people using our bell jars for high vacuum and high pressure work, for the creation of an inert gas atmosphere; in short, for any work where you want to free yourself from the deficiencies of the terrestrial atmosphere.

HOW TO SEEK OUT AND HIT A MELTING ICE CREAM CONE IN THE MIDDLE OF ALASKA

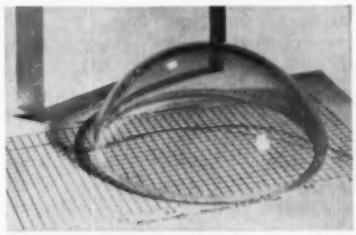
We make the glass that goes into the domes that transmit the infrared waves that activate the cunning minds of the heat-seeking missiles that go pow.

Today we make a better IR transmitting glass than ever before. We call it Code 9752.

A 2mm thickness of this glass will transmit 77% at the 4.0 micron wave length and 38% at 5.5 microns. Not bad.

At 600°C there is no transmission loss whatsoever at 4.0 microns, only 13% at the 5.5 micron wave length.

Our research people say the glass has



"good" electrical properties, "excellent" weathering characteristics. Our research people are known as conservatives.

In a durability test, we found that there was no appreciable transmittance loss in 21 days at 95% RH with temperature cycling from 25°C to 65°C twice a day.

Using standard techniques, we can mass produce this glass in a variety of hollow shapes and give it an optical finish. We can press 7″ domes automatically and make larger sizes to order. Flat pieces, 12″ square and ½″ thick, are being used in the instrumentation field for such devices as Schmidt corrector plates.

The coupon offers a bulletin on this and two other Corning IR transmitting glasses.

See us at the Design Show . . . Booths 1507-1509

CORNING MEANS RESEARCH IN GLASS

CORNING GLASS WORKS, 54 Crystal St., Corning, N. Y.

- ☐ This Is Glass
- ☐ IZ-1
- ☐ IR transmitting glasses

Name ..... Title .....

Company .....

Street .....

City ..... Zone ..... State .....

BOOKS RECEIVED

AMERICAN BUILDING ART: The Nineteenth Century. By Carl W. Condit. 371 pages. Illustrated. Oxford University Press, New York. $12.50.
An historical account of building techniques from wood to iron frame buildings; from the wooden bridge truss to the iron truss, the suspension bridge, and the iron arch; in railway trainsheds and concrete constructions.

THE ART OF THREE DIMENSIONAL DESIGN. By Louis Wolchonok. 169 pages. Illustrated. Harper & Brothers, New York. $8.50.
An investigation into the variety of forms which can be evolved from given surfaces and volumes, in the mediums of architecture and sculpture and various materials such as silver, brass, copper clay, wood, or stone.

DEVELOPING A PRODUCT STRATEGY. Edited by Elizabeth Marting. 352. Illustrations, graphs. American Management Association, Inc., New York. $7.50.
A report focusing on all levels of management, and their roles in developing a successful product strategy. Compiled from papers of 33 members, the book covers a wide range of topics: planning, organization, research, product screening, engineering to production, marketing plans and procedure, and finance.

ENGINEERING DATA PROCESSING: System Design. By Arthur D. Even. 282 pages. Illustrated. D. van Nostrand Company, Inc. Princeton, $6.50.
Starting from an analysis of the manual organization of an engineering department, the book discusses the improvements possible with a mechanized processing system. A detailed description follows of the design, installation, operation, control, and expansion of such a system with a final note on future electronic equipment.

EXHIBITION AND DISPLAY. By James Gardner and Caroline Heller. 192 pages. Illustrated. F. W. Dodge Corporation, New York. $13.75.
350 photographs illustrate store displays, industrial exhibits, government and international exhibits.

THE POWERFUL CONSUMER: Psychological studies of the American Economy. By George Katona. 276 pages. Graphs and tables. McGraw-Hill Book Company, Inc., New York. $6.50.
An analysis of the attitudes and motivations of the consumer, how they are affected and how they affect the general economy.

MAGAZINE ILLUSTRATION. By Francis Marshall. 96 pages Illustrated. The Viking Press, Inc., New York. $6.95.
A basic guide to magazine illustration answering the practical questions of models, materials, photography, research, and jobs.

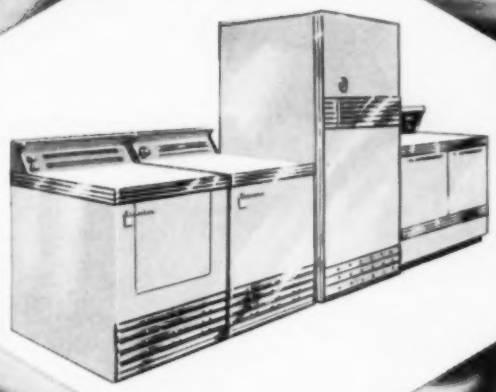
THE SECOND TREASURY OF CONTEMPORARY HOUSES. Selected by the editors of the Architectural Record. 216 pages. Illustrated. F. W. Dodge Corporation, New York. $7.75.
A collection of 44 outstanding contemporary houses from the 1956, 1957, 1958 annuals of *Record Houses.*

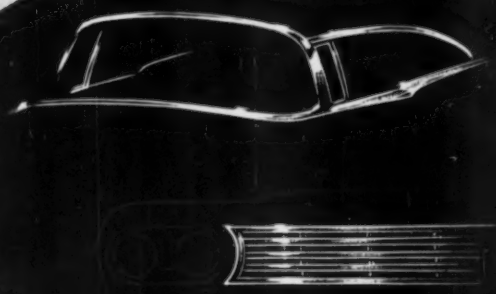
TOOL ENGINEERS HANDBOOK. Second edition. Revised under the supervision of A.S.T.E. National Technical Publications Committee. Frank W. Wilson, Editor-in-Chief; Philip D. Harvey, Assistant Editor. 2289 pages. Illustrations, graphs and tables. McGraw-Hill Book Company, Inc., New York. $19.50.

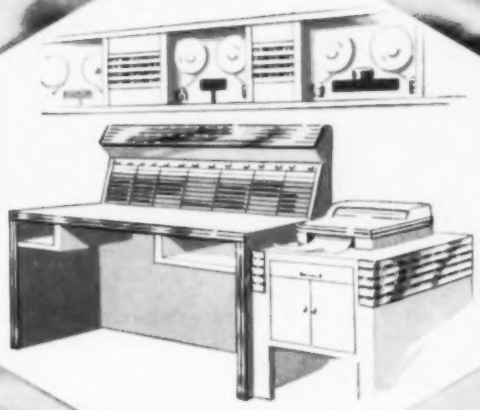
"A reference book on all phases of planning, control, design, tooling, and operations in the manufacturing industries."

SOLVING TOUGH FABRICATION PROBLEMS...

That's our business!







NAME IT . . . Frames, Panels, Handles, Decorative Trim, Appliance Hardware, Grilles . . . whatever your product requirements, Bohn has aluminum fabricating facilities to meet your every design and production need. We start from the billet . . . control quality all the way.

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Whether your product merely needs a "fresh face", or complete new design, think of BOHN . . . the BIG name in FABRICATED ALUMINUM

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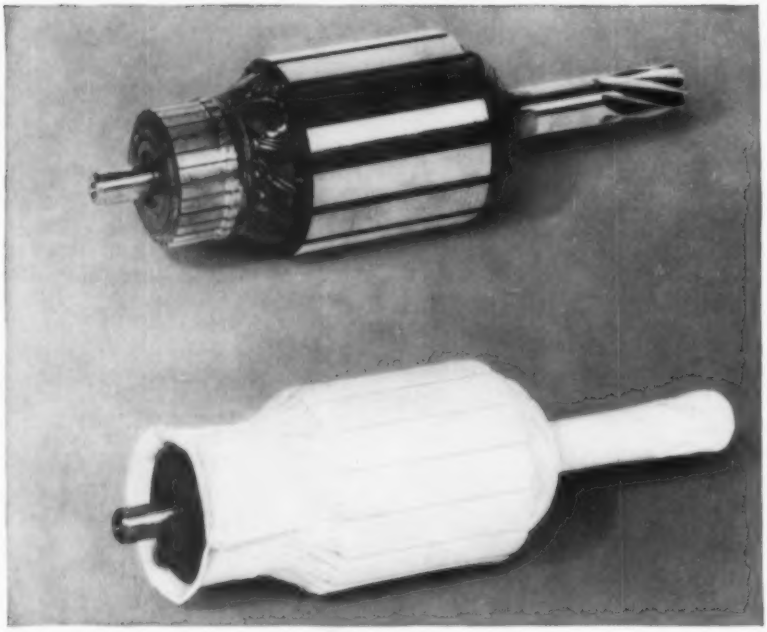
CAMPCO PROGRESS

latest developments in plastic sheet · film · fabrication



This new method of insulating electrical components utilizes thermoplastic sheet

It hasn't been called "Skinsulation" yet but it well might. It's a new method of insulating electrical components by the use of epoxy resins and a skin of thermoplastic sheet. The idea was introduced by Minnesota Mining and Manufacturing Company and its advantages are so obvious that it is bound to find a great many applications. It has been demonstrated on various types of components using "Scotch-cast" Brand Resin and Campco thermoplastic sheet.

The above photograph shows how Campco thermoplastic sheet was vacuum-formed around the component. This becomes the mold form, eliminating the steel mold. An opening is made at the top through which lead wires may be brought out. Cardboard or tape is used to hold the wires in position.

Through this same opening, the resin is poured in until the mold form is completely full. The resin reaches the most remote area insuring complete coverage. The part is then ready for curing.

Simple, isn't it? It's efficient, too, for any number of articles of varying shapes and sizes can be skin-wrapped simultaneously. The size of the vacuum-forming machine is the only limiting factor, while with the present method production is limited to the number of molds that can be used on a production cycle.

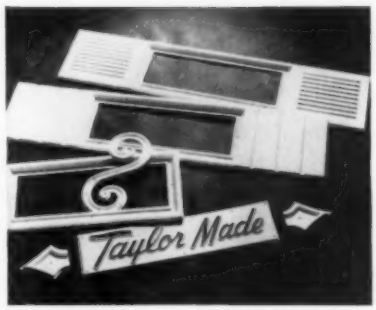
Dollarwise, there are worthwhile savings in labor and material. Where steel molds are now being used, increased production can easily be realized by making a number of vacuum molds from the master molds.

And here's another important advantage. Since by the new system production is not limited by the number of molds, presently used curing cycles may be completely changed. For example, in order to obtain three or four cycles per eight hour shift by the old method, resins must cure at 150° F. While, by the new system, a whole day's production can be cured overnight at a slower rate with the use of room curing or slower heat resins.

If you would like technical assistance or further information regarding this system, write Campco Division of Chicago Molded Products Corporation.

Garage doors decorated with Campco Butyrate

As a rule, a garage door is a rather dull and uninteresting piece of architecture. But Taylor Garage Doors, Inc., of Detroit have done something about it. Now their single and double garage doors can be decorated with numerous combinations of attractive trim in the form of shutters, windows, escutcheons, etc. Sold in kits for "do-it-yourself" application, the homeowner is provided



with the means of relief from the bare, flat planes of typical garage doors. They can be painted to match or complement the color of the door, require less repainting, and will not rot or corrode.

They are vacuum-formed by Taylor from Campco B-120 white opaque Butyrate, selected for its uniform thickness and consistent quality of whiteness.

Taylor finds that vacuum forming of Campco sheet affords an economical means of varying the designs without incurring the expense of carvings or metal stampings and finishing operations.

Received Your Campco Personal File? This data-packed reference file on thermo-plastic sheet and film is yours on request—just send name and address on Company letterhead to Campco, 2717-B Normandy Ave., Chicago 35, Illinois.

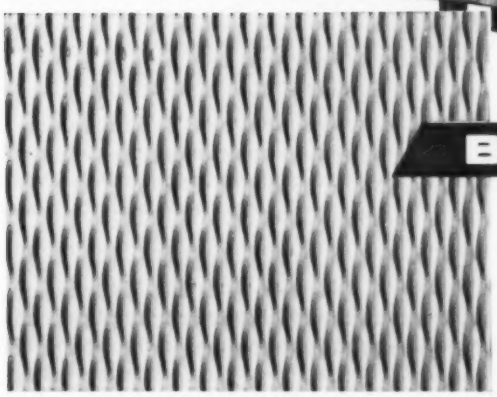
CAMPCO Sheet and Film, **a Division of Chicago Molded Products Corp.**

Pelton & Crane company combines GOOD DESIGN and RIGID-tex® METAL

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

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

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



BEAUTILITY®

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

See Sweet's Design File 1f/Ri

RIGIDIZED METALS CORPORATION

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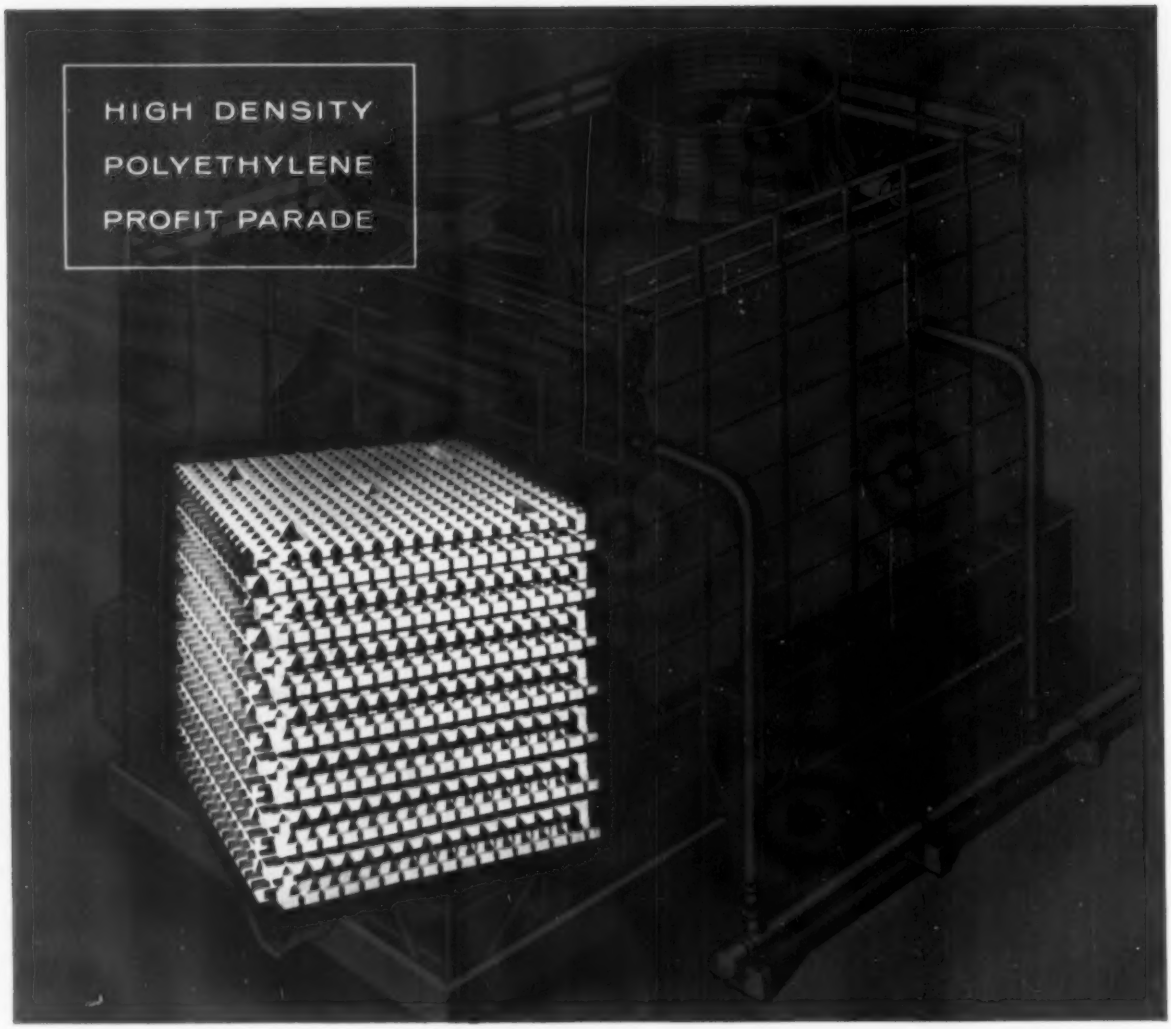
World-Wide Distribution



New Plastic Cooling Tower Grids Last Longer—Cool Better

Are you working on a new way to improve the performance of your products? Grex high density polyethylene could be the best material for your application, just as it is for the superior cooling tower grids developed by Fluor Products Company.

Fluor "Poly-Grid" takes the place of a wooden egg crate construction in film-type tower packing. As water cascades through this type of packing it is broken into a continuous film to permit evaporation and cooling. Efficiency is improved by increasing the surface area of the packing with thinner strips and more spaces between them. This principle is applied by "Poly-Grid" to provide more cooling per cubic foot than any other packing.

The grids molded of Grex are designed for use in water cooling systems contaminated by chemicals. This Grace plastic is impervious to corrosive action of most chemicals. The grids utilize the strength and rigidity of Grex in moldings that cover an area of up to 9 square feet. They are light in weight. Compared to wooden tower packing, they require far less maintenance and are much more durable. As Fluor engineers put it, "Poly-Grid" can be considered to have a longer service life than any other cooling tower fill material now in use.

Find out more about high density polyethylene for improved products in your field by calling in the experts. Grace has the production facilities, technical service and experience to help put your products in the Grex profit parade. Everyone says we're easy to do business with.

Grex is the trademark for W. R. Grace & Co.'s Polyolefins

W.R. GRACE & CO.
POLYMER CHEMICALS DIVISION
CLIFTON, NEW JERSEY

Research and Development

American business spends an estimated 10 billion dollars a year on the improvement of its current products and the creation of new ones. An increasingly important share of this lively research and development activity is being taken by independent companies. ID's first article in a series on research and development in and for industry will examine the organization and "operational creativity" of Arthur D. Little, Inc., a consultant research and development firm that billed over 14 million dollars last year for solving other people's product and management problems.

Report on AMA Packaging Exposition

The twenty-ninth national packaging exposition sponsored by the American Management Association will be discussed by Walter Stern, technical director of packaging and graphics at Raymond Loewy Associates. Mr. Stern will report on the most significant of the year's new materials, techniques, constructions, and applications.

Cookware for housewives-to-be

For the first time in 25 years, Wear-Ever has completely changed the appearance of its line of aluminum cookware for door-to-door sales. Harley Earl Associates was assigned the job, and in the course of developing the new design, encountered some unexpected consumer preferences in the line's major market—young, unmarried business girls. ID's story will cover this and other interesting aspects of the project.

Human engineering

For the purposes of its own design projects, the Henry Dreyfuss office has for several years been compiling data on human body dimensions. This information, consolidated in the form of "Joe and Josephine" diagrams, already well known to designers, has been vastly improved and will be published next month with an introduction to their use (and a caution on their mis-use) by Mr. Dreyfuss.

Design Review: Home and Office Furnishings

A report on new designs and developments in furniture and related accessories for residential and commercial interiors.

To the Executive caught between Cost and Competition . . .

Do you know how much can be saved by using Clad-Rex® vinyl-clad metals?

Here's why you should find out! Products can be fabricated of Clad-Rex with fewer operations than unfinished metals need. What's more . . . the added styling gives them much more sales appeal.

Clad-Rex vinyl-clad metals are "finished" when you get them. Therefore, the extensive metal treating and finishing needed for bare metal is not necessary. Further, the unusual abrasion resistance of Clad-Rex makes delicate handling unnecessary. This sharply reduces rejects, as well as expensive stripping and rework operations.

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"At United States Steel we are fully aware of the influence of industrial designers on the shape of things to come. We welcome their imaginative use of the materials we produce, and their help in expanding our markets through improved designs which take full advantage of the special qualities of our materials. We recognize the contribution of industrial designers to economic progress through better-designed products which enlarge the markets of all industry."

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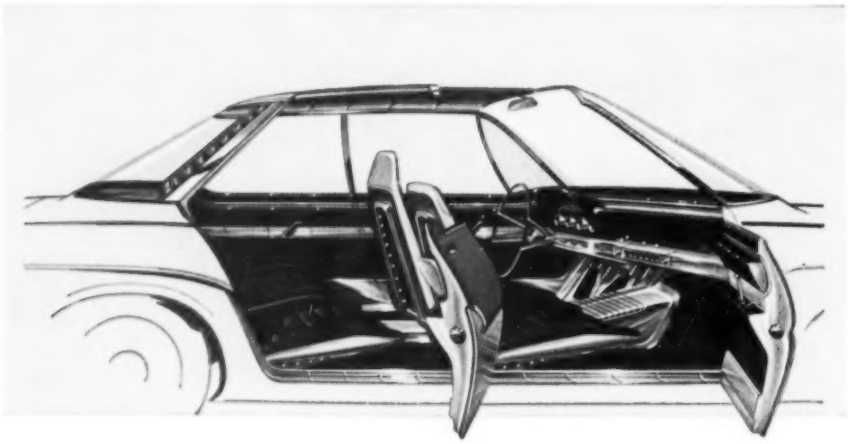

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Order of Importance

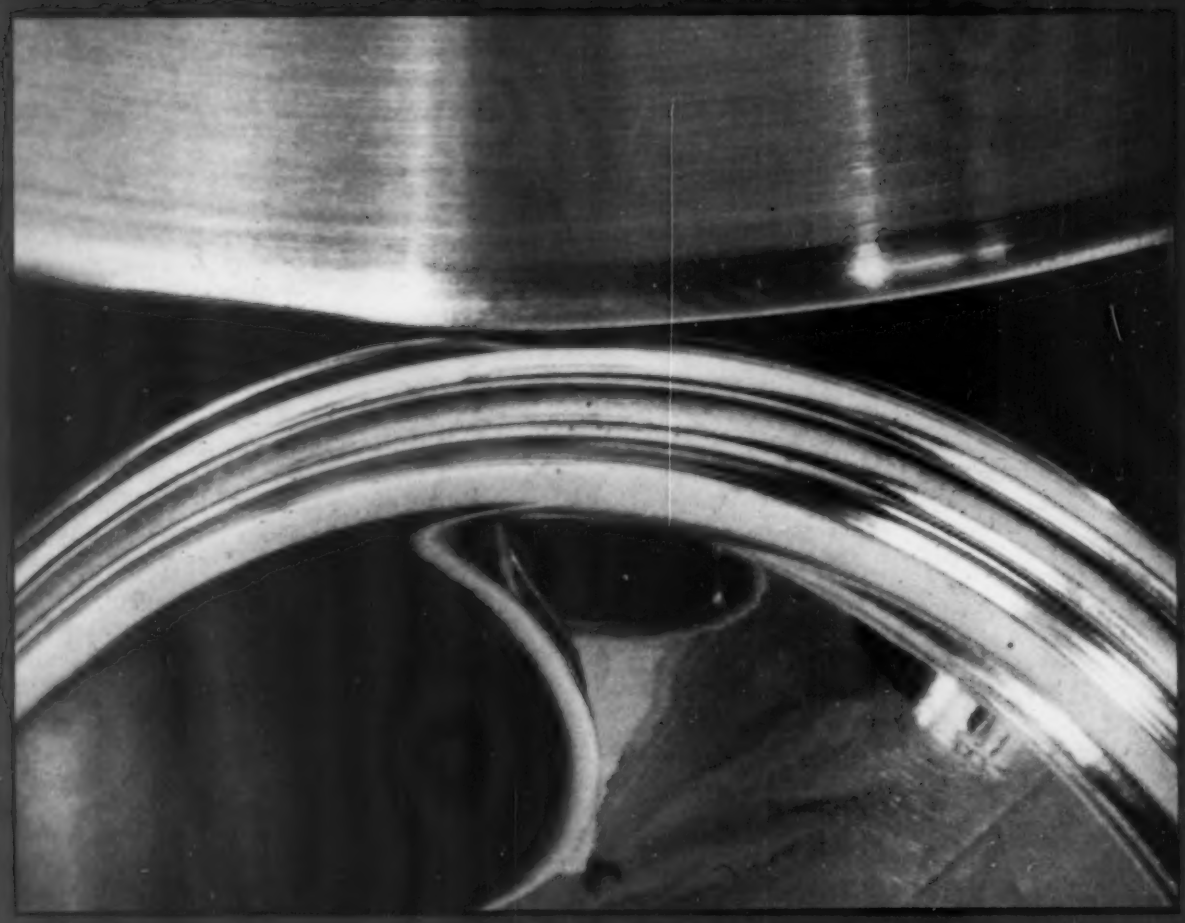
A few months ago the distinguished graphic artist Sister Mary Corita (see page 64) was asked what there was about her approach to teaching that brought forth praise from designers like George Nelson and Charles Eames, and painters like Ben Shahn. She replied, "Oh, I don't think there's anything special about what we do. It's just public relations—you see, we *ask* people to praise us."

The process of asking for praise can range in complexity from the modest proposals of a charming nun to the elaborate machinations of a giant "consent engineering" firm. Most designers, one hopes, are not as much interested in invoking praise as in deserving it. What design really needs is not more praise, but more understanding, and designers know it. To this end, public relations has been the theme of staff conferences, organizational meetings, and even, apparently, the loneliest fantasies of the individual designer. In taking it for the theme of the article on page 74, we are not digging in neglected fields: there are as many books and articles on PR now as there were on advertising a decade ago, and for the same reasons. Public Relations, like Willy Lohman, is liked but not well liked. Paradoxically, while it is the craft of getting nice things into print for clients, it has never succeeded in doing this for itself—a fact that has caused the *Public Relations Journal* to sulk editorially. What PR seems to need most is PR. Until some comes along, the fraternity is comparable to those handymen who never have time to fix their own plumbing.

Even books that are not about PR get into the act. In Bernard Wolfe's unwholesomely delightful novel *The Late Risers*, one of the main characters gives this account of the public relations function: "You've got a flow of information through channels, see. These guys, on all levels, are paid to tamper with the flow . . . we need a geyser of handouts, flashes, scoops, releases . . . to avoid that locked-out feeling. In fact, we want to know more than there is to know." This is curiously close to the words of the designer's PR man who defined his job as "the art of extracting information from the client, who doesn't want to part with it, and straining it, tempering it, then passing it on to the public—who demand more information than they can handle."

Not only does the press bite the hand that feeds it press releases, industry itself occasionally nibbles. Writing in *Dun's Review*, industrialist Clarence Randall deplores the "myth of communications" so popular in current management folklore, especially since each communication may be a myth in itself. "Let the public know the executive as he is," he urges. "Let him . . . say to an audience . . . what he said to his associates at lunch, disagreeable as the results may be in terms of public relations."

Yet PR people freely acknowledge that often their role is to see that what the executive says at lunch is *not* communicated to the public. If their job is to keep the client's feet on the ground, it is chiefly to keep them out of his mouth. Consequently publicists may regard reality as a sort of bonus that goes with a story if they are lucky: one of the most astute publicists in the design field recommended a publicity approach for his designer-client because "it gives a picture of the firm that is unique, interesting, and even true"! But if business life has meaning, truth can never be so incidental—not even where publicity is concerned. The whole world of business was sobered by the recent deaths of two of industry's most valued leaders, Adriano Olivetti and Walter Paepcke. Both believed palpably in design and both were widely publicized for it. This was not just because their stories were "unique, interesting, and even true," but because in their minds that was never the order of importance.—*R.S.C.*



Aluminum, according to some designers and some metallurgists, is the "most *metal* of materials" because of its ability to reflect the radiant energy it absorbs and to convey an air of "solid lightness." Sparkling, strong, and clear, it seems to express some of the finest attributes of contemporary technology. This has given a direct metal accent to many products which seemed to grow out of the metal's chief design properties—lightness and ease of fabrication. And aluminum's natural tendency to protect itself against rust and other corrosive

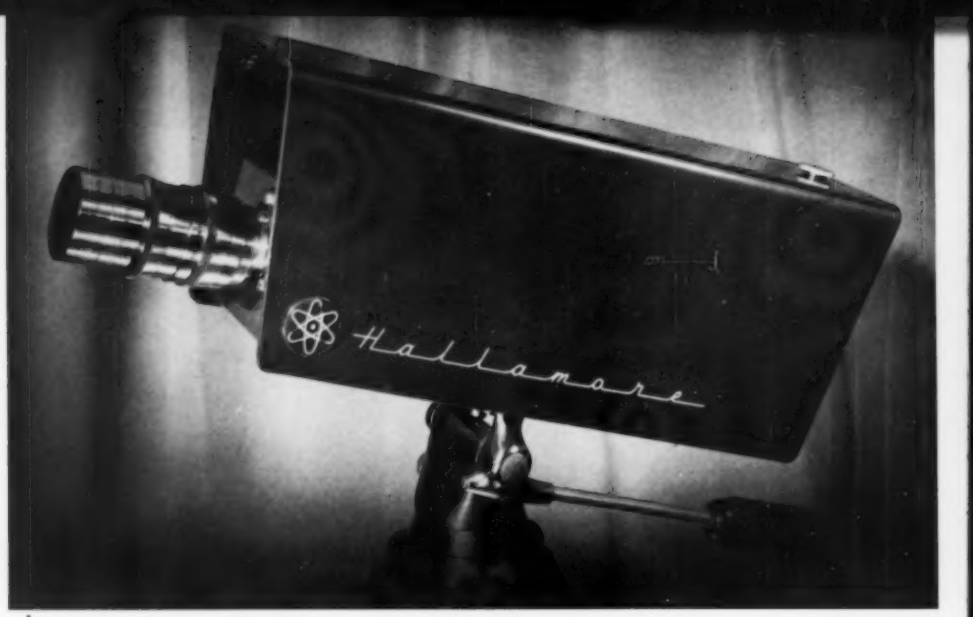
ALUMINUM AS A DESIGN MATERIAL

by Arthur Gregor

interference has made it a useful medium for outdoor products. Unknown to the public only a half century ago, it is today very much in the public mind, largely because it has been so significantly used by both designers and engineers. But its product history is still in the making, and this seventh installment in ID's series on fabrication of basic materials traces the design attitudes which are shaping industry's approach to the metal. Today this approach is imaginative and experimental, but one day it may come to be regarded as traditional.

ALUMINUM GALLERY

Some outstanding examples of products in the consumer, industrial, and military fields whose design personalities have resulted from the use of aluminum.



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Thirty years ago, all products made of aluminum were innovations on the industrial market. When they appeared, they exhibited a new use of a material which, although not new, had virtually no product history. During the centuries in which smiths and other craftsmen put to use iron, copper and brass—thereby giving them a product history and a tradition—aluminum as a workable metal was available in only the minutest quantities; its product potential lay totally unexplored. But within the last three decades the metal has become one of the significant materials expressing contemporary technology, and—as we will illustrate—its "well" of applications is not exhausted.

The availability of the metal is of course due to the development of appropriate reduction processes, but as a product material aluminum owes its public appearance and broad acceptance to design. Long before its outstanding visual characteristic—its rich metallic lustre — became equated with "up-to-dateness" in aircraft and in the home, factory, and office, an imaginative artist at the Court of Napoleon III astonished the royal assemblage when he presented the King with a set of cutlery made of the metal then considered more precious and exotic than gold. Much later—in fact, in the early 1930's—a young practitioner and fierce promoter of Modern Design "fired with the dream of redesigning everything for the world around us" introduced the metal in furniture, lamps and other products traditionally made of wood, brass, or steel, and thereby helped excite interest in this heretofore little-known and little-

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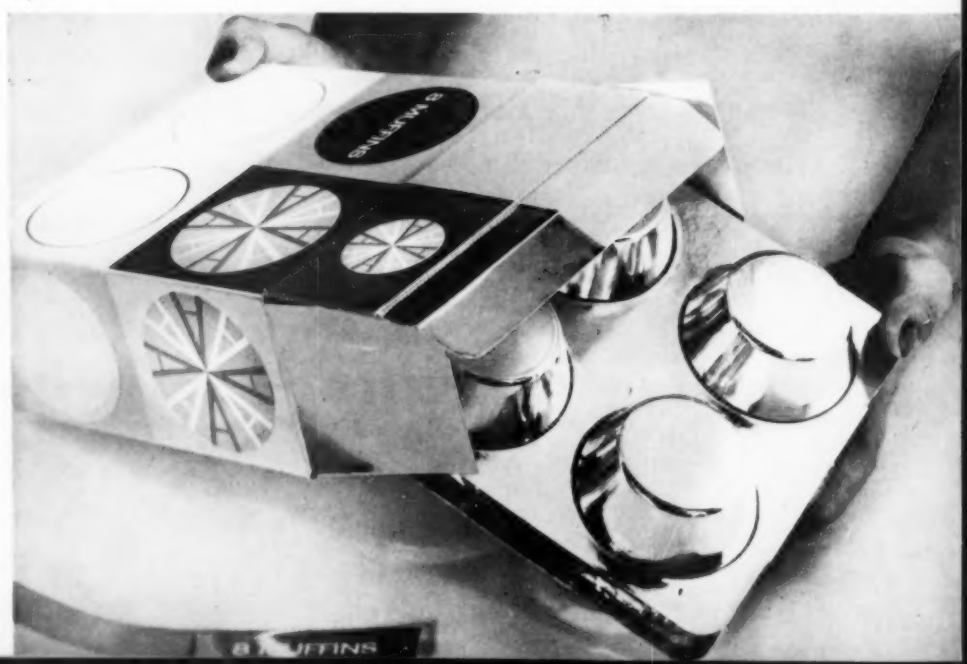

1. The "sculptured" look of this closed-loop tv camera is a case of handsome is as handsome does: the ⅛-inch-thick aluminum shroud functions as both enclosure and heat-transfer medium. Camera was designed by Tor Petterson for Hallamore Electronics.
2. Hub and brake drum of aluminum wheel are die-cast as single units. In addition to light weight and high strength, wheel supposedly offers improved braking. Developed by Kaiser Aluminum.
3. Pots and pans are the oldest products in aluminum gallery. Harley Earl Associates designed this experimental saucepan for Alcoa.
4. In packaging, aluminum is being used for more than the container. Harley Earl suggested this "ready-to-heat" muffin package for Alcoa.
5. In this aluminum foil carton for frozen vegetables and meat, food can be cooked or baked, then served in carton. One of Reynolds Metals Company's "Dream Package" developments.
6. Aluminum heels for women's shoes are sometimes covered, sometimes left exposed for accent. Samuels Shoe Company. Photo: Reynolds Metals.

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used metal, which he employed creatively. The enthusiastic young man was the designer Russel Wright (see page 54).

A designer's material

The wide-spread use of aluminum in recent products does not stem from its assets as a substitute material but from its own properties as an engineering and design medium. It is impossible, of course, to separate the engineering and design properties of a material, but there are materials in which one outweighs the other in importance. Not so aluminum. Whatever specific technical reasons may determine the selection of aluminum for a given product, designers seem agreed on their esthetic response to this material: they like its *"feel"*. It is not easy to define just what is meant by this, but the remarks of some designers who have worked with aluminum may help to indicate the sense behind this subtle attitude. (The designers quoted here are not directly affiliated with an aluminum supplier).

Henry Dreyfuss: "Even the natural finish of aluminum is an excellent neutral . . ."

Jaap Penraat: "Aluminum is aluminum. . . . It proclaims itself as aluminum: it always acts and looks like itself. . . . The closer a material remains, in use, to its original nature, the more acceptable it is to me. . ."

The architect José Luis Sert: "Aluminum is an *action* material, a material where mobility is inherent in the material . . ."

William Renwick: "Aluminum really gives you a feeling of metal. . . ."

The product range in which designers have by now expressed this "feel" for the metal is vast and the object types are diverse. Not all of the products selected for the gallery of aluminum products shown through pages 48 to 53 express a conscious design attitude, but in all cases the choice of the material is based on some aluminum characteristic which has given the product a particular advantage. And in all cases, the application of this very "metal" metal has contributed to a visual quality which has had a strong influence on what is considered "contemporary." By now the reasons for using aluminum are so familiar that it would sound superfluous to talk of them. Nevertheless, the questions: *where is aluminum best used?* and *where is it best avoided?* remain vital ones, and a brief discussion of its characteristics cannot be omitted.

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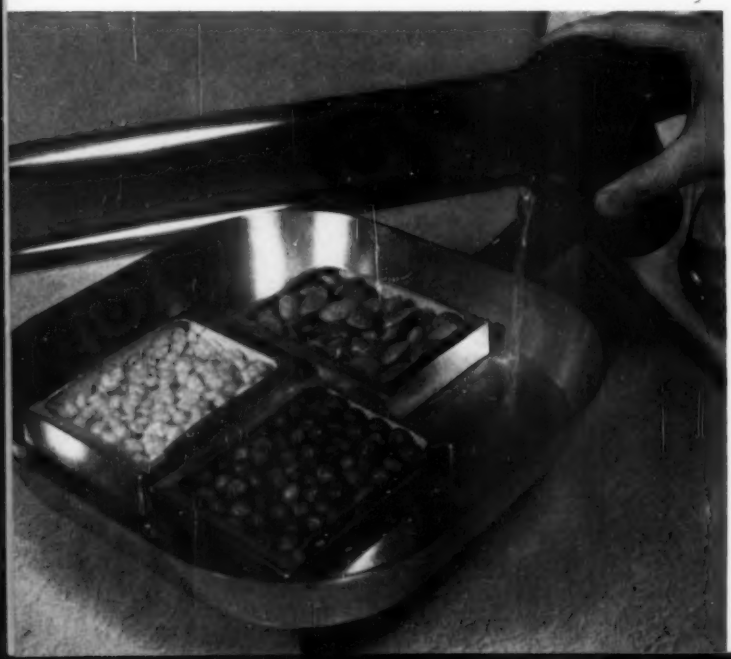

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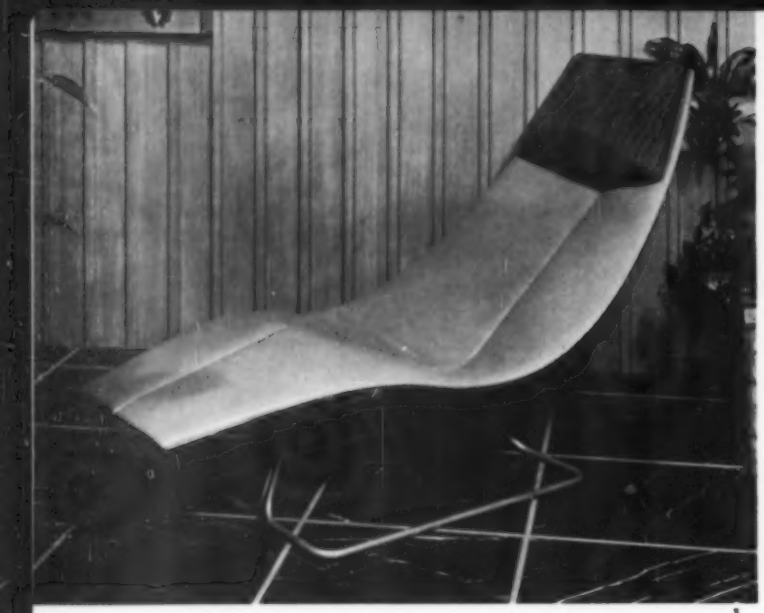

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1. Frame and body of chair are aluminum. Harley Earl design for Alcoa.
2. In this desk by Jens Risom, aluminum is combined with walnut.
3. Aluminum outdoor furniture by W. Wes Williams for Dunbar.
4. Frame and base for desk chair were made of American Smelting and Refining Company's Tenzaloy aluminum. Designed by Walter Dorwin Teague.
5. Foot rest, platform and arm supports of new barber chair by Emil J. Paidar Company are made from Kaiser Aluminum extrusions. Design by Palma-Knapp Associates.
6. School bus-stop shelter (a prototype) is made by Temco Aircraft Corp. of aluminum sheet and extrusion supplied by Olin Mathieson, for Roadside School House, Inc.
7. Detail of aluminum partitioning system by Harvey Aluminum.
8. Decorative aluminum screens and sun shade in Forecast Garden by Garrett Eckbo. Courtesy: Alcoa.
9. Reynolds Metals Company's own aluminum office building in Detroit. Designed by Yamsski.
10. Simple construction using Reynolds-Feal Jiffy-Joints is a do-it-yourself play kit designed by Norman Cherner.

Some basic design points

The properties of aluminum that affect the basic design elements — a product's function, construction technique and fabrication method — combined with the designer's personal feeling for the metal, make up the conditions with which the product history—the tradition — of aluminum is being forged. The properties are *lightness*—aluminum has a density of 2.71 which means it is that many times as heavy as water and about one third as heavy as steel; *corrosion resistance*—due to a very thin film of aluminum oxide which tightly adheres to the aluminum surface; *workability*—the metal is easily die-cast, drawn, extruded, forged, riveted, rolled, spun, stamped, welded.

"Because it is light" says Dominic Saporito, of Harley Earl Associates "we have used aluminum for such products as cameras, children's play equipment, cookware, indoor-outdoor furniture, garden tools. Easy portability enhances the usefulness of these products and, in some cases, is integral to their function. The lightness of aluminum makes it useful for miniaturized products. What would be the point of a pocket camera too heavy to carry in the pocket?

"Because aluminum is rust-proof," continues Mr. Saporito, "it is used to great advantage in the architectural and building fields (for sidings, rain gutters, roofing and window frames). Because it is workable, responsive to machinings—especially to tubing and extrusions (see page 60) it lends itself

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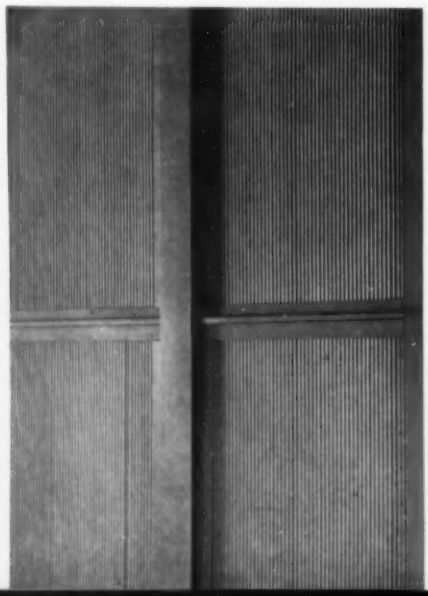

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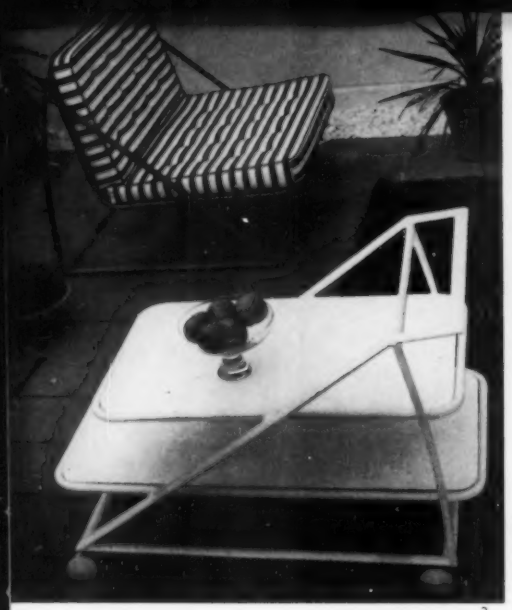

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to precise coinings and to diamond turnings. Hence our (Harley Earl's) use of it in the design of camera parts—for lenses, trim, nameplates and knobs. We also use it increasingly as a *design-exploration* material — we frequently make our mock-ups in aluminum."

Other good design features are listed by Henry Dreyfuss:

"Anodized finishes have given us an impressive color range. Aluminum suppliers have been more imaginative than other metal industries in creating textures that the designer can use. Naturally, we have found the light weight of aluminum an advantage. We have also found that it is a good material for precision casting, etching, easy machining and inexpensive extrusions."

As indicated by the products shown in these pages, the proper selection of the grade of aluminum and of a suitable production method have made it possible to use this light metal in aircraft, tanks, cooking utensils, foil for wrappings, trucks, scaffoldings, and containers. Another inherent property, *age hardening*, (the ability to strengthen with age), has made aluminum an important construction material for bridges, and, more recently, for residential and industrial buildings (the first all-aluminum bridge was erected at Massena, New York, in 1946).

Aluminum's weaknesses

There are certain properties in which aluminum behaves more poorly than other metals, and in applications where these are important, aluminum should be avoided or at least augmented with more powerful metals. The most limiting of these characteristics is the metal's low modulus of elasticity, still considerably less than that of steel. This means that a structural section of aluminum under load will bend or deflect a greater amount than will an equivalent steel section. In order to maintain equal deflection characteristics aluminum sections must be made deeper than those of steel; these sections actually result in higher ultimate strength and a saving in weight (compared with steel), which is the main reason for aluminum's use in aircraft in place of heat-treated steel. But where strength is required in relatively small sections, aluminum may not be the best design choice.

"Because aluminum is more expensive than steel" says Karl Angermayer, chief engineer, mechanical and structural design, Reynolds Metals Company,

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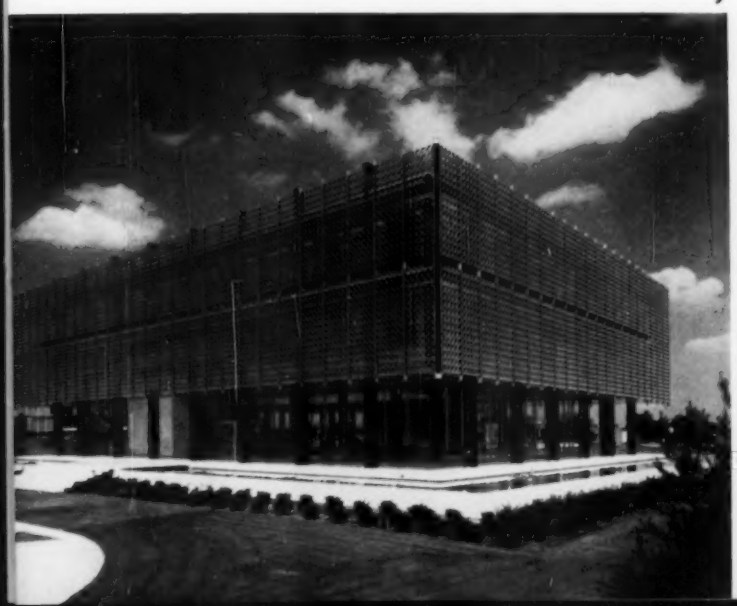

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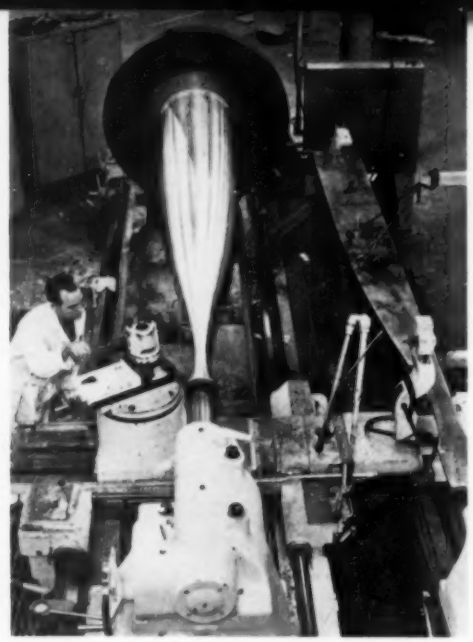

"it must be used in such a way that its other qualities will result in a better or more economical end product."

And, in discussing the negative aspects of this designer's material, Henry Dreyfuss says:

"Some of the finishes become badly 'finger spotted' in handling. Under certain conditions, aluminum finishes wear off and oxidation becomes a problem. When a form is to be painted, it's less expensive to use zinc than it is to use aluminum. Finally, although aluminum is non-corrosive, there are outdoor conditions—salt air, for instance—in which aluminum is not suitable."

Designer William Renwick has another word of warning. It is not directed toward the men designing with aluminum, but toward the client who tenaciously resists using it because it is still more expensive than steel at the purchasing stage. Renwick cautions manufacturers not to evaluate a product proposal solely in terms of the initial purchasing costs. The lower investment, he warns, is often more costly in the end, for in fabrication and finishing techniques, maintenance and endurance, the light metal is more than a jump ahead—simpler and cheaper—of most other metals.

All in all, it is more and more evident — not only to the aluminum industry but to those directly involved with the use of the metal—that design activity is shaping a tradition for one of the most popular of contemporary metals. Out of the subjective "feel" expressed in sketches, and the factual engineering data added daily to specification sheets, new products are emerging which in many cases add quality and distinction to industry's product gallery.

1. Liner for the Mach 6 nozzle in hypersonic wind tunnel was machined from aluminum forging. Part is 144 inches long, with diameter tapering from 24 to 3 inches. Machined by Douglas Aircraft from Alcoa forging.

2. Aluminum railroad hopper car under construction by Pullman Standard for Southern Railroad. Appropriate welding concepts were developed by Reynolds Metals, supplier of the aluminum, and Pullman Standard.

3. Tank-like self-propelled 105-millimeter howitzer has aluminum armor plate for protection. Weight of this Army Ordnance vehicle was cut by one-third over steel predecessor. Photo: Reynolds Metals.

4. Cheapest of the earth satellites, to be launched in near future, is made from 65 cents' worth of aluminum foil. Photo: Reynolds Metals.

5. Aluminum foil is used in Army Quartermaster fire-fighting suits. Foil is laminated to flame retardant, aluminized, kraft paper. Photo: Reynolds Metals.

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EARLY DESIGNS

ADVENTURE IN ALUMINUM: *Russel Wright was one of the first designers to explore its potential*

It is hard, if not impossible, to trace the origin of a design attitude, but certainly in the evolution of aluminum as a product material, the activities of the designer Russel Wright at the beginning of, and during, the '30s had a pronounced effect. Wright says that in 1929 there were perhaps a dozen people in New York who wanted to become practitioners of Modern Design. Their main interest was in new forms, with new methods of construction and new materials of secondary importance since there was generally less emphasis on technology. The prospect of acquiring clients, or of working for large production factories, seemed very unlikely in those days, and Wright opened his own shop in an old stable on East 35th Street in New York. Here he hoped to fulfill his "dream to redesign everything for the world around us." How and why did he take to aluminum? In Wright's own words:

"The permanency (in those days) of chromium plating and of stainless steel was attractive, but the cost of electro-plating equipment was high; the cost of tooling and fabrication of stainless steel still higher and as yet in the experimental stage. Aluminum, known to me only as a material for kitchen utensils, was beginning to be used in the infant aeronautics industry. Acquisition of a few tubes and sheets of aluminum was exciting for a young designer who wanted to design everything and had only a work bench and a spinning lathe.

"The easy workability of the metal, its permanent integral coloring, inspired me to develop a variety of products: lamps made of straight tubing; chairs made of tubing; tables made of extruded angles and bent from one sheet; aluminum ornaments and jewelry. The neutral, modest metal was an interesting background for other materials, such as wood, rattan, copper, ceramics, which were incorporated in some products."

His adventure was a rapid success. One reviewer said that in the '30s Wright was a pioneer not only in bringing aluminum out of the kitchen, but also in "creating a brand new product, geared to the needs of a large American public, who entertain casually and without the traditional formality of the past."

Wright recalls how his shop was sought out by many architects and other adherents of modern design—the roster included Mrs. Cornelius Vanderbilt, the Prince of Wales, Leopold Stokowski.

"The Aluminum Company of America" says Mr. Wright "also sent a delegation to examine my shop and collect information on sales. Soon afterwards, they established their own organization, the Kensington Company, for the making of aluminum serving ware and gift ware.

"In retrospect," he concludes, "it seems to me that aluminum and chromium were perhaps the most characteristic and the most popular materials used by modern designers up until World War II. The white metal look gave a character and a mood to our creations that satisfied us."

The war interrupted this temporarily, and Wright thinks it unfortunate that the white metal look has not noticeably reappeared with the release of the metal to the consumer market.

Some of the pioneer aluminum products Wright made and displayed in his New York shop during the '30's are shown on the next page.

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1. Russel Wright's all-aluminum breakfast room was displayed at the Design For The Machine exhibit at Philadelphia in March, 1932.
2. Aluminum lamp,
3. aluminum flatware,
4. table accessories,
5. and mint-julep mugs were all designed by Wright and made in his New York shop during the 1930's.

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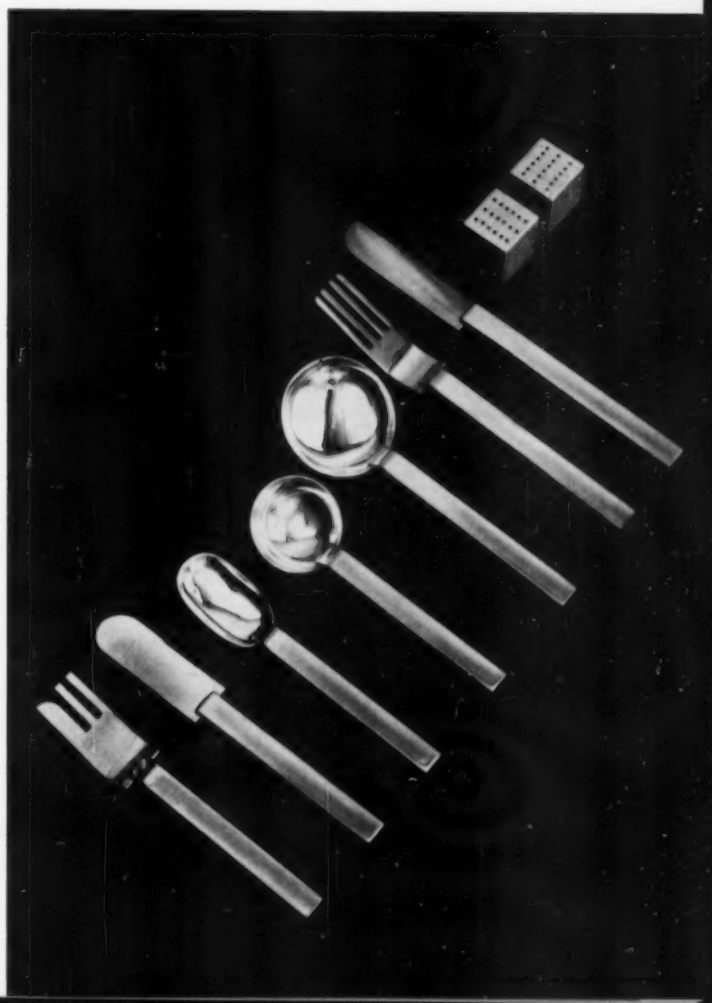


PRODUCT STUDIES

THREE RECENT PRODUCTS *illustrate how aluminum served to express design objectives*

Thirty years after the introduction of aluminum in consumer items by Russel Wright and others, the chief reasons for its use are still the same: it continues to be a stimulating medium for contemporary design expression, and its conversion into products does not require costly tooling. But the major force behind its use today is the aluminum industry itself, whose design awareness and design promotion are contributing significantly to shaping a "solid and serious" history for the metal. The industry's goal is not merely to get rid of more tonnage—by whatever sales means. Rather it appears to be seriously concerned that the metal be used in applications for which it is truly well suited, and in which it will be shown off to best advantage. This is not to suggest that misapplications do not and have not occurred. They have, and it may be partly *because* they have that the aluminum industry has put itself on record so strenuously for sound design.

"I think most designers will agree," says Henry Dreyfuss, "that the aluminum people have done a far more effective job of education than other metal suppliers. They have spread the word about the design possibilities of their material, and have succeeded in establishing a connotation of 'modernity' which older industries have reason to envy."

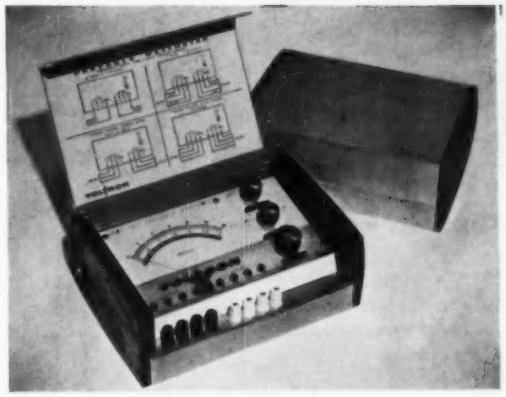
In August, 1956, ID discussed how the design departments function within the major aluminum suppliers (Alcoa, Reynolds, Kaiser). Since then other companies (Olin Mathieson and Aluminum Extrusions, among them) have also organized task forces to work out design, engineering and production problems with the design and product development groups of their client companies. The major functions of these task forces is exemplified by Alcoa's industrial design operation which, in that firm's words, "consists of direct services to industrial designers." These take two directions. The first is an informational service—Alcoa's representatives visit consultant designers and company design staffs with samples and information. They keep designers informed about the latest developments in aluminum and give on-the-spot assistance for any project that may be in progress. The second activity involves detailed and comprehensive assistance on specific projects, which frequently includes production of sample pieces, help in producing prototypes, evaluation of joining or finishing techniques, or the investigation of new fabricating areas.

"When a customer comes up with a proposal for a new aluminum product," explains Forrest F. Tiffany, director of market development, Olin Mathieson Chemical Corporation, "we compile for him the necessary information about the proposed product and its market potential, and also investigate the customer's ability to fabricate and merchandise it."

This is the sort of collaborative effort which is shaping today's aluminum products. Three recent examples that illustrate the imaginative results follow on the next two pages.

Materials are combined in new case

In the design of a new type of wattmeter, the use of aluminum with wood suggests two important and seemingly contradictory qualities—tradition and newness—within a single expression. The manufacturers, Voltron Products, Pasadena, California, had re-engineered their meter and increased its sensitivity; they wanted an enclosure that would express technology in contemporary terms but would at the same time retain the confidence associated with the established look of precision instruments. The job was assigned to the industrial design firm of Tor Petterson Associates, Laguna Beach, California, which selected aluminum for the housing of the case (1,2) "as the material meeting *all* requirements—it was economical, and was easily extruded to close tolerances with sufficient detail for lift-out hinge (3) and channels for gaskets, coverglass, instruction sheets (1) and insulation barrierstrip." The extrusions were supplied by Alcoa in accordance with Petterson's drawings and specifications. The case is formed from two extrusions supplied in 11-foot lengths. The base section (3) contains the frame and chassis of the instrument. A hole pattern punched through the center section permits mounting of electronic components, readouts, controls and connectors. That part of the extruded case also contains the female element for a continuous hinge which is part of the extrusion and requires no machining. The male element of the hinge is part of the top extrusion, which forms the top cover of the housing. To retain the "traditional concept that precision instruments and hardwood cases are synonymous," the designers decided on black walnut hardwood for the end caps of the meter case.



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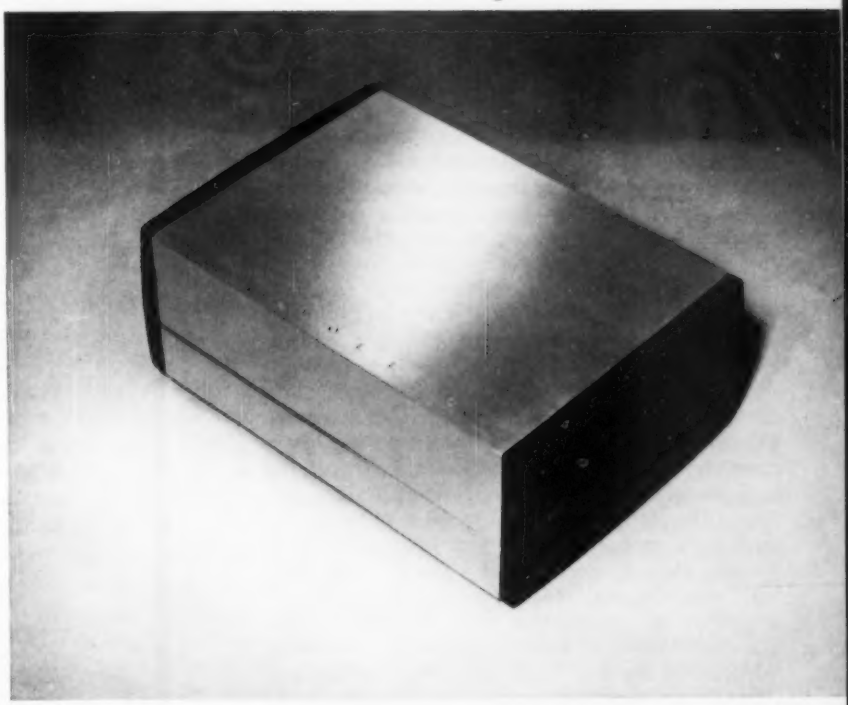

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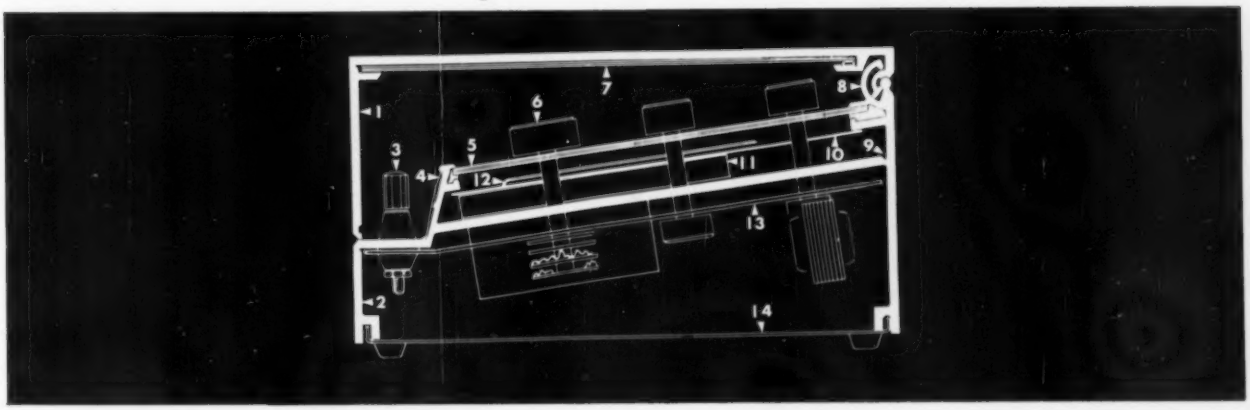
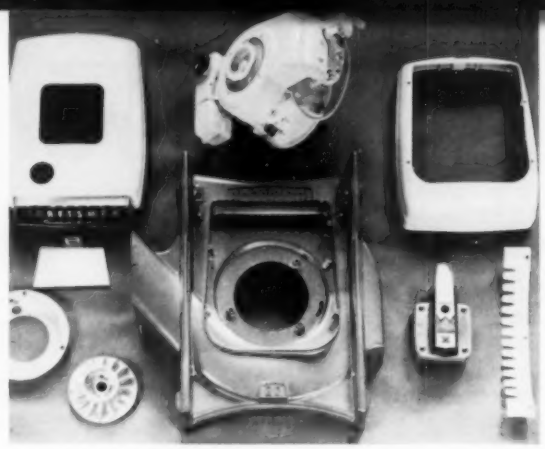


NEW PEPSI CASE HAS ALUMINUM WALLS

Aluminum's inherent brightness, its light weight, and resistance to rust are the main reasons behind its selection for a new Pepsi-Cola case that is intended to provide more efficient handling, and thus, greater operating economies for Pepsi-Cola's bottlers. The new item is the result of a collaborative effort between the aluminum supplier, Reynolds Metals; the case manufacturer, Firestone Steel Products Company, Akron, Ohio; and the end-user, the Pepsi-Cola Company. The appearance and economy factors of the aluminum case differ markedly from those of the traditional, wooden case. It is said to be 12 per cent lighter than the conventional case, which of course means easier handling and larger shipping loads in terms of weight. The rot- and rust-proof characteristics of the metal satisfy maintenance demands and, in addition, result in a case which will always look bright and new—a projection of the Pepsi image as the "light, bright refreshment". The construction of the case also makes for easy maintenance. It is formed from two identical extrusions, developed and supplied by Reynolds. These are riveted together to form the body of the case; and the riveted construction makes it possible to disassemble the unit easily for repairs. The bottom of the case consists of a masonite sheet held in place by a groove which is part of the extrusion. Wooden cross-dividers separate the case into four equal compartments. The extruded sides of the case are cut away to enable clear visibility of and identification of the six-pack cartons. The new case, under development for five years, will soon be available to Pepsi-Cola's franchised bottlers here and abroad.



LAWN MOWER HAS CAST ALUMINUM PARTS

Sound absorption — a property of aluminum not often exploited—figured critically in the decision to use aluminum for all but the handle and wheels of the new lawn-mower seen here. Aluminum's light weight and the availability of die-cast parts were also important reasons for its choice. A product of Sears, Roebuck and Company, the machine is made by the Newark Ohio Corporation, Newark, Ohio, of die-cast aluminum parts supplied by the Aluminum Company of America. As an addition to its existing lawnmower line, Sears, Roebuck wanted the new model to represent an advance in style and performance; staff designer A. W. Duncan aimed for a machine that would be low and lightweight, and that would reduce sound to a minimum. Aluminum die-cast parts had been used in previous models, but there were some components (the guard at the front of the mower, the leaf-mulcher plate which fits over the discharge chute) that had been made of steel. The designers felt that steel would not be necessary for these parts in the new model, and that the use of aluminum for them would be consistent with the lawnmower's overall appearance. Substituting aluminum for steel would also cut down the weight, which is of course of considerable importance in a hand-operated machine. The variety of shapes possible with die-cast parts, and the ease with which these parts are assembled into sturdy, durable units, prompted the specification of aluminum die-castings for all components including the motor shroud. The unit, called Craftsman Custom Lawnmower and now marketed by Sears, Roebuck, has a baked-enamel paint finish. The units are assembled and finished by the Newark Ohio Corporation.

FABRICATION NEWS

NEW SHAPES AND FINISHES: *Recent production developments promote new design ideas.*

The variety of aluminum products is of course largely determined by the production methods possible with the basic forms in which the metal is supplied to manufacturers. The aluminum industry is in a good position to encourage inventiveness in design: it feels secure in its ability to shape almost any reasonable product concept.

"Since aluminum can be processed in practically any basic form" says R. B. Wemyss, director of product design for Reynolds Metals, "we are particularly aware of the savings we can recommend to our customers through designs which will eliminate the costly tooling required for some other materials."

The basic forms consist not only of the standard mill shapes — rods, tubing, plates, sheets, foil, etc.—but of extrusions with simple or intricate cross-sections, castings, aluminum powders, and others. A distinct feature of the metal is the large variety of textures and finishes in which it can be supplied. Textures can be applied by a number of methods—embossed, coined, lithographed or engraved. And the metal is also available as perforated sheet for panels, screens and other decorative uses.

A unique characteristic of aluminum which is a strong determining factor in finishing operations is its own light gray transparent oxide, a thin film which provides a permanent finish that does not rust, flake or peel. This natural coating can be further treated with color finishes applied by various processes, each yielding results especially suited to certain applications. Lithography produces decorative surfaces in fine detail, and makes possible the adjacent or superimposed application of a variety of colors. Alcoa's finish known as Alumilite, produced by the electrochemical process of anodic oxidation, converts the aluminum surface into a thick, adherent aluminum oxide integral with the metal; it can produce a metallic sheen on plain and colored surfaces.

Aluminum's flexibility in production—the shape variety in its basic form, the extent to which it can be finished to meet decorative demands and environmental conditions—has made it possible for the aluminum industry to envision and suggest its use in many new products.

"The talents of the Reynolds Product Design Department," says R. B. Wemyss "are directed toward advocating new uses and applications for aluminum in current markets and proposing new projected design concepts for potential markets of the future. The purpose of our design efforts is to stimulate the thinking in other designers in industry toward a practical use of aluminum in their own particular design projects."

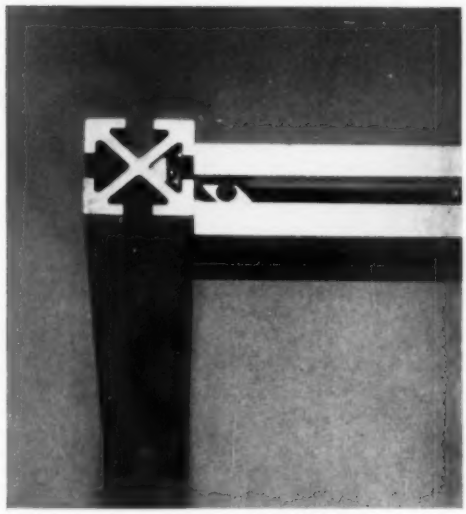
For some recent production methods and finishing techniques that make possible further exploration of aluminum's design potential see the next four pages.

Impact extrusions make possible the one-piece construction of cylindrical shapes.

New product possibilities from extrusion technology stem largely from the advancements represented by impact extrusions, but also from improvements in the standard extrusion process. Alcoa, for example, has announced the operation at the Lafayette, Indiana, plant of its new 14,000-ton press which can extrude shapes weighing as much as 2,500 pounds. Measuring 110 feet long, these extrusions can have a cross-sectional area up to 19 square inches. The new press permits the extrusion of high-strength alloys in larger and thinner shapes than were previously possible, and opens new possibilities for the use of large extruded shapes for structural applications. Harvey Aluminum, for instance is supplying an extrusion (3) for the construction of a railroad gondola car. Used as a steel replacement, it provides the required structural strength at one-third the weight.

Impact extrusions hold much promise for container and other housing constructions which are formed in cylindrical shapes, because the new process can mass-produce these with a minimum of assembly labor. The aerosol containers (4) are 16-ounce cans which are seamless and have sufficient strength to withstand internal pressures of 480 pounds per square inch. In the production process the first step produces a straight-walled impact extrusion which is then formed, in several steps, into a can with a tapered top and recessed bottom. The one-piece construction of this item indicates the wide product possibilities of this process.

1. *Impact extrusions made by Harvey Aluminum suggest design potential of process.*

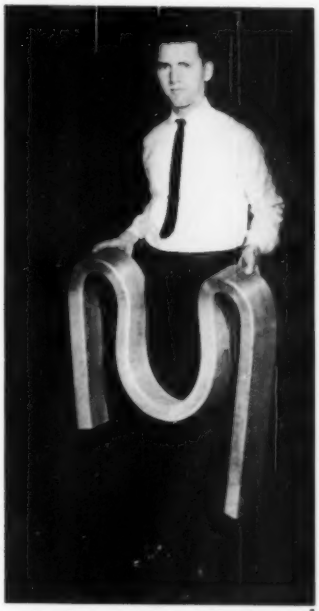


2. *This detail is part of George Nelson's Omni system manufactured by Structural Products. Extrusion by Aluminum Extrusions.*

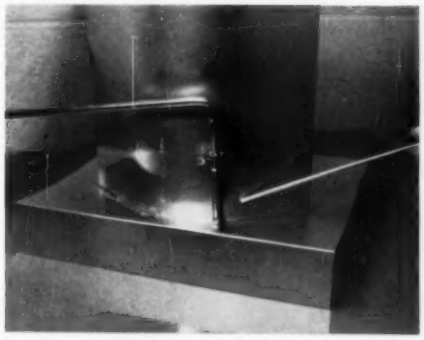
3. *Section of 82-foot long, 25-inch wide extrusion for railroad car. Harvey Aluminum.*

4. *Aerosol cans formed by impact extrusion have no seams or welds. Photo: Alcoa.*

Forgings and inexpensive plaster castings are among processes that simplify fabrication.



5. *Flexible, multi-ply aluminum foil for aircraft; Hexcel products.*

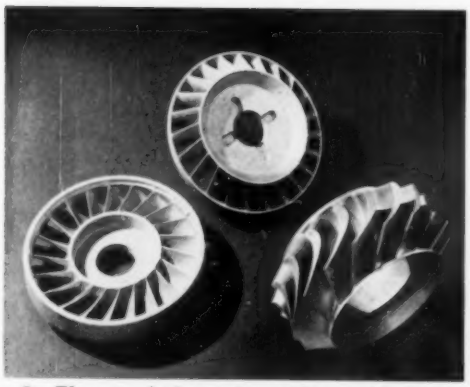


6. *New soldering tool includes brush for removal of oxide; by Reynolds Metals.*

There are other recent developments which aim to make aluminum product manufacture a simpler, if not a completely one-piece construction process. To solder aluminum joints of small, lightweight structures, Reynolds Metals has introduced a new soldering tool (6) which uses a glass fiber brush to remove surface oxide that normally weakens aluminum-to-aluminum joint.

With the production of high-grade alloys required for the process, an old craftsman's method for shaping parts, *forging*, is now being used in the aluminum industry. Equipment consisting of large hydraulic presses, forging hammers and upsetters are available to forge aluminum parts (7) that can range in weight from a few ounces to about 3,000 pounds. Since forgings are entirely solid, they are very tough, can endure shock, have good machining qualities and high dimensional stability. For these reasons aluminum forged parts are used for aircraft applications (wing structure, structural panels, engine crankcase), automobile wheels (the Cadillac Eldorado), but also for such things as the base of office chairs.

Another recent process for making aluminum in one-piece constructions is the *plaster casting method*. This is an inexpensive process using plaster as the mold material and permits the casting of very thin section parts adjacent to thick sections (8). For this reason it has been used for the casting of bladed aluminum parts and other enclosures for motors and machines.



8. *The use of plaster is proving an inexpensive molding material for medium-sized parts of varying thicknesses. Photo: Alcoa.*

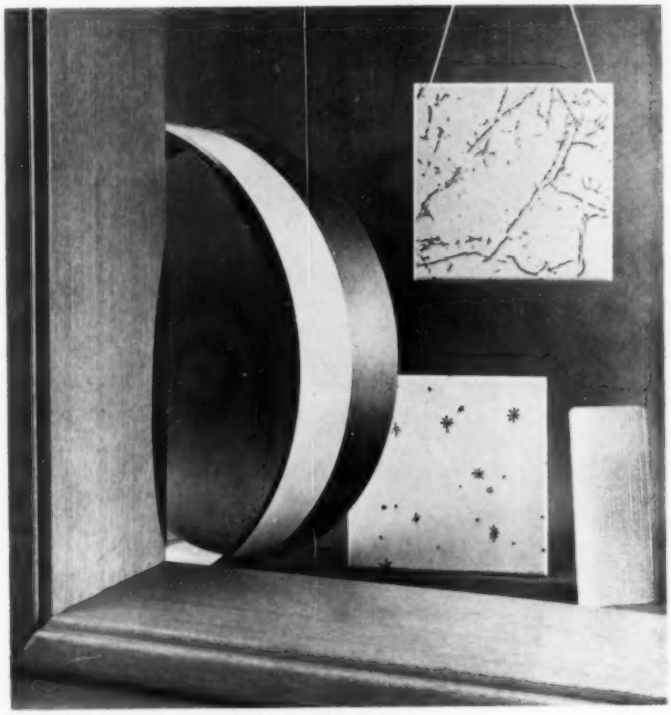
7. *Solid aluminum parts can be formed by forging; parts can vary in weight from few ounces to thousands of pounds. Photo: Alcoa.*

Some recent finishes have a rich color range and can stand rigorous weather conditions

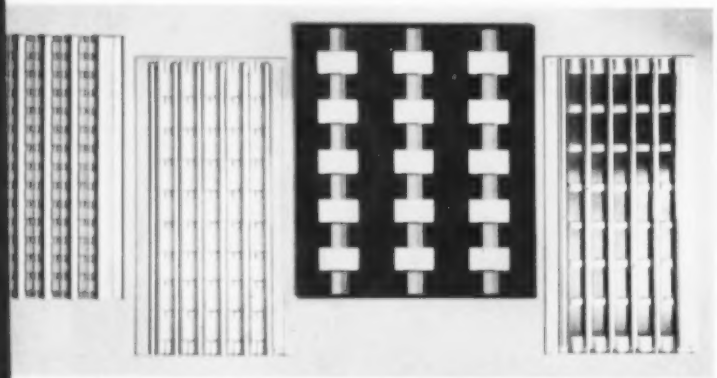
Some of the newest finishes for aluminum offer improved corrosion and abrasion resistance, and a wider range of colors and color-patterns. Other new processes create textures on aluminum in natural or color finishes. One such method by Bohn Aluminum, Detroit, Michigan, produces symmetrical perforations and patterns (2) in various colors for grillework in construction and heating and ventilating units.

A coating process called Duratizing, developed by Bridgeport Brass, produces an inert film of chromium chromate, which is said to prevent corrosion in salty atmospheres. The coating can take a variety of finishes—alkyd baked enamel; vinyl resin enamel in satin or high gloss; baked ground coat imprinted with grain or pattern, with a top coat of baked clear finish; tinted metallic coatings. Duratized aluminum (1) is supplied in strips up to 8 inches in width in coils up to 20,000 feet, and in a range of standard colors.

A heavy-anodizing process developed by Kaiser Aluminum produces two new types of finishes: Kalcolor, and Inlay Sheet. Kalcolor finishes are from 20 to 40 percent more dense than present available anodic coatings, which makes them sunfast and atmospherically stable. Available colors include gold, amber, tan, brown, olive, gray and black. Inlay Sheet patterns result from the laminating of two alloys embossed with standard Kaiser patterns (stucco, diamond, ribbed, square). Supplied in sheets up to 36 inches wide, they come in gold, natural aluminum, light, dark gray.



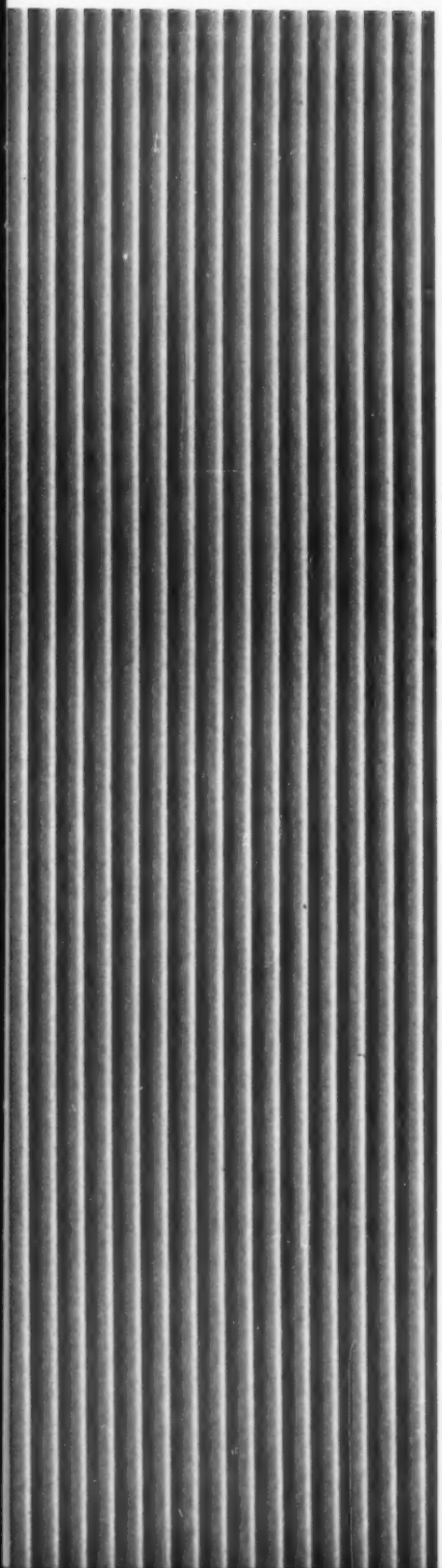
1. *Color coatings applied to chromium chromate film over aluminum can withstand salty atmospheres. Various finishes are possible; coils come up to 8 inches wide; by Bridgeport Brass.*

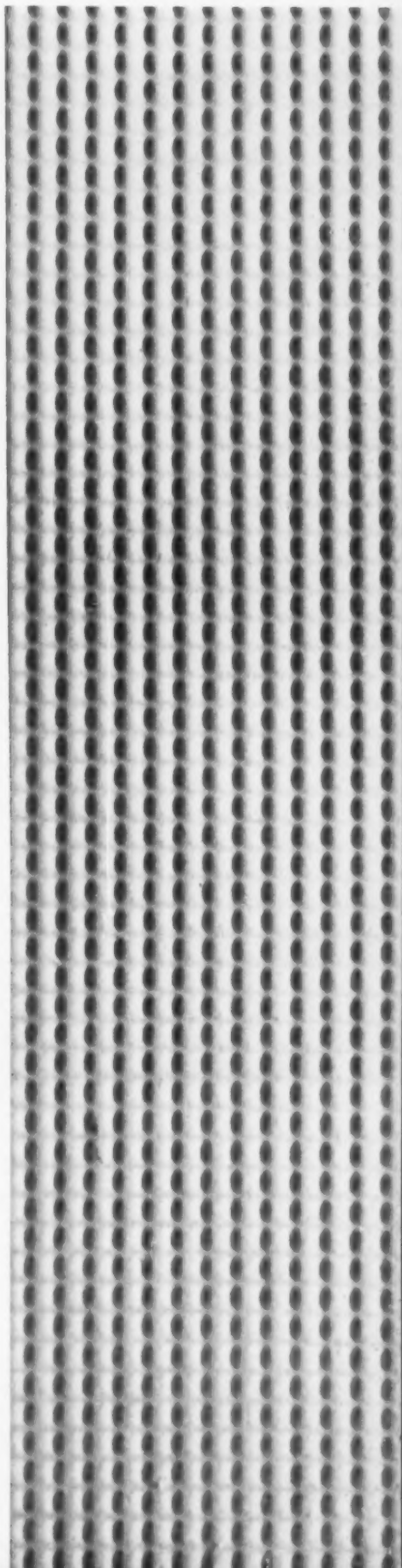


2. *Bohn Aluminum manufactures these perforated sheets with a symmetrical pattern; for household appliances, exterior and interior constructions.*

3. *The ribbed effect of this aluminum mailbox is one of Kaiser Aluminum's new Inlay Sheet patterns. Other patterns are stucco, diamond, square, in various colors.*

4. Metal & Thermit is marketing a vinyl spray-on finish which can be applied to textured aluminum sheets such as these before or after parts have been fabricated.





DESIGN FROM A CONVENT

Photo: Robert Frank

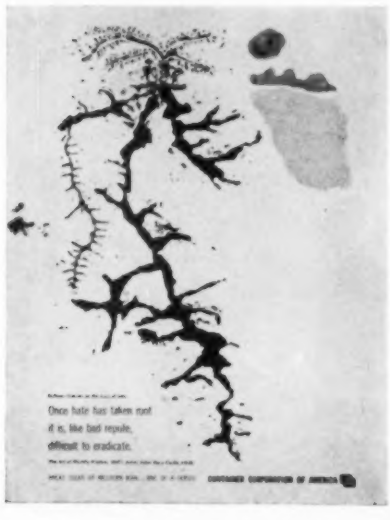
From a Catholic college on the
West Coast comes a stream of
exuberant graphics, and one of the funniest
and most serious magazines around

by Ralph Caplan

Some of the liveliest and most beautiful graphic design being created today is the loving work of a lively and gifted nun called Sister Mary Corita. A member of the order of the Sisters of the Immaculate Heart of Mary, and professor of art at the Immaculate Heart College in Los Angeles, Sister Mary Corita has won an international reputation for her serigraphs (silk screen prints), many of which hang in our most distinguished art museums. But her art is not just for the cloister, whether of convent or gallery. Her commercial projects include an advertisement for the Container Corporation (below), a line of gift-wrap paper for Neiman-Marcus, the Dallas department store, and some foil wrap for the Reynolds Metals Company. At present she is working on a poster design for New York's trash wagons, as part of the city's clean-up campaign.

If these seem to be renderings unto Caesar, Sister Mary Corita doesn't mind, although it is a distinction she doesn't much concern herself with in her art. Most of her work is joyfully religious, whether it ends up in a liturgical journal or wrapped around a Texan's birthday present. "We have this horrible need to measure everything," she says, "and we are so busy measuring objects that we often miss their true beauty." When asked recently to discuss the distinction between fine art and applied art, she dismissed the matter thoughtfully but quickly with the statement, "I don't think there is one, really."

But it may be as misleading to take one of Sister Mary Corita's remarks out of context as it is to take *her* out of context. Her context—the garden in which her prints, banners, and fame grow—is the Immaculate Heart College art department, headed by her friend, traveling companion, and former teacher, Sister Magdalen Mary. Under Sister Magdalen Mary's direction, the department has developed one of the most widely known and highly praised art curricula in the nation. It is responsible for what is now called "the Immaculate Heart style," a style characterized by nothing so much as the precious individuality of the artist. This in itself is rare enough (just look through any modern art gallery), and it would seem to be impossible to teach (just look through any ordinary college art department). Yet they teach it.



Ad for Container Corporation is illustrative of Sister Mary Corita's work in the world — this world

Not surprisingly, one can account for the teaching success of these nuns by examining their attitude rather than their pedagogical technique. Their work, and their student's work, has its deeply nourished roots in exploration and wonder; in the refusal to try to see a destination until it is reached, coupled with the happy faith that it can be reached. "We find it necessary to repeat again and again," the Sisters say, speaking of student exhibitions, "that we do not call our work Art. We call our paintings Graphs of our investigations . . . Our Graphs may not be mature Art, but we believe that they are mature investigations. And perhaps someday when we aren't looking, we will cross the dividing line into Art. Until then we have a job to do and we are working hard at it." As for the "style": "We have not chosen any style," Sister Magdalen Mary insists, "this is just our way of working —approaching problems unencumbered by preconceived notions no longer adequate to our time."

One preconceived notion that Sister Mary Corita finds inadequate is that commercial work is inconsistent with the religious life. When she got the first inquiry about whether she would be interested in doing an ad, her immediate response was, "Oh, terribly interested." She works the problems out with her classes, in the belief that "commercial work gives me and my students a necessary touch of reality that is hard for us to come by on a college campus. What we are trying to do is to take the students into experiences in which a job is done as well as we know how. It is important to know how to do a job."

It is also important to have a sense of humor in relation to the job you are doing, and this the Sisters have in joyous abundance. ("Only a saint is really equipped to catch a joke," Sister Magdalen Mary says.) The most public expression of their humor is the *Irregular Bulletin* (see page 69), an astonishingly free, astonishingly readable magazine edited by Sister Magdalen Mary. Sister Mary Corita—when she isn't doing such other things as teaching art structure (design) and interior design—is the *Irregular's* staff photographer. In the *Irregular* the Sisters announce such events as their National For Heaven's Sake Week, or their plan to take a course in cantilevering to solve the college's space problem. They are also the cause of singular behavior in others. A former student who went back to the college for a summer job last year reports that a lot of her work was smashing coke bottles to be used in mosaics (page 68), and a girl who won a $500 scholarship expressed her mock-beat gratitude with the words, "Like thank you like crazy like from the bottom of my crumby heart."

This free-wheeling approach to art, life, and teaching has caused one art critic to refer to the Immaculate Heart program as "Dada in the convent." The Sisters laughed when they heard this, and agreed that there was some element of Dada in their work; but they feel that although the method is in some ways similar, the impulse is radically different: Dada was negative, a repudiation of existing forms; their work is positive, a believing search.

They conduct the search, as they conduct themselves, with a profound and irrepressible delight.

"The desert pastures are blooming." Collection of Mr. and Mrs. Ralph Caplan.

The print and the process: sister Mary Corita follows through on the entire operation

Mixing the stencil. "I start at random, looking for an interesting shape, without anything definite in mind. I glue a screen or tear paper to form a stencil."

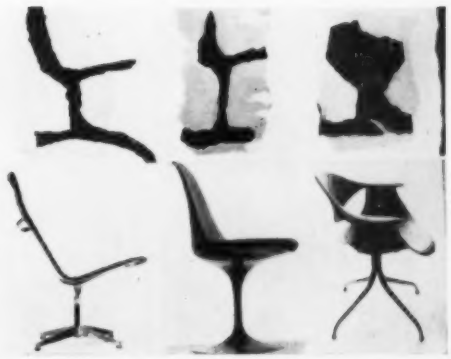
Drying the gauze screen. "The glue formula is 50 per cent LePages glue, 40 per cent water, 8 per cent white vinegar, and 2 percent glycerin."

The force of the habit

Dr. Samuel Johnson once said to Boswell: "Sir, a woman preaching is like a dog's walking on his hind legs. It is not done well, but you are surprised to find it done at all." Unquestionably some of Sister Mary Corita's success stems from the same phenomenon: our interest in novelty and incongruity. One is reminded of all the prizefighters — Mickey Walker, Tony Canzoneri, Rocky Graziano—who were publicized as painters not because they had talent, or even much skill, but because it was so remarkable that they painted at all. A nun who creates modern art, some of it commercial art at that, is so curious to behold that, in Sister Mary Corita's case, the shock of her habit tends to obscure how really good she is.

Her serigraphs are at once disciplined and uninhibited, personal without being private, and celebrative in a way that is as unexpectedly catholic as it is expectedly Catholic. "The desert pastures are blooming," at left, has the stylized animation of a ballet. The serigraph at right, above, shows Sister Mary Corita's technique of working lettering into a print. Usually the text is Biblical, but one of her most admired prints carries the E. E. Cummings line, "be of love (a little) more careful than of everything."

"A woman clothed with the sun." Serigraph by Sister Mary Corita.



Roy Leaf, a male art student at Immaculate Heart College, made these torn-paper studies from a layout in ID's 1958 *Design Review.*

Making the print. "I drag the paint across the silk screen with a squeegee, usually working until the paint runs out or until it's time for lunch."

Hanging the prints to dry. "All of my work is done in 15 days during the summer when I have some time, and can have the whole classroom to myself."

Cleaning up. "If you use turpentine to clean the screen, it leaves it slightly greasy and you can get some interesting effects on the next run."

From pyramids to plumbing to publication,

the same zest lights up

what they do and what they mean by it

Photo courtesy Sphinx Center souvenir shop and shooting gallery

Sister Magdalen Mary (riding high) and Sister Mary Corita (low down in the saddle) were given this art-study trip by a grateful student. "This is the first round trip *ticket ever offered us," they say, "although frequently we have been asked to accept one-way tickets."*

The display at right is reproduced from the *Irregular Bulletin*, probably the most casual enterprise in publishing history. Published with faithful irregularity in even numbers only ("It makes people nervous when we're odd"), it goes to more than 6,000 people and places the Sisters like. Part of the content is reportorial, part is philosophical. In both cases, much of it is stolen: when the editor reads something she likes in a book or magazine, she simply cuts it out and reproduces it by photo-offset. (The author first learns of it when he receives a copy, with his contribution marked with red hearts that the Sisters paste on to say thank you.) A normal issue (whatever *that* would be) might include an article on Charles Eames, a few dozen lines of Gertrude Stein, a column swiped from *House Beautiful*, an ad for hand cream, and the contents page of the *Bulletin of the Atomic Scientists*. Through it all is a good deal of wit, a lot of whimsy, some thoughtful excursions into art theory, and an occasional suggestion that it might be nice if you sent in some money towards a new art building: "Do you know a lonesome little oil well?" the editors ask wistfully or, in a bolder mood and in headline print, "Anyone know a busy little bank that needs to be robbed?"

Since most of the words are cut out of magazines and newspapers, a given page may have as many as thirty different type-faces, running in half a dozen different directions. "This doesn't represent a philosophy of layout," the Sisters explain. "The idea is to get as much in as quickly and cheaply as we can." But if the design looks like chaos, it is an inviting chaos, and one that paces the reader—or at least slows him down enough to let him think. "There may not be much to enjoy in this bulletin," Sister Magdalen Mary says, "but one thing is sure: you can't skim it."

Even the plumbing in the college boiler room (now serving as a mosaic studio) gets a surface treatment of broken glass, sea shells, marbles and discarded costume jewelry.

THE SPRING ISSUE is a Letter to our Loves

MAY 1959 *irregular bulletin* the 14th

From US with love and care

Maybe you can't please everybody

published by INDUSTRIOUS STUDENTS
& DEDICATED PROFESSORS
of IMMACULATE HEART COLLEGE
Department of Fine Arts 5515 Franklin Avenue
Los Angeles 28 California

circulation still heading straight up

... If you are now receiving a duplicate, perhaps you know of some friend who may be interested

the grand gesture is expected of you

anyone can play

SAVE $5

Add a Dash

The word is tithe. It's the old-fashioned word for the good and beautiful tenth of his earnings that man once set aside for something he dreply believed in.

of Pity

Two pages from Irregular Bulletin, *edited by Sister Magdalen Mary, show process of creative borrowing used in unique publication.*

significantly superior to all other leading brands

from cradle to college on their minds

Our ALUMNAE have many thoughts

Madeline and Robert Fockens proudly announce the arrival of A BOY:

Eric Paul Fockens

October 1st 9 lbs 2 oz

This is what we work for at IMMACULATE HEART COLLEGE

A Boy

Janet is staying home this semester to learn Bundling without Bungling She will be back with the class of '58 in February.

ALSO ROMAN AND INGA KUNZ

Welcome, brother, if you're a Man

Kristopher Augustine was born to mike and Janet king on september 4, 1957

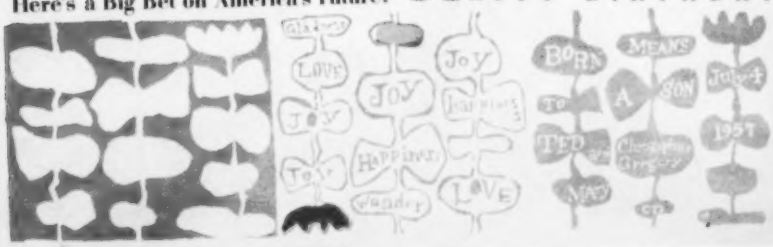
Born just in time to work for *The* development FUND OF IMMACULATE HEART COLLEGE

EACH A WORK OF ART

ALSO PHOEBE HENDRICKSON

Here's a Big Bet on America's Future!

HAPPY BIRTHDAY



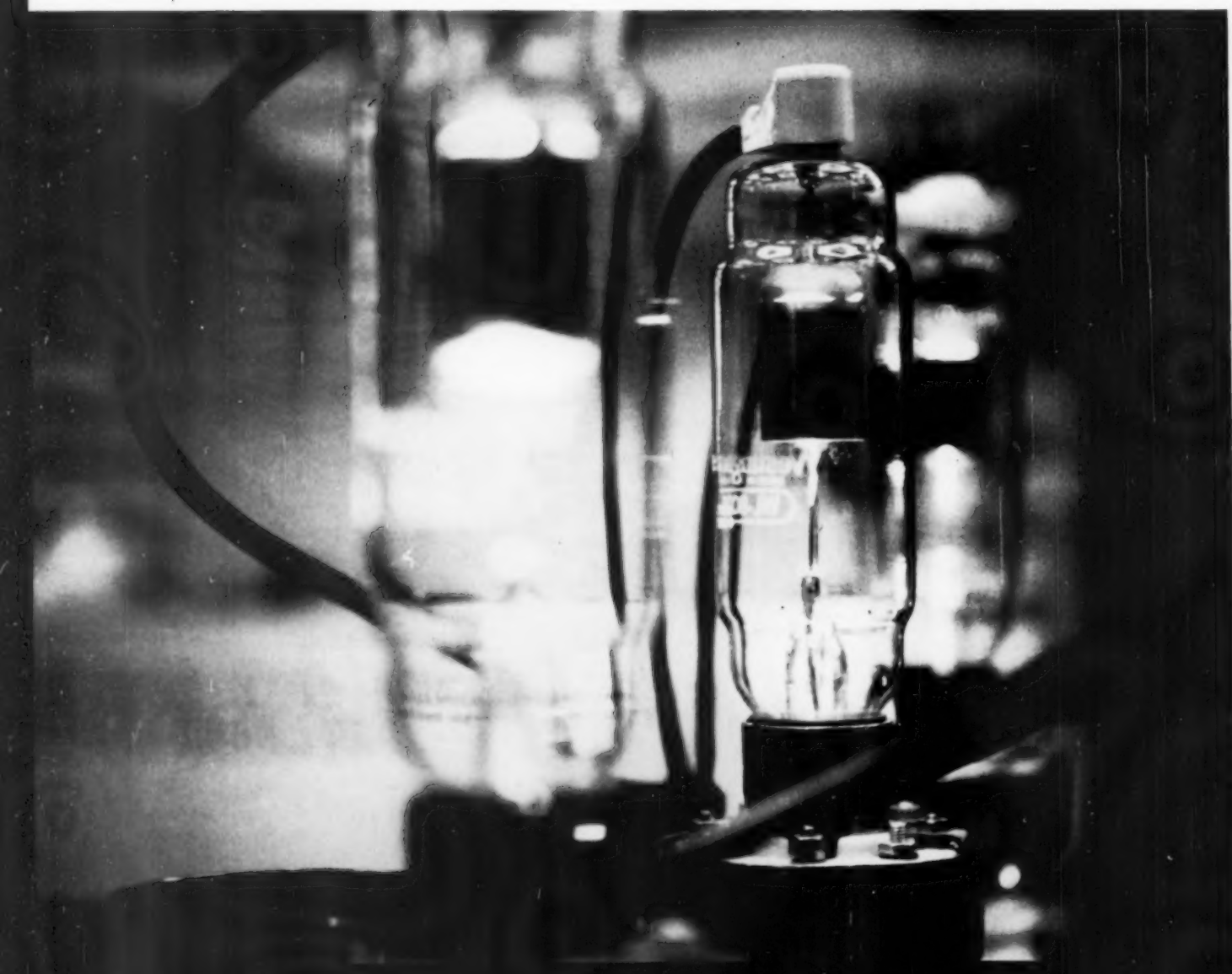
Joy pressed dam and running over

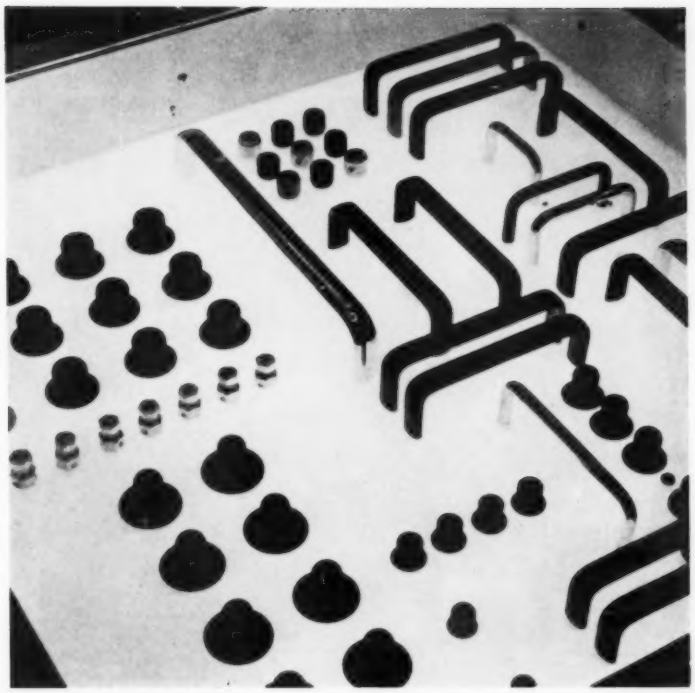
ALSO *Margaret Kellogg* RAFFERY

ALSO ROSALIA AGUADO ABOITIZ

This is what we work for

VISUAL HIGHLIGHTS AT IRE SHOW: To communicate the news each year about commodities as complex, from an engineering point of view, as electronic products, is a challenge to any company. The 1960 Institute of Radio Engineer's Convention at the New York Coliseum (March 21-24) did not differ significantly from the one reported by us a year ago, or the one a year before that. But one aspect of the show was more striking and pronounced than in past years: the attempt of most displays to communicate product dependability. The endeavor to express product news simply and with impact, resulted in some unique visual designs that attracted the eye, and the camera, of art director Jim Ward. Here is a selection of some of the photographs he took at the show.





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1 Raytheon indicates its activity in building electronic equipment to customer specification.

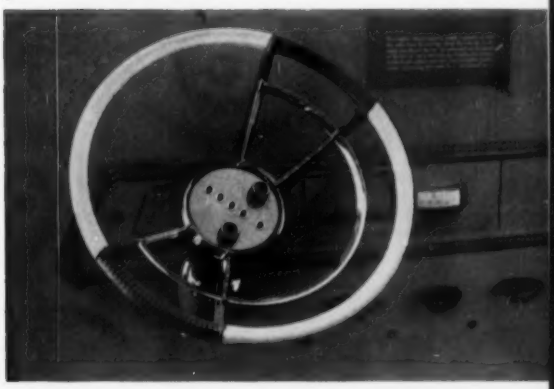
2 The logical grouping of buttons arranged according to function is shown in Litton's control panel.

3 Hughes Aircraft uses actual steering wheel to display car-radio tuning device in center of wheel.

4 The Daven Company display spells out the show's major motif: dependability in products.

5 Texas Instruments seeks to deliver the same message by showing the production which makes for dependability.

3



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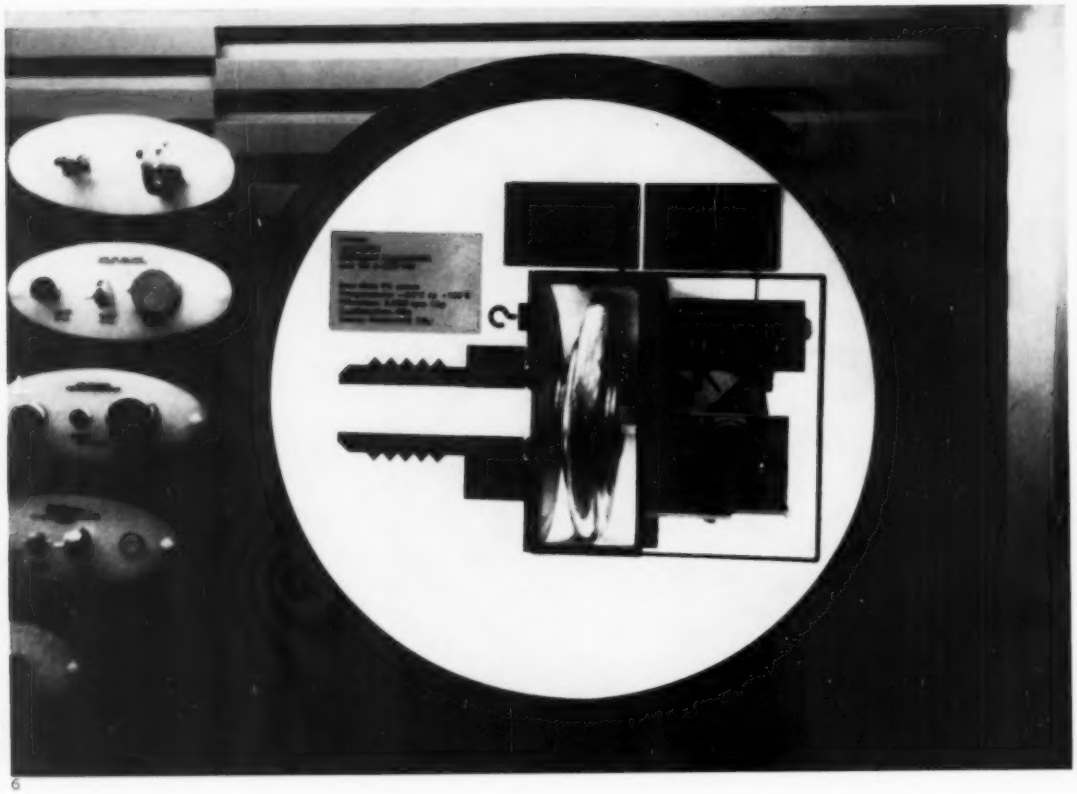

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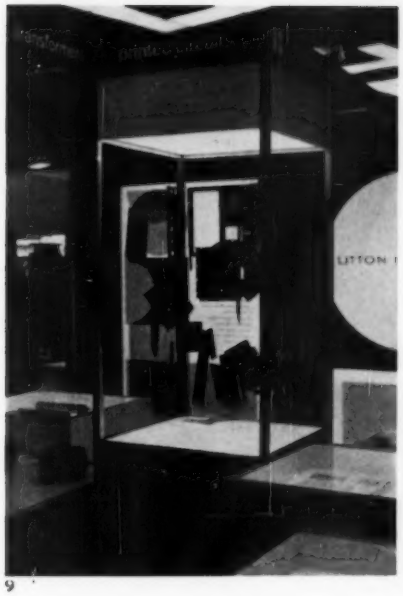
Now available
in four sizes
25 AMPERES
50 AMPERES
100 AMPERES
250 AMPERES

8



9

6 *Fairchild Controls uses display mock-up to illustrate operation of pressure transducer.*

7 *Corning contrasts glare effect of standard tv tube with that of recent laminated types.*

8 *The availability of high current plugs is indicated by Superior Electric on neat display case.*

9 *Clusters of printed circuit panels shown by Litton Industries result in modern "construction."*

10 *Visual communications was often augmented with aural recitations or actual tests.*

10

PUBLIC RELATIONS FOR A PROFESSION

Some notations on drum-beating as a means of attracting a clientele, with a few suggestions on how to keep time and when to add ruffles and flourishes

by Ralph Caplan,
Betsy Darrach, and
Ursula McHugh

According to a Sufi proverb picked up in Tanganyika by the Reginald Pick-Wallace expedition of 1876, "the way depends on the why." Surely any examination of how the public relations function is performed in the industrial design profession must be prefaced with some examination of why it should be performed at all. What is it that designers want in the way of public relations, and why do they want it?

Generally the answer comes in two self-evident parts: they want recognition, they want clients — or, rather, they want recognition so that they will have clients.

Isn't this what everyone in industry wants? Perhaps, but almost everyone else has other ways of getting it. The corporation wants customers, and gets them by putting salesmen on the road and backing up their efforts with advertising. Designers, as members of a profession, are presumably unarmed with salesmen, and are denied the blessings of advertising. Yet designers don't just *have* clients, they *get* them. How they get them is largely a matter of public relations. Or of publicity.

What is the difference? Well, no one seems to know. But generally publicity consists only of efforts to spread a name or a message in a favorable way, while the public relations counsel presumably has to do with formulating the message and deciding what the name means. For an industrial corporation this is important: if Majestic Asbestos puts up a plant in Crawfordsville, Indiana, public relations counsel may advise management to build a hockey rink for teenagers in order to create an impression of good-neighborly concern that will take the minds of local citizens off factory smoke and noise. Publicity is simply the means of telling the world that the hockey rink is there and, incidentally, who put it there.
In other words, the corporation finds itself inevitably involved with the public, and needs counsel to make sure that the involvement is pleasant. Unavoidably having a public to relate to, industry needs officials to stand guard over the relationship. Designers, on the other hand, are likely to crave public relations not because they have a public to relate to, but because they want one. Consequently what they usually really want is publicity, publicity that will, in the language of press agents everywhere, "project a favorable image." Publicist Alan Harrington has defined public relations as "the craft of arranging truths so that people will like you." While many PR people we talked to felt that this projected an unfavorable image of *them*, their own definitions were not appreciably different, except in length ("It is the process of projecting a desired image, through communication of the client's activities, to a segment of the population whose favorable response would be profitable to the client," etc.)

As far as industrial design is concerned, there was not much activity that could truly be called public relations until 1941 when Raymond Loewy hired a blonde publicist named Betty Reese. Miss Reese, who candidly refers to herself as a press agent and not as a public relations counselor, found Loewy a press agent's dream. "He has a marvelous story sense," she says. "He *imagines*. If I know anything about publicity, I learned a lot of it from Loewy."

That she does know something about publicity is evident in one of the most frequent complaints American designers make; to wit—the public, and many industry people, *still* think of industrial design in terms of the one designer they can name. Among editors she is one of the most highly respected business publicists in the nation, and her success at RLA has had its effect on the way other designers think of publicity. One metropolitan office a few years ago wanted to hire a public relations director, but refused to interview any men for the job on the grounds that "Raymond Loewy has a woman, and that seems to be what's needed."

According to Betty Reese, what's needed is the ability to interpret — to interpret the designer to the world and to his clients, and sometimes to himself. "It's not that I was a woman," Miss Reese (who is very much a woman) explains, "but that I was a pro when I arrived at RLA." She had worked for BBD&O as a publicist for the "Cavalcade of America" show, had also done publicity for the 1939 World's Fair, and in fact had written feature articles for the *Cleveland Plain Dealer* while she was still in college. What she first did for Loewy was to get him on radio programs ("I knew everyone in the business, and Loewy was interesting"), and a lot of the early publicity was built around Loewy's personality, partly because he was so extremely colorful and partly because during the war years not much was being designed, and what *was* being designed was confidential.

To many designers, the ultimate publicity triumph was *Time's* cover story on Loewy, and at least one designer has told his public relations director frankly that what he wants is to have *his* face on *Time*. Other designers have stated their aims with at least equal aggressiveness. When a young PR man asked his designer-employers what they wanted from public relations, he was told "We want to be the world's most famous design office." They also wanted a list of stories definitely scheduled for publication. (Good PR people repeatedly stress that all they can promise is effort.) One of the most pretentiously conceived aims was that of the designer with a very small office who outlined his goals thus: "I want someone like Robert Sherwood, someone to do for me what Sherwood did for Roosevelt." The publicist didn't take on the client, partly because he realized that he was no Sherwood. "But there are an awful lot of designers," he said, "who can't distinguish between themselves and Roosevelt."

The public relations man's view of what a designer should

get from PR is often no more modest. "PR does for a designer what a designer does for a client: makes one appreciably different from another," a free-lance publicist asserts, and perhaps it is this belief in the uniformity of designers that makes it possible for some publicists to move from design office to design office, proclaiming the superiority of each new employer with the same passion with which he proclaimed the superiority of the old. And with the same sincerity! For very few public relations people are cynical. Most are conscientious workers who feel that they could not do a good job for a client they didn't believe in. This seldom means that they reject clients, but it does mean that they manage to believe in the ones they have. And, if you are convinced that the only difference between two designers is the public relations program itself, it is easy to believe in the one who is your client.

Climate for an imperfect world

One broadly experienced designer's publicist feels that public relations, while it cannot sell a client's services, can set the stage for sales, by creating "a climate of public opinion." Another agrees that his services can do this but adds with disarming candor: "I'm not sure that I favor public relations — in an ideal world, it wouldn't exist. But we have to face the fact that everyone needs it because some have it, and I can't stand the thought of a really talented designer not getting the credit or the business he deserves."

A number of public relations people explain that since designers are "thing-oriented," rather than "word-oriented," they need someone to give their thoughts shape and even wings. Others explain that because designers are "both visually oriented and verbally oriented," they need a publicist to distribute their words, just as they need marketing personnel to distribute the products they design. Public relations men themselves tend to be orientation-oriented — more interested in directions and points of departure than in the cargo that is actually making the trip. As a result many feel that what the designer has to gain from PR is *direction* —"We can give him a sense of where he has been, and where he ought to go. We make an image for him."

Betty Reese puts it more simply. "I try to help the designer define what he is doing; the field has changed so much that he doesn't always have a chance to keep up with himself. But my main job is to interpret him to others. There is no one in industry with the title of 'Vice-President-in-Charge-of-Talking-to-Designers.' I have to answer the question, Who *is* this man who wants to talk to the president? And what does he do? A designer needs public relations help to describe his function because it is so inadequately described at present. The designer I represent is a good man doing a good job in the best way. Why *shouldn't* the public know about it? It seems to me to be perfectly legitimate for a good designer who is unknown to say, in effect, 'I'm tired of taking a back seat to my inferiors', and to hire a press agent to do something about it. His aim may be to expand his office. If his aim is just to get personal publicity, however, while this may be equally legitimate, he probably should not hire a public relations person, he should hire a writer, someone capable of writing an acceptable story about him. Most press agents aren't particularly good writers — at least I'm not."

Good stories sell themselves

The industrial designer may want public relations services because he wants his business to grow, or because his ego already has. Or he may want it simply because he gets too busy personally to handle requests for photographs and information. Whatever his reason, there are several ways of having the PR function performed. The simplest kind of PR is do-it-yourself, and even professional publicists concede that rudimentary publicity — such as sending out photographs and captions of new designs, or announcing a change in staff personnel — can be handled by any intelligent secretary. If she has phone presence, she doesn't even have to write; she can just call up the editor, and whether she knows him or not is inconsequential. As one PR man points out, "If you have a good story, you don't have to 'know' anybody." Though of course you do have to know what a good story is.

If you happen to be in the position of designer Leon Gordon Miller, do-it-yourself PR can apparently be just as satisfactory as the kind you retain from outside. Miller's public relations are handled by his wife, who is an ex-journalist. Over the years she has also learned most of the other techniques of the craft. Mrs. Miller has not always done her husband's PR; from time to time they have retained outside agencies. And she would relinquish the role if they could "find a soul who understood the technical and esthetic subtleties of a designer's work" without requiring lengthy explanations. The failure to achieve such understanding is the most common handicap of designers' PR men.

Most designers do not have journalist wives, and most want more sustained publicity than a secretary can perform in moments between her other duties. For a small- or medium-sized design office, this creates something of a problem. Public relations costs money, and good PR is not cheap; one publicist even hinted darkly, "If you have $500 you get a $500 job." Furthermore, most modest-sized design offices simply do not produce a sufficient volume of newsworthy work to keep a staff PR person busy. The commonest solution is to retain outside help on some sort of part-time arrangement. Generally, this is a small one- or two-man agency, or a free-lance publicist, who works a certain number of hours a week, or days a month, billable against a yearly retainer. However, there is nothing rigid about the schedule of this work-week, or work-month. It varies as the job requirements vary — if a big story is in preparation, the time spent on the job naturally increases. Saul Schiefman says his agency spends "an average of 30 to 35 hours a month" on the Lawrence Wilson account, but that "some months it goes way over this, and some months it's just a fraction."

This hourly rate may not be typical, but the pattern is.

The cost of this kind of part-time PR by a small agency or a freelancer seems to vary with the source and the job. One agency says that "other agencies will charge $25 an hour, or $1000 a month, but you can get us for less"; another says that its fee is $500 a month. One free-lance PR man quoted a per diem rate of $20 an hour; another would give only a yearly estimate for part-time work: $3000. One agency, although it did not mention prices, was candid about how it figured them: "It depends on three things: 1) the volume of promotable work, 2) the time it will take to get it into the press, 3) how hungry we are. Most of our fees are arrived at empirically, in discussions with the client. They are based on what the traffic will bear." All of these charges are "plus expenses," but only one man gave an estimate on these. He said his averaged $50 a month per client, but that this was rather low as PR expenses go — mostly because "I don't like to take editors to nightclubs." In talking price, several PR people said that they thought even these comparatively modest fees were beyond the range of very small offices. Two of them suggested that young design firms would be better off retaining PR help on a single-project basis — "If they're just starting out they don't have that much to publicize, anyway." Two others suggested that several small offices might band together to retain one full-time publicist to do routine news releases for all of them, and one or two feature stories a year for each. One estimated this would cost $1000 a month; the other would only place it "somewhere between $6000 and $20,000 a year." Neither mentioned the fact that this might pose a conflict-of-interest problem; but one thought that designers would "never buy such an idea — all their secrets would leak out."

Almost no design firm — large or small — seems to use the big-name public relations agencies, for the simple reason that their fees are more than almost any designer can afford. And if you retain a small agency or a free-lance publicist, you do not, of course, get "big-name" wire-pulling. You do get *something*, but to judge from the responses of some PR people, it is not always clear what this is. One PR man says that the most important thing he does is "sit and talk" with his client. "In ways, I'm a talking psychiatrist. We sit and talk for hours — not about public relations — but about politics, Ingmar Bergman, etc." Another says that his agency is "building a corporate image of the designer" and that almost every month they "construct a progress report" on this effort. A third says modestly that "actually, we don't do anything. Our client does it by doing such a creditable and professional job." And a fourth says, "What does the designer get from me? Well, that's a stumper."

Fortunately some of them are able to shed more light on their activities than this. A PR counsel will write releases and send them out, develop and peddle story ideas, act as liaison with the press, and provide myriad fringe services. One of the most meaningful things PR does, in the opinion of its practitioners, is to direct all these various publicity efforts toward a specific goal. To implement this, the PR counsel will frequently prepare for the designer a publicity program. Usually this is done after he is retained, and after he has had sufficient time to become oriented to the designer's operation. But this is not always the case. One free-lancer prepared a nine-page prospectus for a designer, outlining a course of action which he proposed to follow if he got the job.

Where to and what for?

The best public relations programs seem to develop from a fairly clear idea, on the part of the designer, of why he needs publicity and what he wants it to accomplish. A prominent designer whose work had become associated in the public mind exclusively with one field, told his publicist he wanted it known that his office did many other kinds of design. He specifically wanted publicity on two or three of these, and he knew exactly why: because he felt they were fields in which design opportunities were going to expand enormously in the next few years.

PR people think that this sort of clarity and candor makes it much easier to do an effective job and, conversely, that the lack of it makes a good job almost impossible. One PR man says there are too many designers who think that PR is a panacea for anything — from internal organizational problems to a problem personality. As if to bear him out, another PR man tells of being retained by a designer who told him that he had a 21-man staff, was the third-ranking designer in the land, and wanted this fact publicized. "But," says the PR man, "we were never permitted in his drafting room." One day they peeked, and the place was empty. "Maybe they were all out to lunch," he concludes, "except it wasn't lunchtime." The case is extreme, but represents the most serious obstacle to a satisfactory relationship between PR man and designer. If designers are unwilling to describe the status of projects or to evaluate truthfully their own previous accomplishments and present position in the profession, their public relations representatives have no trustworthy materials from which to fashion an image. The PR man may manipulate truths, but he wants truths to start with.

Bleachers versus the bench

All outside PR people think they offer one advantage over internal PR: because they are not immersed in the designer's office, and are not dependent on him for a livelihood, they can be more objective. They think this gives them two points of superiority: they can see things in perspective, and when they see things wrong, they are free to talk about them to the designer. Internal PR people turn these arguments around, and make them read the other way: if you are not on the premises, you do not know what is going on; and you cannot do a good job unless you are intimately and daily involved with the organization.

It is probably safe to say that the superiority of one over the other depends not so much on services rendered as

it does on services required. If you haven't a large enough office to keep a full-time PR person busy, it does not make much sense to hire one. And corollary to this, you probably could not afford him. The figures vary, but most of them seem to hover between $15,000 and $20,000 a year. One PR director says "you cannot begin to talk on a professional level" for less than this. Another said that you might find someone for $5000, but it is much more likely that you would have to pay $10,000. One free-lancer said that he knew good PR people who were working for less than $10,000, but he hastened to add that he thought they were being underpaid.

Most PR people think that finding a PR representative should not be too difficult. Several said they had been recommended for their jobs by editors; others thought designer's clients might be a good source for leads. "You could ask other designers," said one. A freelance publicist thought it was silly to talk as though finding the "right" PR person was like finding one single, perfect jewel. "For any given design office," he said, "there are probably five or six PR people who could do an equally professional job." But choosing between them might be a problem, he added. If you want concrete evidence, there is only a scrapbook, which is hard to evaluate in terms of your own requirements. To this he added one final thought. "The most important thing is compatibility."

The odyssey of one young designer in search of public relations counsel makes a dissenting footnote to all this. When he first opened his own office he hired a friend, who was working for a small publishing house, to do occasional publicity for him, but the friend found that preparing the material for large projects took too long, and that the small projects weren't newsworthy — at least, they didn't seem to get into print. After this, for a time, the designer tried doing his own publicity — getting together photographs and sending them out with pertinent information. But this was not very satisfactory either, for the designer himself didn't have that much free time. Finally he decided to see about retaining professional PR, and the first place he tried was the mammoth firm of Carl Byoir, an inquiry that began and ended in a phone call. The Byoir representative said they had never handled an industrial design firm, but thought they could certainly do the job: their basic minimum retainer would be $60,000 a year, with another $60,000 for expenses. Someone next suggested to the designer that he try a medium-sized agency, so he did. They sent one of their vice presidents up to see him, and a fairly lengthy conference ensued, in which the agency's man outlined the sort of program he thought the designer needed. It was quite comprehensive, and the cost would be $25,000 a year, minimum retainer, plus $4000 or $5000 a year in expenses. Bloody but unbowed, he next tried a free-lance publicist who was said to be "quite good." The publicist was interested but said he could not take on a designer account at the time, because he already had one. However, he had a friend . . .

Most of a designer's publicity effort is aimed at the press — PR people spend most of their time and effort on getting their clients into print, and their methods are both "subtle" and direct. The former would include pseudo-social contacts with editors ("It never hurts to take an editor to lunch occasionally"), gift-giving, and the practice of first-naming editors right from the first hand-shake, or even the first telephone call. But unless all these things are done with great skill, they are apt to boomerang. In general, the direct method works better.

The basic tool of overt publicity is the "news" release, but there seems to be a considerable difference of opinion on how valuable it is and where its value lies. Some PR people think it is the necessary foundation for a program, not productive of brilliant results in itself, but still, essential background. A free-lance consultant, for instance, reports he spends one-half of his time writing, and one-half of the writing time is spent on the standard release. Others think of it as a useful extra. Donald Keen, at L & M, sends out releases — "but never in mailings of less than 200" — as a sort of foot-in-the-door measure when there are no big stories brewing. Still others think it has almost no worth. Brace Pattou hardly ever sends out any for Latham-Tyler-Jensen, and his largest mailing to date, 40, he thinks was "many too many." Judith Randal agrees with him; she spends more and more time on "custom" stories, less and less on bulk releases. Betty Reese finished off this spectrum of opinion by declaring that a well-written letter can take the place of most releases.

No doubt one of the reasons the publicity release is looked upon with disfavor by PR people is that editors look upon it that way, too — not for what it is, but for how it reads. PR people have been spanked in public often enough for the outrageous language of PR releases, but the morning's mail still brings the usual quota of publicity material that hides its message in a mulligatawny soup of jargon. Perhaps it is worth belaboring a few points: On an average day, an average editor's in-box contains about 3 inches of mail, and 2¾ inches of this is releases. It has to be read rapidly and judged quickly, and if its language or length makes this difficult, it is likely not to be read at all. In fact, if a letterhead becomes associated in an editor's mind with unreadable releases, the source alone will be sufficient reason to throw it away.

Putting the image into print

It is also important to know where to send things. One of the desirable features in a well-planned publicity program, directed toward a specific image or result, is a job-sheet which includes, among other things, a list of the publications in which this image can be exposed most effectively. This is called a "media-mix." The favorite targets seem to be business magazines and the business pages of newspapers. In fact, some PR people are not interested in appearing anywhere else. Donald Keen directs almost all of L & M's publicity to magazines like *Business Week* and *Nation's Business;* Don Holden says he would rather see a story on the financial page reporting that the client's stock went up

15 per cent in the last year, and mentioning Henry Dreyfuss' name only in the last line, than have a Dreyfuss profile on the woman's page. Madelon Bedell regularly sends out releases on Harley Earl Associates to the business editors of 350 newspapers with a circulation of 100,000 or over, and to business syndicates, advertising columnists, and marketing columns. But she thinks that exposure in these media has value only as prestige, because the factual information, as it appears in print, is apt to be superficial.

Inaccuracy (which often just means unfavorable) is also a charge leveled at stories in the major weekly news magazines and some PR people have mixed feelings about working with them. Although the prestige is theoretically enormous, you never can be sure what they are going to say. For exactly the opposite reason, most publicists think trade magazines are important—because generally they permit PR people to check copy. Madelon Bedell also likes the "trades" for other reasons: they go to the middle-management group that influences top management, and they are often read by editors of consumer magazines for story ideas.

On the consumer magazines—a catch-all category which includes such publications as *Harper's, Atlantic, The New Yorker*, women's and shelter magazines, Sunday supplement magazines, the *Saturday Evening Post*, and the *Reader's Digest* — some designer's PR people are lukewarm. Not that exposure in them isn't desirable. It is. Donald Keen says, for instance, that if the *Reader's Digest* were interested in one of his story ideas, he would be willing to pay a top-notch writer to do the story for them. But this is one of the objections several PR people claim they have to consumer publications: they feel that in order to make a story acceptable to a magazine that would normally not be interested they would have to hire a free-lance author to write and submit it. And many — but of course not all — believe that their chances are slim of coming up with a design office story of sufficient general interest.

Releases and story ideas may also be sent out to a small collection of fringe lists which include free-lance feature writers, columnists, and women's page editors. Women's page stories, which are thought by some PR people (generally men) to be pointless, are thought by others (generally women) to be dark-horse publicity. Judith Randal says they are read by the wives of the men designers want to reach, and Madelon Bedell says that product stories on the women's pages of the *New York Times* and *Herald Tribune* have "provoked a surprising response from businessmen."

Recipes for a feature story

PR people may disagree on the value of the news release to a designer's publicity program, but they are unanimous on one thing: feature stories are the meat. Betty Reese, who has never written a program for RLA ("I guess I'm not program-minded") observes that feature stories are just about the *only* stories in design: "Not much happens in design that can really be called news. The news stories connected with a design belong to the client, not to the designer — although naturally the designer's name can contribute to, and benefit from, the news publicity." In the prospectus that a PR counsel prepares for the designer, there is usually, in addition to a "media-mix" a "story-mix" or its equivalent. This is a list of the kinds of stories valuable to the projected image. Madelon Bedell's story-mix for Harley Earl covers just about all the possibilities: case histories, "think pieces," picture stories, profiles, interviews, client-designer stories, round-up reviews (participation in reviews of a specific design field). Picture stories are generally conceded to have the most impact, but "think pieces" carry more weight since they are generally by-lined, if not written, by the designer. Case histories are effective in a special way: although they may hit a limited audience on first exposure (which is usually in the "trades") you can "get a lot of mileage" out of them by purchasing reprints and using them as direct-mail pieces to prospective clients.

In a small or medium-sized design office, there are naturally only a limited number of feature-story ideas in a year's time, but there is a technique of making the most of them — it is called "milking." To milk a design story, you offer it first to the publication in which you are most interested in appearing, for instance, *Business Week*. After that, it can be "angled" for various other publications whose fields may cover the specific processes or materials used in the design, or it might be offered to the internal publication of one of the big industries whose interests are in some way related. These "house organs" — such as *Iron Age* or *Steel* — are frequently used as mailing pieces by the industry itself, and go to the very audience that designers want to reach, i.e. businessmen. Finally, the story can be milked dry by sending out this published material as reprints. Naturally this is an ideal; not many stories can be expected to be this productive.

The spoken word, but where?

The other mass media — radio and tv — are of practically no interest to designer's PR people. The consensus is that only one or two programs, like *Open End* or *Person to Person* are sufficiently dignified. One publicist thinks that most guest-participant tv shows "make people look like fools" and another says that "they don't reach the same concentration of high executives" as a good magazine. There is a somewhat allied field, however, which PR people think provides excellent publicity, although they have a few cautionary remarks about how it should be used. This is public speaking. Quite a few designer's publicists make a regular practice of approaching various business and professional organizations about speaking engagements at their meetings. Top priority goes to groups like AMA, but Junior Chambers of Commerce and even Rotary are also considered good bets. Some like schools, too, but one PR man thinks that speeches to design students are a dead end because they are already sold on design. However, he adds that a speech before engineering students might be useful; eventually they will go into indus-

Use of the designer's name in advertisements is about the only form of public relations that still employs the old concept of industrial design as magic.

This "frank-talking" article about Brooks Stevens was regarded by many designers as "bad PR" for the profession. Stevens agrees that language (not his) was unfortunate, but feels there is nothing wrong with public admission that industrial design sells.

The designer as a tastemaker appears in magazines like Vogue, *especially if, like Charles Eames, he has a colorful personality that makes good human interest copy for general readers.*

George Nelson's remarks made woman's page of New York Herald Tribune. *Its readers, according to Madelon Bedell (PR for Harley Earl Associates) include many businessmen.*

Courtesy TIME; copyright Time Inc. 1949

Time's *cover, considered by some to be the ultimate accolade, has carried portraits of consultant Raymond Loewy and Ford's George Walker.*

An article by Dave Chapman in Home Modernizing *is reprinted, bound into a facsimile cover, and, accompanied by a memo on its author, is sent out as a PR mailing piece.*

The trade magazines are important. In the food field they are read by prospective packaging clients. This typical brief item shows a new Jim Nash graphic treatment.

Designer Ray Sandin, of Hotpoint, appears here as a harbinger of the-world-of-the-future. Prognostications and predictions can be responsible, as they are here, but are often reckless and wild.

Lippincott & Margulies' mailing piece Design Sense *presents designer as scientific businessman, illustrates text on symbols partly with graphics by other design offices.*

tries and might recommend designers to their firms. And one PR counselor feels there is no point in talking before meetings of learned societies whose members are all over 60, since the designer's words would be dead in five years. Of course, this is not exactly true, since speeches can be milked, too, as subjects for news releases or even as material for full-length feature articles. On the delicate question of ghostwriting most PR people disclaimed authorship of their client's speeches, but admitted they helped with "polishing."

Other good, if infrequent, publicity material can come from such things as joining professional organizations ("it always helps to socialize"), exhibiting work (especially in museums), entering contests (if they are dignified), jurying contests, and serving on commissions and committees. And, speaking of the public relations value of social contacts, Polly Miller adds that "from what I can gather, it's also handy to have yachts, islands, ski resorts, villas, etc."

Keeping the client happy

The public relations counsel is concerned not only with how the designer looks to the world at large, but with how he looks to the client who has retained him. For a contented client can be expected to continue to buy the designer's services, and furthermore, to spread the word among his associates. Leon Gordon Miller says: "The satisfied client is the single, most important element in the entire public relations structure. The pleased client becomes a sort of public relations agent himself, both in recommending us to clients and serving as an enthusiastic reference."

To make sure that the client, once he is secured, stays happy, the PR man may perform such tangible duties as preparing the slides and writing the text for a presentation; or such intangible duties as acting as a buffer between designer and client. Says one designer ruefully: "We've lost a lot of clients because I lose my temper. A PR man could smooth things over until I cool off." In some cases, the public relations director, especially if he is a staff member, may sit in on conferences with the client. (In his preliminary recommendations to his employer, one public relations director emphasized the importance of his being introduced as a member of the design firm's management, so that he would "carry weight in client relations.")

Where the client has a public relations department of his own, the task of the designer's PR man becomes more complicated. The client may suspect him of planning to grab all the credit for the designer, and this suspicion must be allayed if the designer is to get any publicity at all from the new product. (The public relations man's nightmare is the occasional client who forbids any publicity at all; one freelance PR consultant reports that he dropped a design account because the firm's principal client refused to be identified as a client, and the strain of writing abstract releases became too much.) Manufacturers, in general, do not relish descriptions of the dismal state of their product before the designer transformed it: they prefer to read about a magnificent can opener which is now even more magnificent — and, incidentally, John Doe designed it.

One public relations man was appalled one day, while he was happily reading a flattering story about his designer client in a mass-circulation magazine, to see that the designer was credited with tripling sales on an appliance that had hitherto "been gathering dust on the dealers' shelves." The PR man sprang to the phone to assure the manufacturer that he had nothing to do with the derogatory remark. Fortunately, he remembers, the manufacturer "had not yet had time to read the story in depth," and was delighted with the publicity. There are designers who have lost accounts for publishing a candid report on the faults of the product before it was redesigned. Usually, however, the manufacturer is given an opportunity to pass on any publicity emanating from the designer's office, and in some cases the manufacturer's PR department even writes the release that the designer's PR man sends out.

The more usual arrangement, however, is for the designer's PR counsel to volunteer to "help" the manufacturer with his publicity. A consultant PR man explains this altruism: "If I don't help them, they're going to do it themselves, and it's not going to be my story." Several designers use this PR service as a kind of fringe benefit to attract clients. (The cost of this is not billed to the client in most cases, but is absorbed as overhead.) But, on the other hand, Betty Reese says, "If we can enhance the company's design program, this is our job. And after all, the interpretation of design is part of the design function. But my services as a publicist are not at the client's disposal. We're in the design business; we are not in the business of manipulating design publicity."

Help may be of the unobtrusive variety: a PR man recently, feeling that the manufacturer's photographs were less than just to his client's design, had a rush photography job done and sent the handsome results to the manufacturer, with a note that these were some extra photographs they had found cluttering up the files, and perhaps the manufacturer could find a use for them. In other cases, the designer's PR director may even work with the client's advertising agency or lecture to his salesmen or dealers.

The advantage to the designer in working with the manufacturer's own publicity effort is, obviously, that the manufacturer is usually both richer and better-known, and can afford public relations gestures that are beyond the ability of smaller design offices. (One designer who works on a royalty basis and who has considerable influence with his clients even specifies in the contract that the client will pay for a PR program for the new product.) While some design firms say sternly that they insist that any publicity which mentions their names must be submitted to them for approval, it usually takes considerable prodding on the part of the designer's PR agent to get the manufacturer to acknowledge the designer publicly. Designer's PR people claim

that manufacturers try to play down the outside contribution to the product, and this is confirmed by a former member of the PR staff of a giant manufacturing company. (One of the arguments for an outside PR consultant is that it is said to be more dignified for an outsider to call up the manufacturer and say, for example, "I'm delighted to hear that your company has received an Oscar for your new gasket; may I send you some background material on Tweedledum Associates, who were responsible for the design?") An experienced PR counsel will raise the question of credits with the manufacturer at the very beginning of the project, to insure that the designer's name will be mentioned in all subsequent publicity about the new product.

Designer's PR agents, in turn, advise that the client's own management and staff be credited at every possible opportunity, and that the greatest care be taken not to slight any of the manufacturer's representatives who might in any way have been concerned with the project — bread cast upon these waters comes back a hundredfold, they estimate. And one PR man expresses his criterion for any publicity: never let anything appear that you wouldn't want to send a clipping of to the president of the client company.

Salesman without sample case

Although his whole activity is ultimately directed toward more business for his client, the public relations man may also act specifically as a salesman. In design offices where he must fill a double role on the staff, this is his most natural second function. As publicist, he focuses the limelight and sets the stage; then, as salesman, he enters to make his pitch. But even if he is not out calling on prospects, there are certain direct overtures to which he can contribute. In fact, one of them says that this contribution is the difference between a press agent and a public relations counselor.

The most generalized of these sales overtures is the direct mail piece, and the most generally acceptable kind of direct mail piece is the reprint. One experienced PR counselor says candidly that as far as he is concerned this is the major value of press publicity. Because he intends to reuse the publicity in reprints, he concentrates on specific, detailed case histories, although he finds, he says, that editors are increasingly bored with such stories. ("They want gimmicks," he says bitterly.) Another PR representative says that he will work extremely hard on a story for an obscure trade journal because the resultant highly technical article describing the problems of designing for a particular production process will serve as an impressive salesletter to management. To the reprint is clipped a note of the "just-thought-you-might-be-interested" variety—"very soft sell," he says, happily contemplating his handiwork.

By the code of the profession, reprints are the only legitimate kind of direct mail piece, although the letter containing an out-and-out sales pitch exists in a half-light of professed disapproval and increasingly common practice. The PR man, hired largely for his verbal ability, is the natural person to write these letters. He is also the person to write brochures about the design office and its work: brochures that may range from a modest flier to a hard-cover folio costing $10 a copy to print. ("But still cheaper than putting a salesman on the road," as the PR man who had put together one such volume said.) Generally he is also responsible for preparing mailing lists and keeping them up to date.

Not everyone feels that direct mail is the most efficient promotion method. Philip Lesly, one of whose clients is the firm of Sundberg-Ferar, says: "Of the techniques available to an industrial designer in his promotion program, direct mail is one of the most expensive and, on a cost-per-impression basis, one of the most difficult to evaluate. Decision-makers for industrial design are busy top executives who generally are shielded from the mass of mail material that pours into their offices by a battery of assistants and secretaries. It is seldom, proportionately, that a direct-mail piece—no matter how good—actually gets through to the top brass of the prospect company. This means that the direct mail piece should be expected to reach the design department, the engineers, the sales executives, etc. . . . But it is a mistake to allocate a major portion of the budget to direct mail at the expense of more productive activities."

The PR director, once he has some experience, may offer specific advice on selecting prospects for cultivation, and can help with that cultivation. In a large design office, where films are used for sales presentations, the PR representative may arrange for the actual filming and will almost invariably write the script. Some designers feel that sales presentation is one of the most important jobs of the good PR man. Recently a designer failed to get a job because, as the prospective client explained to him, although his approach to their problem was right, his graphic presentation was too unsophisticated. He feels that a public relations man could have done the trick.

Part of the PR function is to know what's going on in other offices and who's doing it, and an alert PR man can keep an eye out for sales techniques that other designers have found effective. He may be able to use his past contacts to find customers for his clients, especially if he has had any experience with business organizations. Here, if he does not act as a salesman himself, he can at least effect introductions. One advantage of an outside consultant is that his several accounts can sometimes work together advantageously: one consultant, who handles publicity for both a design and an architectural firm, has occasionally brought them together for a common sales presentation to a client who needed a big job done.

Is everybody happy?

Not all the PR agent's energy is directed outward: He must devote a good portion of his attention to "creating a

favorable climate of opinion" within the design office itself, so that the employees will like their boss and their boss will like his PR man. The public relations director is sometimes handicapped in his relations with the designer by not knowing exactly what his status is or how much authority and responsibility he is expected to assume. As both publicists and designers point out, the designer should decide first what he wants his public relations representative to do, and then he should let him do it. PR men complain about being pulled off one project and put on another so frequently that none of the projects got done. Designers frequently have only a vague idea of what goes into a public relations program, a haziness typified by the experience of the PR man who started work with the single concrete instruction to keep the photo file up to date.

Once he knows his client, the PR man asks him what he wants to be. This is the most important question publicists say they ask their client, since the answer will determine the whole public relations program. In practice however, designers' answers seem mostly "to be rich and famous," or wordier variants thereof, and it is the task of the public relations man to decide the kind of fame. (One says he asks his clients at the first meeting: "Where do you want to be in ten years?" and if the designer says he wants to be still at his drawing board in a small office, the PR man tells him that he doesn't need a publicity program.) A newly hired public relations director usually writes a general analysis and program of action for his client, and in this he tries to define the firm and its most effective image. This image is determined largely by the material the PR man has to work with—for example, if a designer has a horror of ostentation and won't let a photographer come inside his house, there is no point in building him up as a glamorous, colorful celebrity. A problem here, though, is that a designer's fancy may be caught by an image created for a completely different person and want it for himself, inappropriate though it may be. ("So I said to him, 'Look, Joe, you're a thinker—you're not *like* that huckster I used to work for.'")

One image that PR directors have almost universally outlawed is that of the designer as artist. Convinced that the general public, and businessmen in particular, think of the industrial designer as "an oddball artist in a beret, starving in a garret" they are industriously doing their best to eradicate that picture, and replace it with the designer as a hard-headed, profit-minded businessman. The other day, a PR agent said, he caught a designer "talking intuitively" at a client presentation, and had to straighten him out. That sort of thing is effective sometimes, he explained seriously, but it won't catch the gold ring every time.

Sometimes, of course, there is no image to project because there is no design being done in the office. These slack times are the times that try PR people's souls. As one of them says resignedly, "Every PR person is sometimes put in the embarrassing position of having to write releases he knows should have gone into the waste-paper basket in the first place." (This, incidentally, is the most forceful argument against a young designer with no projects yet finished hiring PR assistance.) But even if there is work going on in the office, it may not be work that will serve as a basis for the kind of image the public relations program wants to project. In that case, the PR man may actually suggest design projects that will make good copy. ("Let's do the interior of a space satellite, to show we're progressive.") Or he may suggest the expansion of certain peripheral activities (market research, for example) that might give a special character to the firm. One public relations consultant told his client he should *think* more, since this would set his firm apart and serve as an identifying mark. The PR man then suggested ways to *induce* concept-thinking; seminars, memoranda, booklets. "Primarily, however, it is engendered by a willingness to devote time to plain thinking."

The PR counselor also feels responsible, often, for seeing that both designer and firm present a pleasing exterior to the community. One detail they are universally insistent on is that the receptionist answer the telephone in a genteel and musical voice. The designer himself may be patted into shape to meet his public: one publicist makes his client join all available neighborhood-betterment groups, and another, outlining his program for creating the Designer as Citizen, says, "And if I say he should prune his trees, he's got to prune those trees!" Or, more prosaically, the PR man may advise his client to answer his mail more promptly, or be more gracious to suppliers.

Depending on his familiarity with office procedure, the PR director may also act as an informal personnel director. Frank Carioti defines the purpose of his employee relations program at Dave Chapman, Inc.: "to give a man as much pride in being a member of a team as he might derive in personal satisfaction through individual accomplishment." This is the purpose of most activities directed toward employees: not only does a happy staff work harder, but in these days of de-emphasis of the colorful personality at the head of the firm, the image of an efficient team of specialists is becoming increasingly important. For this reason, PR directors try to be scrupulous in crediting all the designers who have worked on a project. (Besides, the client will be less likely to feel he has been slighted because the head of the firm has not personally undertaken his project if he is familiar with the names of other designers.)

The problems of public relations for the individual design office are multiplied in the case of public relations for the design organizations but, probably because there is a less direct relation between publicity and profits, PR for the professional organizations is generally on a loftier and more abstract plane. Neither the IDI nor the PDC employ professional PR counsel, although both wish there were room for it in their budgets. Instead, the officers of the association may serve as volunteer publicists, or members may be

drafted for special projects. Flolydia Etting, for example, has handled the publicity for the IDI Design Award Program for several years, and has by now developed a routine of professional efficiency. The ASID used to rely on volunteer help; now, says William Goldsmith, Chairman of the Public Relations Committee, "it is admitted that designers should not attempt to perform a public relations function for the Society as a whole; rather, this should be done professionally or not at all." In consequence, the ASID employs the consultant firm of James O. Rice Associates. In addition to publicizing the activities of the associations as a whole and, even more broadly, promoting the cause of industrial design wherever it appears, the design societies maintain a largely informal monitoring system to check any improper publicity created by an individual member.

The unsung company man

Although the professional societies sedulously avoid the appearance of promoting an individual member, work with the associations is practically the only publicity method open to the relatively unsung member of the profession: the member of a company design department. The company designer can turn to his company PR staff for help with a speech, and will find the PR men eager to hear his explanation of the merits of a new product (one company PR man says that he can understand designers much better than he can engineers), but he will not be able to persuade the PR people to single out either his own activity or that of his department in their releases.

The societies, of course, are not alone in feeling that their public relations program works for the good of all designers everywhere. Most designers' PR people talk about their educational mission, and how important it is that manufacturers should be brought to comprehend the meaning and benefits of industrial design. Some of them say frankly that they have found this to be good strategy: a number of businessmen's organizations, for example, have had unhappy experiences with designers making sales pitches instead of speeches to them, so that sometimes a designer, if he is to get himself before an audience of prospective clients, must promise that his speech will live up to its title of "Whither Design?" and will not contain a single reference to his own firm. Brochures, in the same way, are more likely to be read if they contain a certain amount of disinterested information, and one public relations man regarded as a professional triumph a general article on packaging by his client that did not once mention his client's firm. (The byline carried the notation that the client was an expert in the field of packaging, however.)

The debate about the object of public relations for designers reveals a fundamental difference of opinion regarding the extent of the public. Several designers say earnestly that they feel that they should concentrate on educating that major portion of management that has not yet heard about industrial design, rather than address their efforts to companies who already know its value. Laurence Sewell, who does PR for Alcoa's Forecast program, is of this group, explaining, "Until you build a market, there's little sense in aggressive competition." Members of the other party echo the designer who said: "The idea of getting ourselves publicized is that when a man wants design he will know our name and come to us rather than to another designer." And a free-lance public relations consultant only laughed when she was asked if she was conscious of her educational mission: "Sweetie, when you're paying for it by the hour, you can't afford to convert."

The man is the measure

Whether his aim is to convert the world or simply to become known in it, the effect of the designer's PR man is hard to measure. "The results are usually intangible," experts insist, "but they are there."

What can the designer do to make them as tangible as possible? For one thing, he can try to make sure that his public relations representative truly understands him, and truly understands something about design. Such understanding, in our experience, is rare among designer's PR people — an impression that is confirmed by editors of consumer publications. In all fairness it should be noted that a design office works on so wide a variety of projects that it is extremely difficult for a PR man to "master" them in the way that he can master a company's line. But where industrial design is concerned, most editors feel that there are only a few publicists who are first-rate in their knowledge of both the office they work for and the media they are aiming at; and they are likely to name the same few.

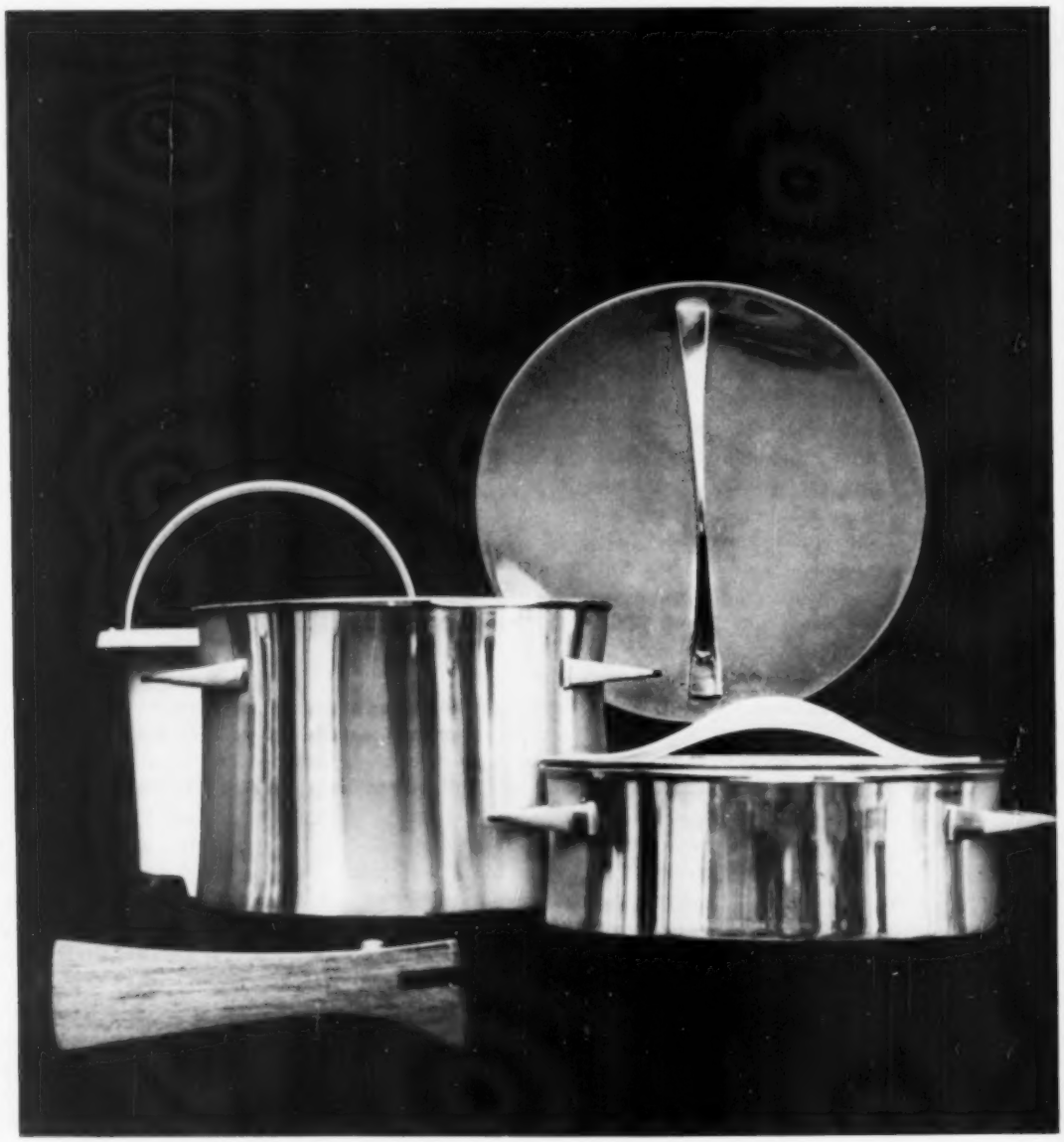
What these few have in common, besides general competence and intelligence, is a varied job. Each is involved in many other aspects of the design office's activity, and hence knows at first-hand what he's publicizing, although one harried combination PR and general troubleshooter complains, "In this office I wear so many hats that I don't always know which one I'm talking through."

Sally Swing, former executive secretary of the ASID, points out that although 75 per cent of what a PR representative does for a designer can be done by almost anyone, the other 25 per cent is so close to design itself that it requires someone extraordinarily sensitive and able, and usually expensive. In any case, it requires the designer's help. "When you hire a press agent," says Betty Reese, "you had better be prepared to spend a lot of *your* time working with him. For best results, take him everyplace and tell him everything —well, almost everything. If he's given the right kind of cooperation, industrial design can be heaven for any press agent, because it is so broad. There is no magazine in the country for which you haven't got at least a story possibility. Any publicist who ever thinks he has exhausted it as a subject is probably just exhausted himself."

DESIGNS FROM ABROAD

Designer Jens Quistgaard.

New Copper Pots from Denmark

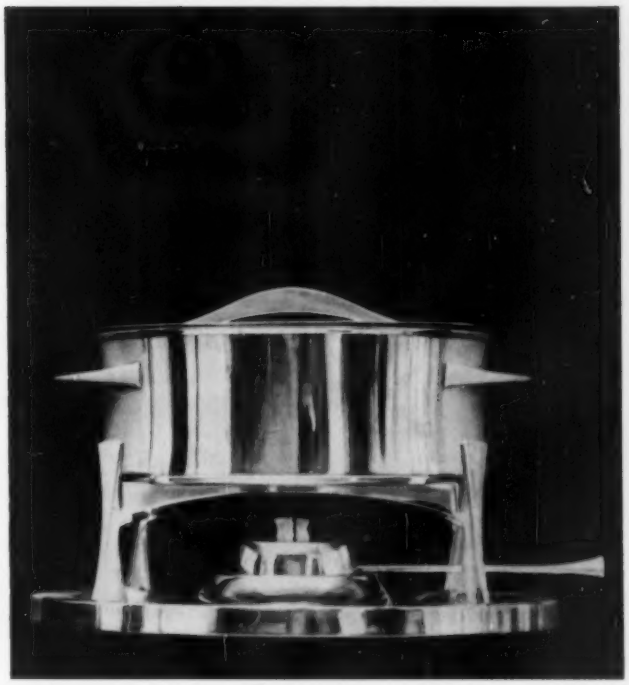


Beautifully finished, the Dansk copper pots have brass handles, smooth beaten rims and bevelled bottoms. Teak handle fastens with nylon pin.

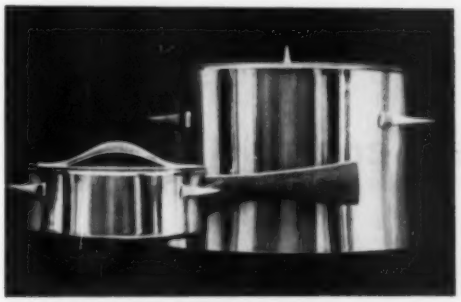
This month Dansk Designs, Inc., Danish-American producers of tableware, will introduce a new line of shining copper pots. Although there is a choice of six sizes, the set is like one of those magical, modular women's ensembles that ranges from shorts to evening dress through a series of additions, subtractions, and reversibles. The larger pots have porcelain inserts to make double boilers and casserole dishes; and the casserole dish fits into a stand to become a chafing dish. For economy's sake the consumer need buy only one lid for two pots of different heights, and the removable teak handle can be fastened to any pot with a small nylon knob.

The series was designed by Jens Quistgaard and has his characteristic subtlety of outline. The brass trivets, handles and feet appear to taper to fine lines in profile while they are really expanding in another dimension. This produces two, almost contradictory effects, as the eye delights in the delicate line of a handle while the hand is given something satisfyingly solid to grasp.

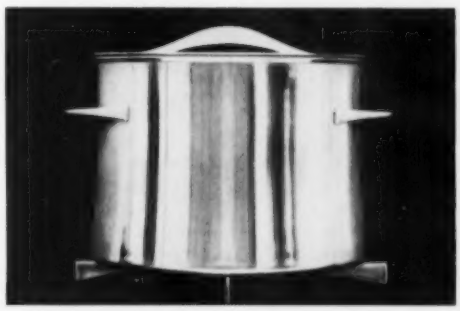
The young firm of Dansk was formed five years ago by Ted Nierenberg, a retired American industrialist, who took a trip around the world, ostensibly for pleasure but with the ulterior motive of finding an interesting new business venture. In Germany, Nierenberg was intrigued by an exhibit of Scandinavian products and went to Denmark to survey the field more closely. Among the designers whose work consistently appealed to him was Quistgaard, a freelance craftsman-designer. Nierenberg engaged him on a full-time basis to design a collection of tableware that would be modern, tasteful and harmonious. Together they have put out an average of two designs a year, manufactured primarily in Denmark but with a few items made in Germany. The first to be produced was the Fjord flatware of stainless steel and teak which had previously won a Lunning Award but had never been manufactured. After this there followed a succession of products in different materials: enamel ware with plastic-covered handles, teak bowls, lacquer trays, Flamestone china, and stainless steel eating utensils patterned in the tradition of silverware. In the future Dansk plans to experiment with glassware, new fabrics for tablecloths, and unusual glazes for chinaware.—M.D.



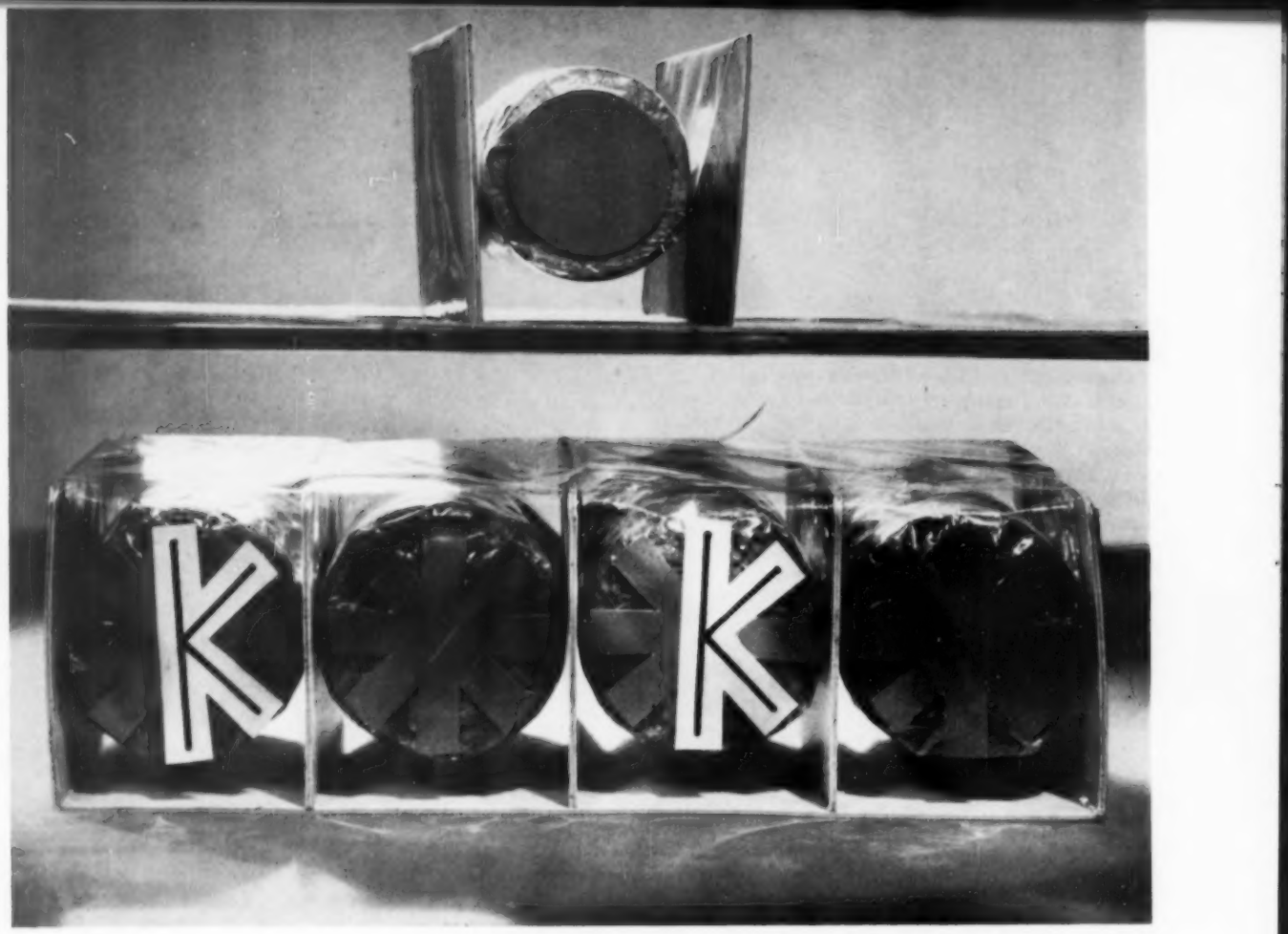
The chafing dish totals $89.75 *including lid, porcelain unit, brass burner, stand and adaptor.*



One-quart saucepan with lid, handle, $25.87. *Seven-quart casserole with lid, insert,* $48.85.



Brass trivet also used as an adaptor, $9.95.



Raymond Kern, PMCA, first place. Fractional cookie packs are suspended by means of a cellophane hammock slung between the sections of the tray (example at top). The unusual floating-in-air result gives this package special merchandising possibilities. The suspension system also acts as a built-in shock absorber by keeping the cookies away from the sides of the package. Design could be adapted to current packaging methods by addition of a single hand operation—dropping cookies into the slings.

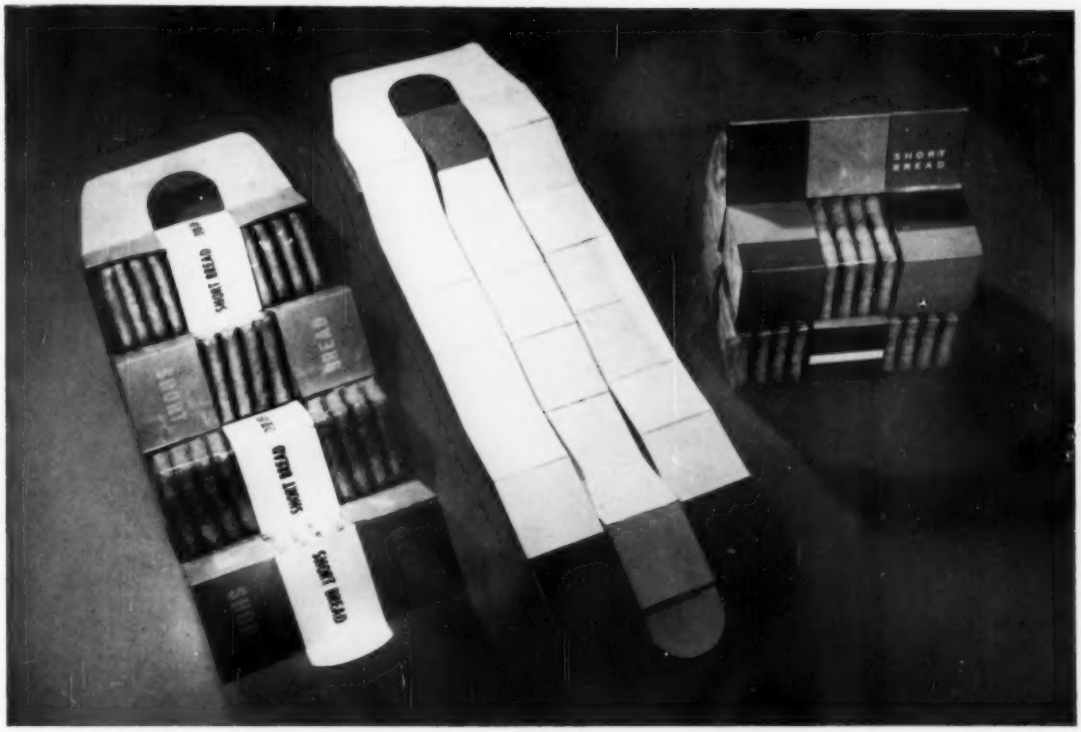
DESIGN STUDENTS LEARN HOW TO KEEP THE COOKIE FROM CRUMBLING

In an unusual packaging project, students at three schools use transparent film to create fresh ideas for the cookie industry

Design students at three schools are giving the nation's cookie industry an unexpected shot in the arm this spring. As a special project arranged by the film department of Du Pont, nearly 50 students from package design classes at Carnegie Institute, Illinois Institute of Technology, and the Philadelphia Museum College of Art have developed more than 150 packaging ideas for the cookie industry. The project was integrated into the regular course work at each school and students in the course could submit as many designs as they wished. From the schools' standpoint the project gave students nearly professional experience. And, since Du Pont is making the designs available to the cookie industry, it will provide students with possible commercial contacts and even future employment. At the same time the project has given Du Pont a chance to sell the possibilities of transparent film to potential designers and offer designs utilizing film to potential customers. Donald M. Laudenslager and William G. Fitch, package design specialists from the film department, began the project last fall with orientation sessions at the three schools. After discussing film types, they demonstrated film handling technique, explained the requirements

Frank Mahood, Carnegie, first place. This peel-away cylinder package zips down in much the same manner as the strip-away layer of a grease pencil. Cookies are fully protected from breakage, yet the top one is always visible through its cellophane overwrap. The package was tailored to help emphasize the individual wrapping of each cookie.

William Dobias, IIT, first place. Versatility is an important element in this package, which may be displayed from either a rack or, when folded, from a shelf. Dobias used a single oblong sheet of cardboard, economically die-cut into three strips and folded back and forth to allow four fractional cookie packs to be tucked securely between the folds.

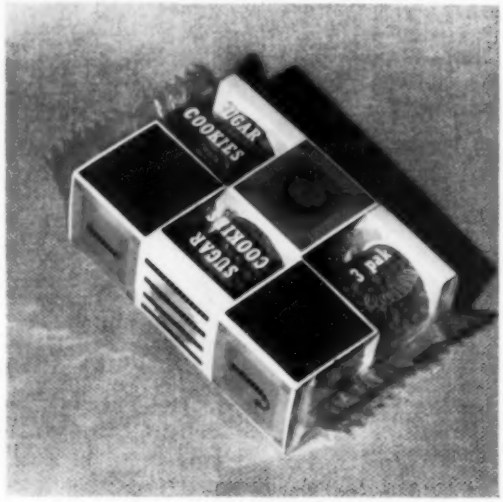


of cookie packaging machinery, and pointed out principles of effective package design.

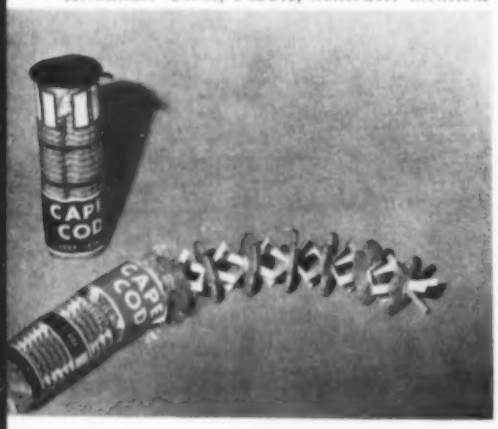
Each school had its own judging panel and its own set of winners. Students were encouraged to develop their designs along three lines: allow maximum visual inspection with minimum breakage and crumbling; make it clear that cookies have been packaged fractionally to assure freshness; design packages which the industry can accept as a new idea or as a goal for future packaging progress. Judging was based on rating in four areas: clarity of thinking; originality; function; surface treatment.

Lawrence H. Muesing, from the Package Designers Council, and director of packaging at Design Dynamics, Inc., and Thomas Hollingshead, laboratory director of the Biscuit Bakers Institute, participated in the judging panel at each school to assure uniformity of standards. Other judges were: IIT: Misch Kohn, associate professor; William Fitch. Carnegie: Howard Worner, instructor; Donald Laudenslager. Philadelphia Museum College: Richard Rinehardt, instructor; Mr. Laudenslager.—*A. F.*

George Buckler, PMCA, second place.

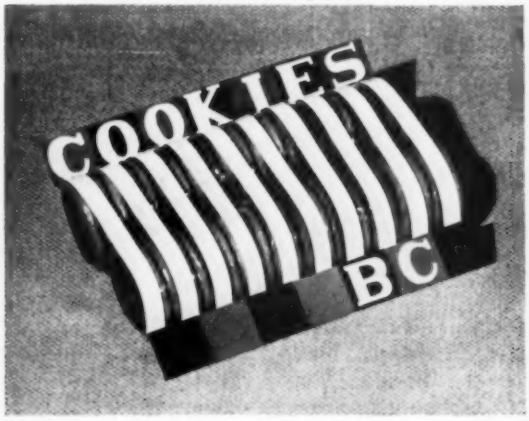


Alexander Ceres, PMCA, honorable mention.



Richard Ditsche, PMCA, third place.

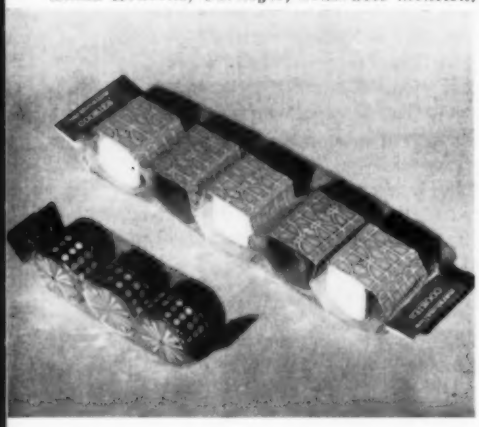
Gordon Walker, Carnegie, third place.



Leo Zayauskas, IIT, third place.

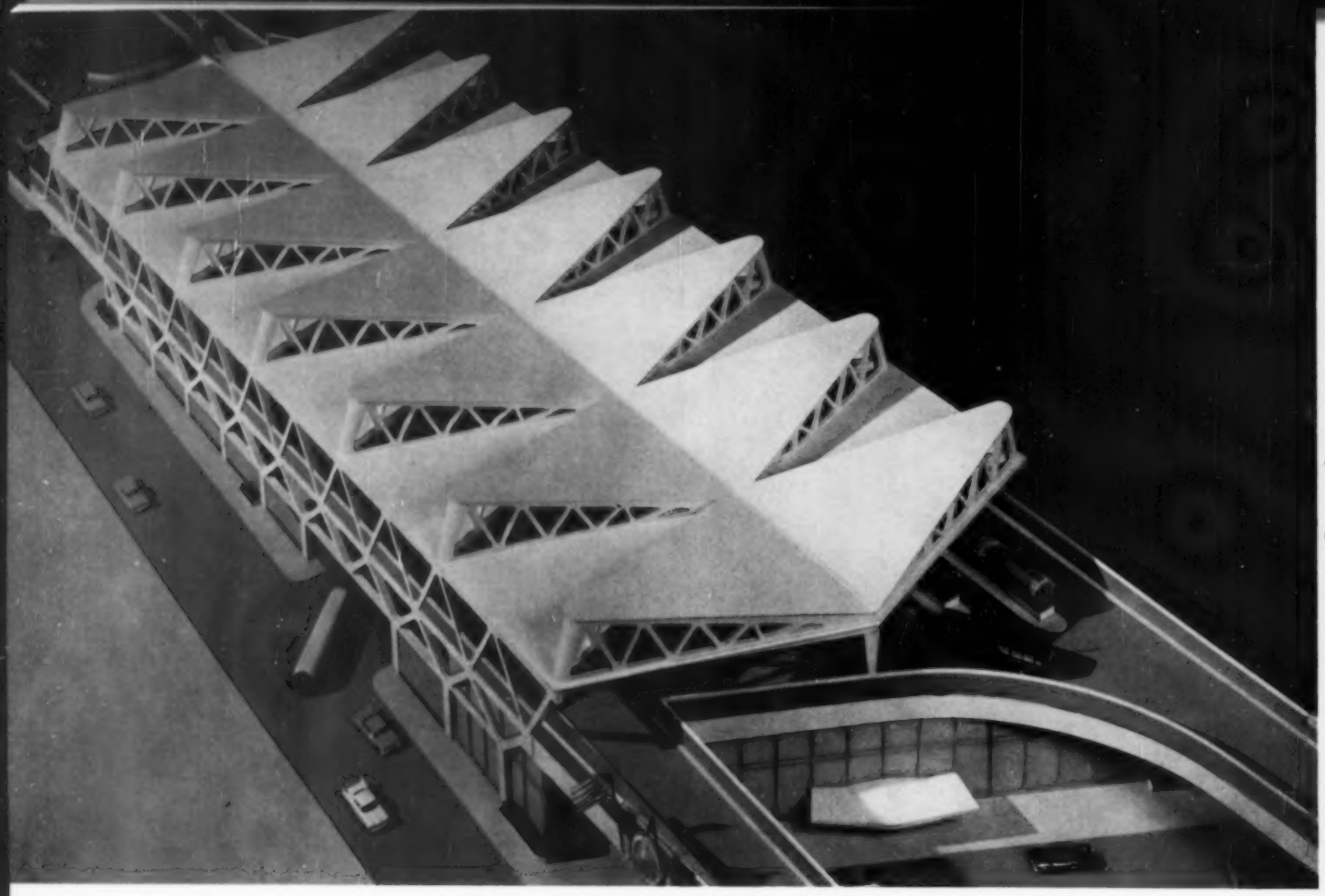
Ester Malabel, Carnegie, second place.

Linda Reubens, Carnegie, honorable mention.



Jack Damer, Carnegie, special mention.

Robert Evans, PMCA, honorable mention.



NEW ROOF BY NERVI WILL SHELTER A NEW BUS STATION IN NEW YORK

The first example in the United States of an architectural design by Dr. Pier Luigi Nervi will go into construction later this spring in Manhattan.

As part of the George Washington Bridge lower-level project now in progress, the Port of New York Authority commissioned Dr. Nervi to design a roof and supporting framework for a new, two - block - long $13,000,000 commuter bus station. The station will straddle a depressed, twelve-lane crosstown expressway leading on and off the lower level of the bridge.

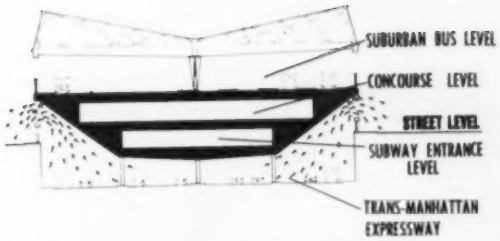
Chosen to design the bus station superstructure, according to Port Authority Chairman S. Sloan Colt, because of his recognized ability to fashion imaginative architectural forms in reinforced concrete, Dr. Nervi has used this material exclusively in his design for a butterfly-wing roof and supporting members, a model of which is shown here.

The design calls for a roof composed of 26 mammoth (92′ x 92′ x 66′) triangular sections, each of which is made up of 36 precast concrete triangular panels. Fourteen of the main sections

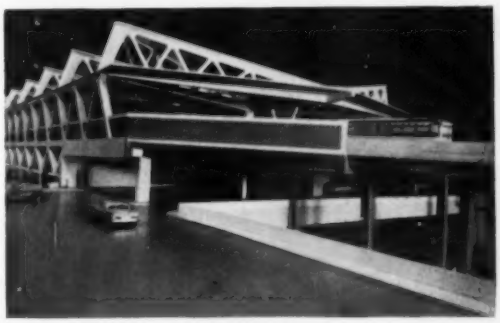
tilt upward at the extreme points in order to provide natural ventilation of the bus station.

The roof is supported by a row of concrete columns down the centerline of the building, and, along the sides, by an open side-wall framework also in concrete. The zigzag truss pattern of the supporting framework not only carries out the triangle-motif that dominates both the structural and esthetic aspects of the design, but also serves to furnish natural ventilation for the automobile expressway which runs under the bus station.

Celebrated in the world of architecture and design for his Turin Exhibition Hall (1948-50), the 1953 Milan Fair Building, Rome's Palazetto dello Sport, and the new 30-story Pirelli skyscraper in Milan, Dr. Nervi has been awarded the Queen's Gold Medal for architecture for his part in the collaborative design (with Marcel Breuer and Bernard Zehrfus) of the UNESCO permanent headquarters in Paris, completed in 1958.



Above: cross-section of Nervi's roof straddling bus station, concourse, subway entrance, and crosstown expressway. Below, view of model showing how louvered roof and open side-walls provide ventilation for a station that will accommodate 2,000 buses daily.

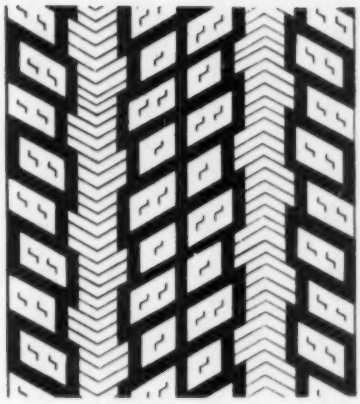


Tire treads make tracks for safety and comfort but part of the pattern is come-hither for customers

Automotive styling extends below the fins and fenders to take in tires, too, as personality in the grooves becomes an important marketing tool

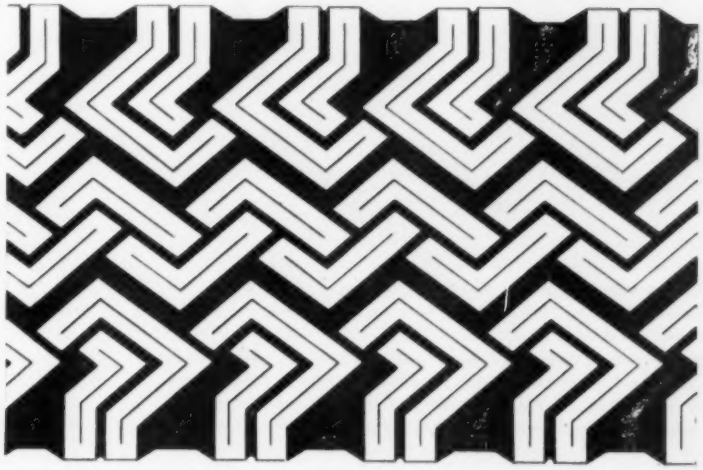
Goodyear calls its snow tires Suburbanite. The first version (left) appeared on the market in 1951; it was designed by Goodyear's own staff, as was the second version (far right). In the early years snow tires were something of a novelty; this year they accounted for the greatest sales gain of any kind of tire. The most prominent visual feature of the 1951 Suburbanite was the staggered rows of sharp-edged lugs which provided excellent traction. The lateral spaces between the lugs were quite wide so that mud and snow would release as the tire flexed and turned.

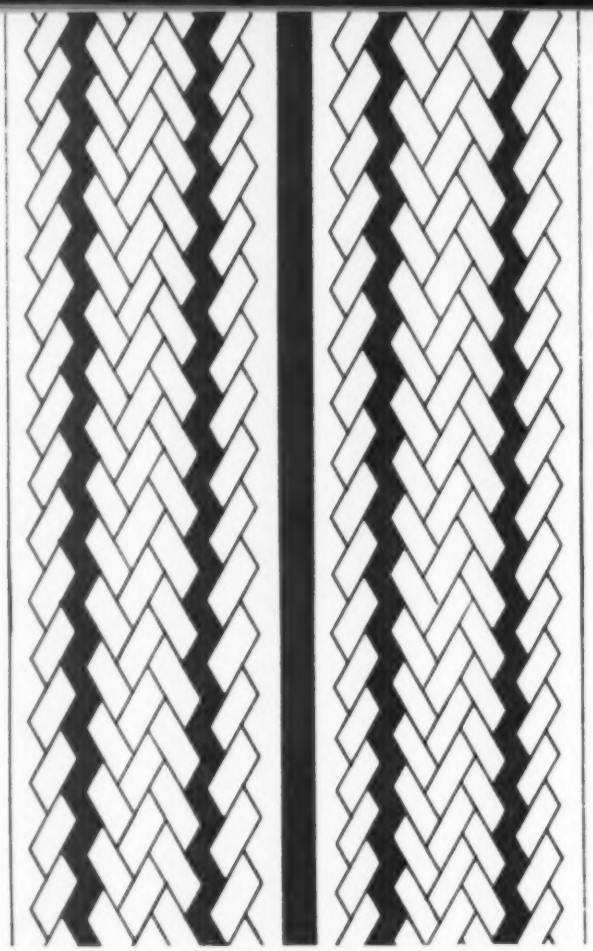
For the past six years the Detroit design firm of Lawrence H. Wilson Associates has been acting as consultant to Goodyear on the appearance of its tires because Goodyear—along with most other major tire manufacturers—has found that the look of a tire, as well as its performance, counts in sales to both consumers and auto manufacturers. Tire tread patterns are of course largely conditioned by function: the depth and width and angle of cut, the configuration of each band and the relationship between bands, are designed to make the car steer well, brake safely, and ride quietly. They are also a study in conflicts, since each of these needs is met by a diametrically opposed pattern element. Ideally, for steering, a tire would be composed entirely of circumferential grooves—to prevent side-slip; for braking and acceleration, it would be composed entirely of lateral cuts and grooves—to provide traction; and for quietness, it would contain no pattern at all. It is the grooves, especially lateral grooves, which create a noisy tire. This is one reason why the traction cuts are angled. It is also the reason that the patterning in each band is never uniform: the length, width, and angle of cut are varied to "jam" the resonant hum that would develop otherwise. But even within these stringent limitations there is sufficient latitude in the composition of the pattern elements to give a tire a distinct personality. The Goodyear tires shown here and on the following page were all designed by the Wilson office with the exception of two of the snow tires on this page; Harold G. Fetty is associate in charge.

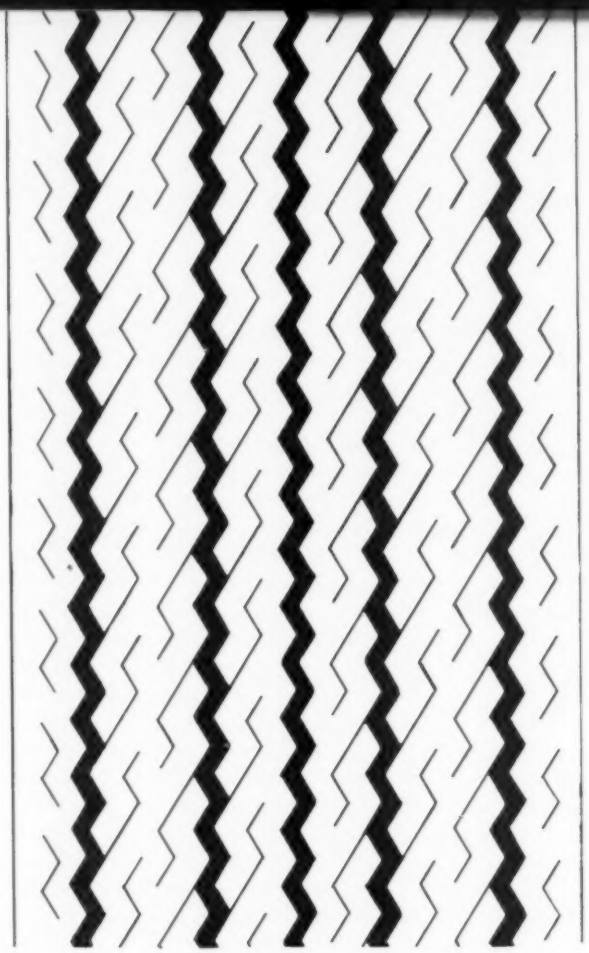


In the 1956 *Suburbanite the traction lugs were enclosed in circumferential ribs so that there was always some rubber on the road. This gave the tire a level of quiet on clear roads almost equal to that of conventional tires. Bladed cuts were added to improve traction on ice and rain-slick roads.*

The 1958 *Suburbanite is the first designed by the Wilson office. Traction lugs have been grouped into continuous zig-zag bands which give the tire an aggressive look. They also extend its life and make it more versatile. Placing the lugs closer together gives their vulnerable tips support from neighboring lugs, so the tire lasts longer; grouping them in bands makes for a quieter ride on clear roads. Mud and snow traction is provided by numerous acute angles and sharp edges of lugs within the circumferential bands, and by lateral pattern of the lugs at the sidewall.*

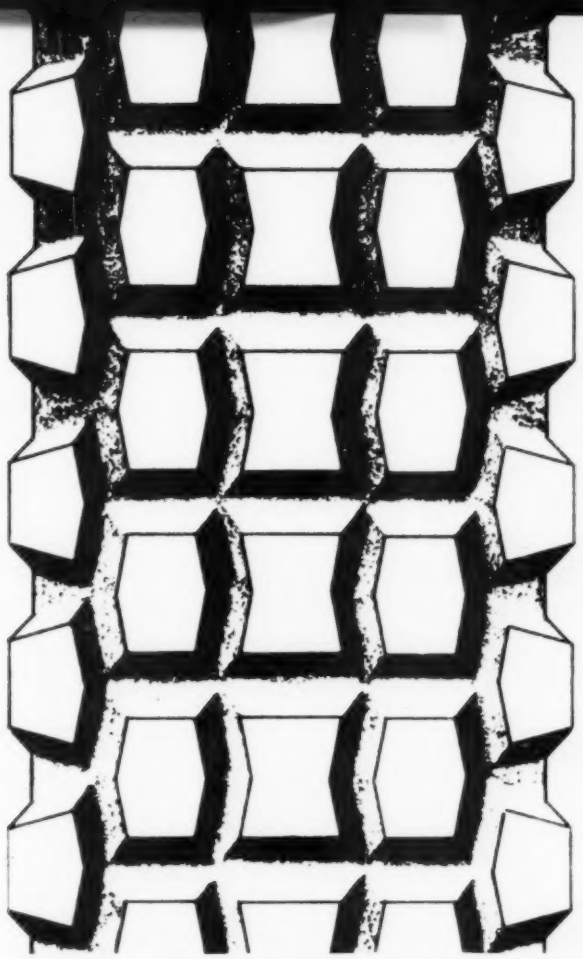


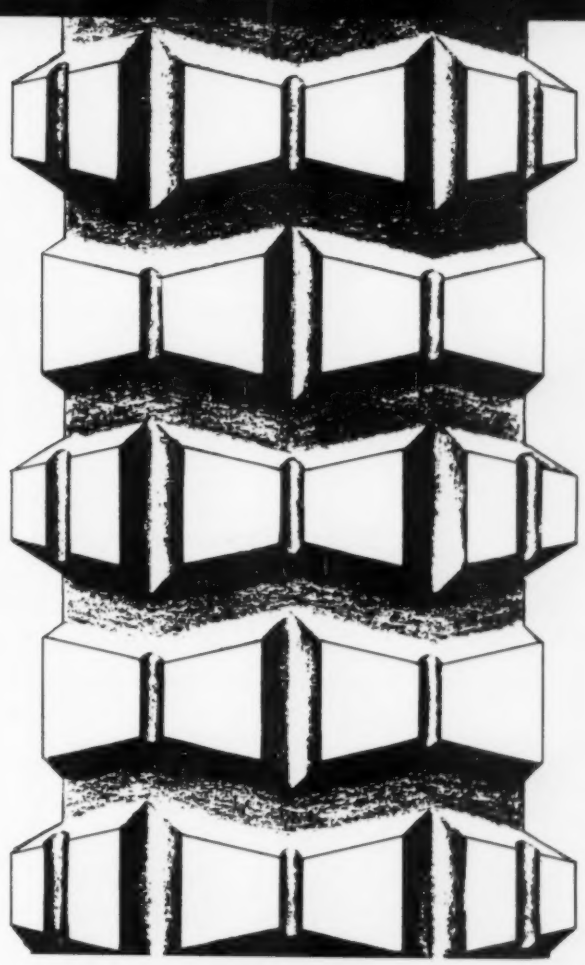




Original equipment tire is type supplied by Detroit on standard passenger cars and its pattern is as crisply defined as the factory-fresh chrome and steel body under which it will ride. Passenger car tires involve more compromises than any other type of tire because they will be used interchangably on all four wheels. The lateral cuts required for rear-wheel traction and circumferential grooves required for front-wheel steering end up as diagonals—herringbone cuts, zigzag grooves.

Premium passenger tire uses essentially the same design elements as original equipment tire, but its tread is deeper for longer wear (all tires have linking tie-bars beneath the incisions to lengthen tire life). Pattern on premium tire is more subtle; traction cuts are not connected and tire looks softer, quieter riding. Sidewall, one area of tire in which design gets a free hand (sidewall does not affect performance) here is patterned with close-spaced radials and a band of diamonds.





Motorcycle scramble tires are specially designed for front and rear wheels (scramble is to motorcycles what rally is to sports cars). Front-wheel scramble tire has rows of knuckles projecting from sidewall to provide traction in cornering when front wheel is heeled over. Circumferential grooves, for sideslip, are also emphatic. The patterning of these grooves and of the lateral cuts creates a sharp biting edge for braking traction and gives tire an identity.

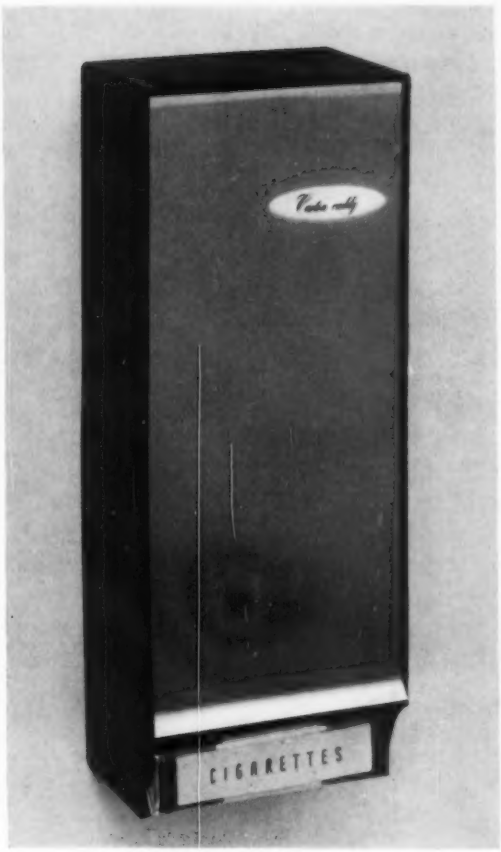
Motorcycle scramble tire for rear wheel has lugs arranged in horizontal pattern for maximum bite on mud, dirt, or gravel; their trapezoid shape gives a maximum number of angles per lug, which also enhances bite. Wide channels between lugs are designed to release mud and dirt as the tire flexes and turns. Like front tire, this one also has knuckles extending off sidewalls for traction in cornering, and grooves along circumference to prevent sideslip in same maneuver.

DESIGN REVIEW

Miscellaneous selection of household equipment includes some items of pure luxury, some completely utilitarian, and a few which combine both qualities. The Sunderflask looks like a piece of laboratory equipment and actually utilizes a law of physics to serve really chilled cocktails in a practical way. A cigarette package dispenser for the home reaches for new elegance in household equipment while a Revere camping outfit ingeniously combines both elegance and versatility.

Chemex *Sunderflask separates fluids of different weights. When soup is poured into it, the fat rises to the top and broth may be poured from bottom. When the flask is chilled, warm liquid rises and the coldest will pour out first. Peter Schlumbohm, inventor.* $9.50.

Revere *compact cooking kit includes five basic utensils (below) for preparing a complete camper's meal. Two sauce pans, a skillet, a trivet, and three detachable handles nest within a deep dome cover which doubles as a mixing bowl and dishpan. When nested, the stainless steel kit occupies less than a cubic foot. Staff design.* $34.95.



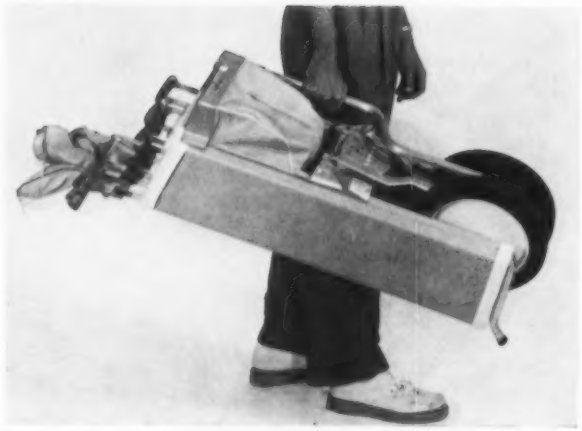
Carton Caddy Company *cigarette dispenser comes in 2-gage satin black steel with a Nickloid copper finish door which swings up for easy loading. The dispenser holds a full carton of either regular or king size packages, is sold through department stores and gift shops. Fred M. Gore, designer,* $2.95.

Bennett-Ireland, Inc. *Flextong, a complete set of firetools in one, combines the functions of the poker and tongs in a single item. It operates with scissors-like action, comes in either steel or brass finish. William D. Brunig, vice president in charge of development. From* $8.75.

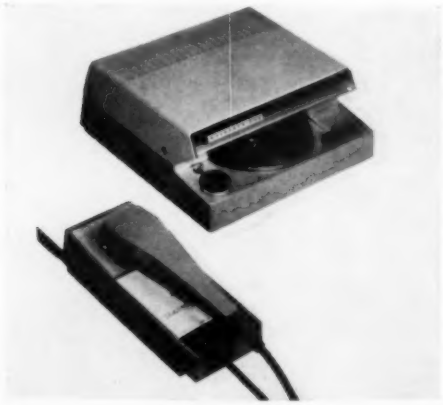
Beacon Plastics *folding shovel is intended for emergency use around car and home. It folds down to* 12 *by* 21½ *inches for carrying in car trunk; extended, it locks by a slide action. Charles Nutting and John Adamitis, staff designers. Morton Hollis, consultant.* $3.98.

Pleasure, Business and Home Equipment emphasizes ease of use and compactness. Lightweight, collapsible golf bag eliminates some of the pre-game drudgery, and attachable seat provides on-the-spot rest. New clothes dryer collapses compactly enough to fit under bed or in closet, and makes an ideal companion to the portable washer (ID, December 1957). Hotpoint introduces a completely new shape to the home washer, at the same time doubling its capacity.

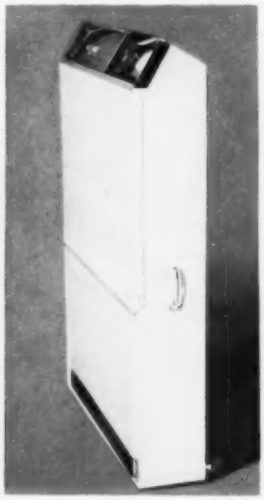
Hebbe Company *Par Pal has attachable, self-locking folding seat, is 7 pounds lighter than comparable separate bag and cart. Wheels fold inside the bag by means of spring pressure. With wheels and handle closed, unit is balanced for easy carrying or rolling. Has scorecard holder on top, two storage compartments. Design Dimensions.* $169.95.



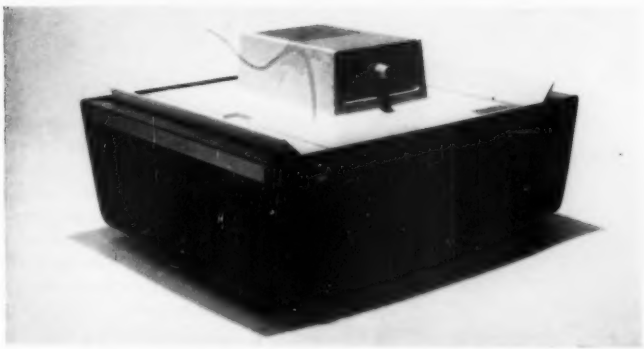
Soundscriber *Communicator has recessed face for easy access to record and simplified dial system. Die-cast aluminum recorder operates directly and also remotely through transistorized Satellite unit. Raymond Loewy Associates.* $425.



Wonder-fold *collapsible dryer closes to 6 inch width. It opens to 36 inches high and holds 8 pounds of laundry. Needs no installation, ventilation, or special wiring. Uses same wattage as an electric toaster. Robert M. Hayes, designer.* $109.95.



Hotpoint *combination washer has 66-inch-high dryer said to hold twice normal load. Conveyor belt with attached paddles rotates clothes from top to bottom. Unit is said to produce fewer wrinkles and more uniform drying in half normal time. Raymond Sandin, manager of industrial design.* $1000.



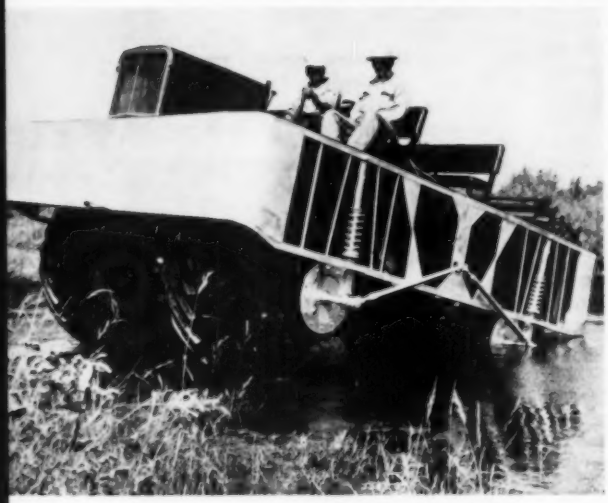
Burgess Vibrocrafter *portable electric humidifier weighs 8 pounds, holds enough water for 12 hours of operation. Adjustable directional fins. Polypropylene shell comes in brown, beige, or satin aluminum. Dave Chapman, Inc.* $34.95.

Hankscraft *baby gift set combines bottle warmer, vaporizer and food warmer into one unit. Heats to correct temperature then shuts off. Dave Chapman, Inc.* $5.98.

Capital equipment continues to assume unique forms in order to do more and more specialized tasks. Goodyear Rolli-Tankers actually look and function like tires, but their primary task is to carry liquid payloads over terrain which would be inaccessible to many normal tanker trucks. LeTourneau's giant fork lift, called a "midget" by the company which has produced other stackers with capacities four times as great, can lift and carry nine average cars.

Clark *Flex-Trac will traverse a 45 degree slide slope, swim across rivers, and speed 56 mph over highways. Unique construction permits any one of three pairs of wheels to be raised off the ground. Articulation is controlled hydraulically so that the vehicle can assume a "swayback" position with the front or rear higher than the center, or an "arched back" position with the center wheels off the ground. As Flex-Trac approaches a wall its front wheels are raised to the top of it. With middle wheels resting on the wall, the machine inches over it like a caterpillar and rear wheels are raised. For amphibious operations, two removable propellers are attached to the transmission. E. Meili, Switzerland, designers.*

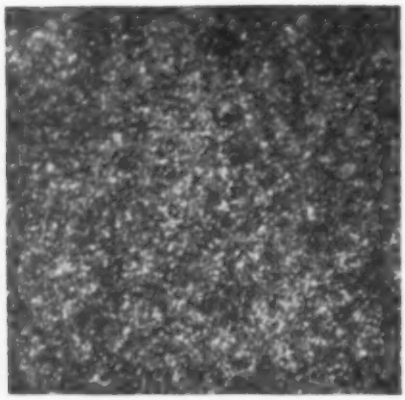
Goodyear *Rolli-Tanker tires carry 500 gallons of liquid and can be towed by any vehicle over rough terrain because of their high flotation and mobility. Each Rolli-Tanker measures 64 inches high and 42 inches wide and serves as a tire as well as a storage tank.*

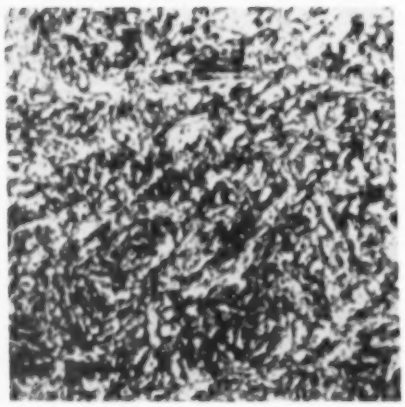


Goodyear *Terra-Tires propel this marsh buggy through the soggiest marshland. Over five feet high, the tires float a* 4,000 *pound vehicle carrying a* 4,000 *pound payload. Will be used for oil exploration. Buggy designed by Crain Brothers.*

R. G. LeTourneau *FT Stacker is a* 17*-ton fork lift which operates on only three wheels. Electric motors power the two front wheels, while the rear wheel is used only for stability and steering. Forks are five feet long and hoist loads* 16 *feet above the ground. Staff design.*

Stiegler Corporation *Transrector is a mobile handling unit which transports rocket engines weighing up to* 80,000 *pounds. Basically a tractor with a special trailer, it is* 35 *feet long and weighs* 80 *tons. It employs a combination of hydraulically actuated mechanism and electric hoists which permit movement of load a fraction of an inch at a time. Designer, Walter Wheeler and Isaac Patt.*





Microphotographs of 4130 *high strength alloy steel (mag.* 625 *X) show fine grain configuration resulting from Bassett Process of heat treatment (top), and coarse grain structure with standard heat treatment process.*

Greater strength from metals

A new and promising heat-treating process for metals has been developed which offers significant increases in their tensile strength without loss in ductility, toughness or pliability. The process was developed by William I. Bassett, III, and is known as Thermomagnadynamics. Eventually, when it is perfected and commercially feasible, it is expected to have wide application, because it will make it possible to specify metals at a much higher tensile strength.

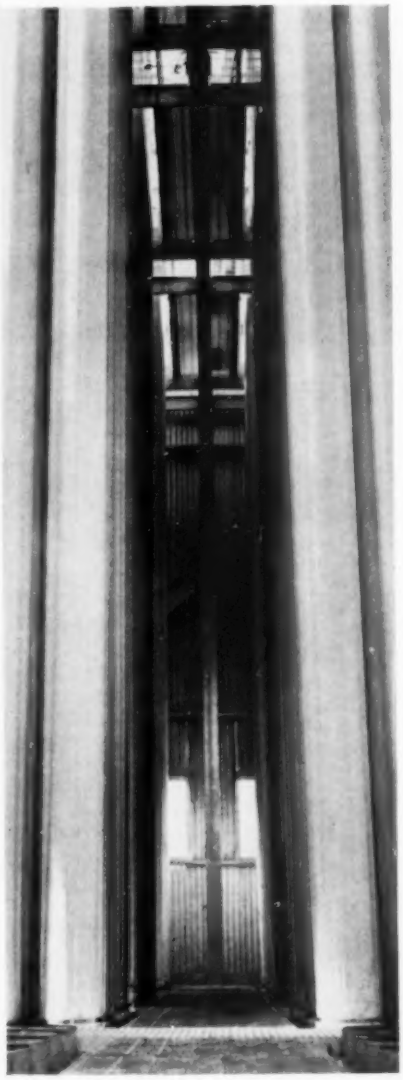
Under present methods the heat-treating of metals, which is done to add strength, requires temperatures so high that the metal tends to become brittle. Therefore it has often been necessary to compromise and use a metal at a lower strength in order to retain a combination of characteristics that permit it to be worked and formed. With the new process specific increases of from 50,000 to 100,000 psi in a variety of steel and titanium alloys have been recorded without loss of ductility. And preliminary work with tungsten, copper, and aluminum has indicated similarly good results. With special modifications, which are said not to be prohibitive in cost, the process may be installed in present heat treatment furnaces.

The process, which is said not to change the dimensions of the alloy, is designed for application after the manufacturing process, i. e., after the part has been cast or wrought. The process continues to use the standard methods of heat treatment, which consist of heating, quenching and relieving of stresses. However it makes certain modifications in the time and temperature conditions, and in the atmosphere in which the metal is heated. The effect of these modifications is to rearrange the heterogeneous grain structure of the metal into an homogeneous configuration wherein the grains are smaller, of equal size, and are in a uniform relation to each other. This is important because metals have a definite grain structure, and in many cases the grain has a loose, random alignment without specific pattern; with the very hard metals, the grains actually tend to act against one another under load, thus creating stress. The more highly refined grain structure allows any stress or strain to be evenly distributed throughout the whole.

The increase in a metal's strength means that the weight of fabricated metal equipment can be substantially reduced, which is of vital importance to the missile and space projects. Of further interest is the fact that a low-grade alloy, when treated with the new process, takes on characteristics that are superior to the characteristics obtained from the high-grade alloy conventionally treated. Manufacturer: Research Development Corporation of America, Gardena, California.

Smog control

The use of silicone-treated glass fabric bags is the core of a recent method for extracting and disposing of soot and smoke from industrial furnaces before they reach the atmosphere. This type of filter bag provides great heat resistance (up to 550 degrees F.), and because of its high chemical resistance it does not re-

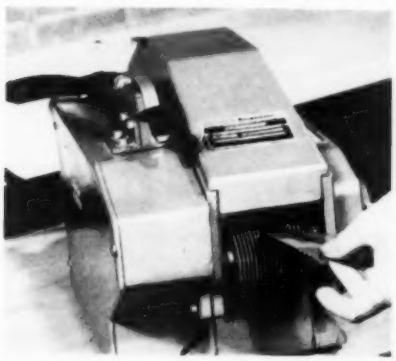


quire shaking like many other filter bags. Also it will not shrink or stretch.

The bags, which are installed in a special housing between the furnaces and the chimneys, have been placed in several factories around the country. The picture shows some of the 792 filter bags that are being used in the West Seattle plant of the Bethlehem Steel Company to overcome the problem of electric furnace fume dust. The bags shown are approximately 25 feet long and one foot wide. The glass fabric is supplied by Owens-Corning Fiberglas Corporation, New York, N. Y.

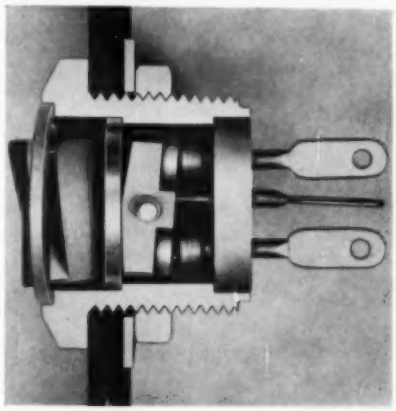
Air-operated tape dispensers

A complete line of 14 different models of air-operated tape dispensers (shown below is one example) has recently been introduced for large-volume taping operations. The machines, which automatically dispense any pre-set length of tape, are designed to reduce time and effort usually associated with dispensing, and to increase efficiency by permitting more time for the application of the tapes. The models differ from one another according to the way in which they are activated. For example, a valve or switch may be triggered by foot, finger, or arm pressure, or the machine may respond to the movement of products along the assembly line. With other models, removing tape from the dispensing blade causes more tape to unroll. The dispensers are available complete with air hoses, valves, regulators, and other attachments for easy connections to factory or office airlines. Manufacturer: Minnesota Mining & Manufacturing Company, St. Paul, Minn.



New color film

A new color film, Super Anscochrome 6500, has been produced which has an emulsion specifically balanced for use with electronic flash, thus assuring accurate color balance and image sharpness. Previously, when an electronic flash was used with color film, it flattened the color tones and was unable to reproduce the full range of colors within shadows. It is believed that the new film will find application in commercial illustration, and in industrial and press photography. Although it is a high-speed film (daylight exposure index 100), its grain pattern is said to compare favorably with regular speed film. Available in various sheet sizes, the film may be exposed with blue flash bulbs, or used in daylight without a filter, or with a mild filter for critical requirements. Manufacturer: Ansco, Binghamton, New York.



Miniature sealed switch

A new principle is behind a vastly simplified electrical switch (above) recently put on the market. Known as Fluxlink, the switch depends on a magnetic flux which can be "piped" through magnetic conductors into a sealed chamber containing the make and break electrical contacts. The magnetic flux actuates the switching member, which is the only moving part in the device. Thus, instead of using a mechanical linkage, which requires both moving parts that can wear out and openings for these parts, Fluxlink uses a magnetic linkage which makes possible an hermetically sealed switch.

Numerous advantages result because of this mode of operation. The hermetic seal eliminates the danger of oxidation and contamination, and permits the switch to operate efficiently in moist, dusty, corrosive, or extreme temperature environments. Further advantages are high contact pressure, long contact life, great shock resistance, simple actuation (can use many different types of actuators), fast rocker-type action of the switching member, and no bounce or chatter. Thus, it is believed that the new switch will be super-reliable, and applicable to most switching requirements.

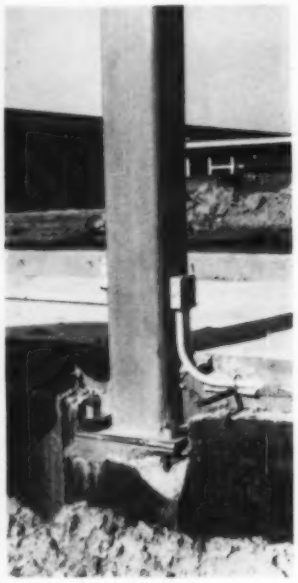
The Fluxlink measures ¾ by ⅝ inches, and is designed to operate on 15 amps, 125 volts ac. It can be mounted in any position. It is supplied in three classes, depending on operating temperature ranges. Manufacturer: Space Components, Inc., Washington 7, D. C.

Polyethylene powders

Although polyethylene in powder form has been used in Europe for several years, it is only now being introduced into the American market. Known as Microthene®, the powder form has several advantages over conventional polyethylene which is supplied in cubes; it can be used directly as a powder and melted in an oven onto an object, or applied on a preheated object to form a coating; or it can be dispersed in water or alcohol for spraying, dipping or slush coating.

It is believed that its largest potential in this country will be for textile coatings for both woven and non-woven fabrics, and as a binder for non-woven materials. Other applications are as a coating on metal for corrosion protection and as a coating on paper, wire and glass. It will also find use in making extremely large moldings such as drums and tanks which are difficult to produce by the normal techniques.

Microthene will be available in two different types, each made by a different process. A solution process is used to produce particle size smaller than 200 screen mesh, and a mechanical grinding process to produce 50 to 200 screen mesh. Manufacturer: U. S. Industrial Chemicals Company, New York, N. Y.



Rectangular steel tubing

Square and rectangular structural steel tubing is now commercially available in specified sizes, and in special sizes without extra charge. The tubing (above) is being used as loadbearing beams as well as window mullions, stair stringers and canopy supports. It has also been incorporated into trailer bodies and hydraulic lifts.

Because the tubing is smooth on all four sides, it can be painted and left exposed. Another advantage is that both interior and exterior walls may be brought up flush with the rectangular column. Attachment of shop-welded plates and angles to any of the four sides makes the tubing compatible with other structural elements. Base plates may be anchor-bolted, and, with top plates and caps, it is possible to cast concrete beams on top of the columns; beams may also be attached by field welding or bolting.

The tubing is made from steel plates that are formed into two channel sections and fused by submerged arc welding. Girths range from 12 to 28 inches, and wall thicknesses from ⅛ to ½ inches. The tubing can be cut exactly to the length required, which eliminates costly scrap. Straightness tolerances are 1/32 inch in 3 feet. Manufacturer: Espro Tubing Division, Union Asbestos & Rubber Company, Chicago, Illinois.

New epoxy resins

A family of new epoxy resins, known as the Oxiron series, has been introduced; they differ from the conventional epoxies in structure, reactivity, and end-properties. Whereas the conventional epoxies possess only terminal epoxy groups, the new series has such groups located internally and externally along the basic hydrocarbon chain. This structure promotes unusual versatility, and offers many types of curing possibilities. The Oxiron resins react readily with anhydrides, and are said to combine excellent electrical properties with stability at high temperatures. Further, they can be cured at low temperatures, after which they exhibit low shrinkage and low heat release.

These properties, combined with the fact that the new resins are of lower density then the conventional epoxies, suit them to many casting and tooling requirements. They wet glass well and show good adhesion when cured, thus indicating a potential use in lamination. They should also be valuable, according to the manufacturer, for protective coating applications. Manufacturer: Food Machinery and Chemical Corporation, New York 17, N. Y.

Spray-applied vinyl finishes

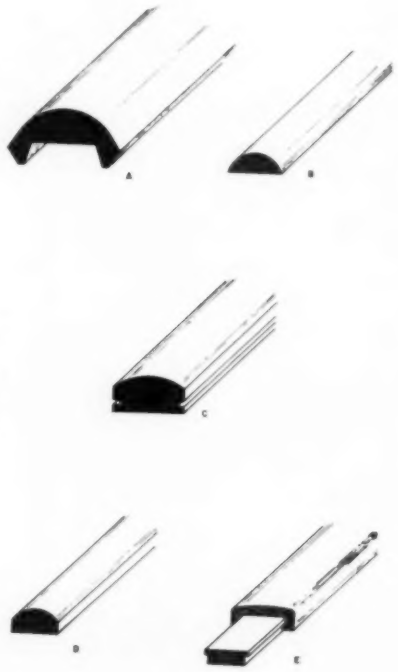
A new process for vinyl-coating metals will offer an alternative to the present method of applying the vinyl as a laminated film. The new development permits the application of vinyl finishes to fabricated products by a spray method. It is already being used on a mass production basis for interior linings of dishwashers.

The spraying process offers several distinct advantages: no special care is required during fabrication, which makes faster production possible; finish can be applied in the fabricator's own shop with standard spray equipment; rejects can be stripped of their vinyl chemically and then resprayed; welding and forming operations can be done prior to coating. There are no raw or unfinished edges, and to change color, it is only necessary to change the vinyl spray material.

The vinyl, in both organisol and plastisol types of dispersions, can be applied to plain and textured metals. The plastisols produce a thicker, more resilient coating which is non-volatile; they are suited for rack coatings, tank linings, and other heavy-duty industrial applications. The organisols have a harder surface and have the ability to faithfully reproduce the texture of the underlying metal; also, they offer greater pigmentation possibilities. Manufacturer: Metal & Thermit Corporation, New York, N. Y.

Extruded acrylic lenses

Extruded acrylic lenses are now available for non-critical magnification purposes in various industrial and commercial applications. Previously, precision molded acrylic lenses had been used in inexpensive cameras and instruments. The extruded lenses have slight aberrations and surface irregularities; however, these characteristics are said to be unimportant in certain uses. In the diagram below, A is used for scanning small-print newspaper columns, B for telephone number strips and signaling devices where the lens is permanently mounted over the designation strip, C for an elevator floor-indicator cover, D for press-fit mountings, and E for an intercommunication system (the designation strip is held between the two extrusions). Manufacturer: Anchor Plastics Company, Long Island City, N. Y.



Data processing by telephone

IBM has developed two data processing machines that can send and receive information via regular high-speed telegraph or toll telephone circuits at regular message rates. Since only the actual time used need be paid for, it will now be possible for small organizations whose volume does not justify use of leased telephone and telegraph lines to utilize the efficiency of centralized data processing. Large organizations with many field offices will be able to link their computers in remote areas directly to the central facility without the delay of having to ship computer data.

One machine, the 7701 Magnetic Tape Transmission Terminal, is capable of transmitting and receiving magnetic tape data at the speed of 150 characters per second. Fully transistorized, it is compatible with tapes used in all IBM data processing systems. It includes automatic correction of tape reading and writing errors, and errors in transmission. The second machine, called a Digital Subset, adapts the standard IBM Data Transceiver that transmits punched card information for operation over conventional dial-telephone lines.

In use, the operator in the sending location places data in the processor and dials the receiving terminal where a similar processor is installed. The receiving operator verifies that his machine is prepared to record, and the data is then transmitted. The IBM system is similar to Western Electric Company's punched card data transmission system, which also uses telephone lines (see ID, February 1959, page 92). Manufacturer: IBM Data Processing Division, White Plains, New York.

Portable time source

A portable timing device has been designed for precise on-off control of any electrical switch. The device—known as a Secondary Time Standard—employs a battery-operated, transistorized radio with which it receives time signals broadcast by Government time source stations. A cordless clock is synchronized with the signals by a decoder. The clock, developed by the Hamilton Watch Company, is said to be waterproof, shock-resistant and unaffected by extremes of temperature and altitude.

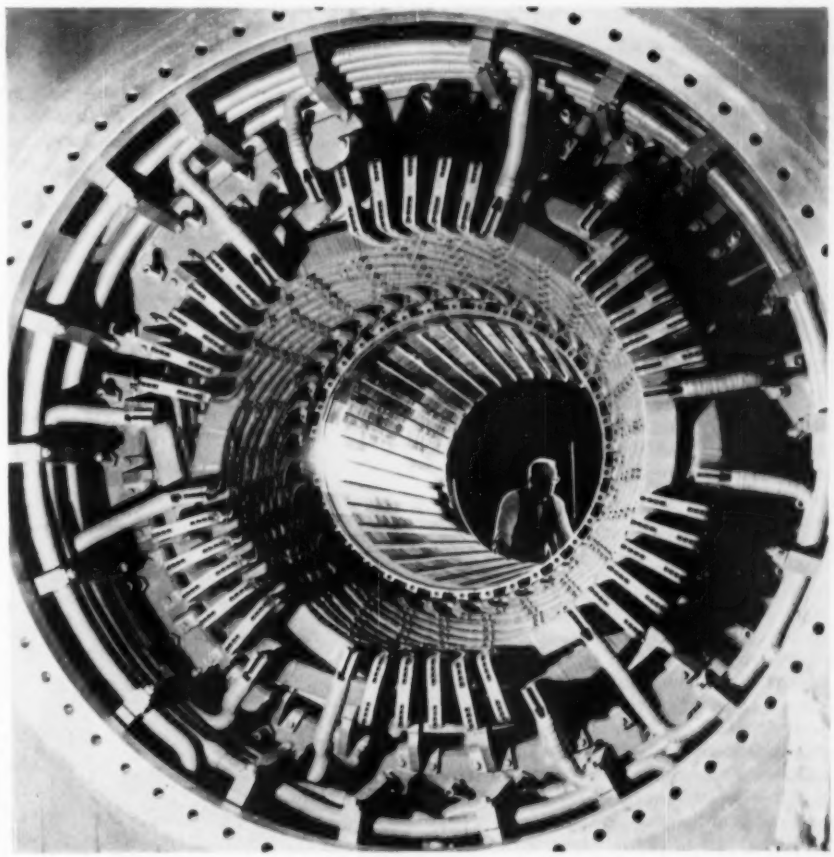
The timing device could be used to trigger a number of measuring instruments located in widely scattered locations. For example, it could chart radiation, obtain simultaneous readings of water level along a river, or control instruments that measure oil or gas flow through pipelines. The Time Standard is housed in a compact, handle-equipped case that measures 7 by 7 by 11 inches, and weighs nine pounds complete with batteries. Manufacturer: Zenith Radio Corporation, Chicago 39, Ill.

Lumber moisture meter

A meter (above) that is calibrated to measure the moisture content in 60 different types of hard and soft woods is now available in a small, lightweight, self-contained unit. The instrument has a penetration sensitivity of up to 2 inches, and contains a self-checking standard to determine whether it is on calibration. The meter, known as the R-6, is battery-operated. Manufacturer: Moisture Register Company, Alhambra, California.

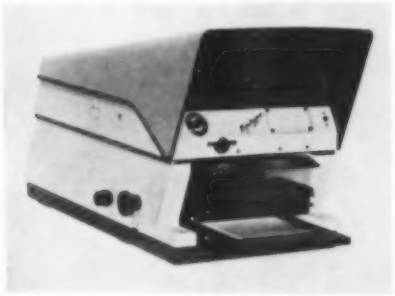
Generator cooling system

The search for more efficient ways to generate electricity has led industry to develop enormous and intricately constructed devices. One of the most recent of these is a new kind of conductor cooling system which will be used in steam turbine generators to overcome the problem of heat build-up and thereby improve the generator's efficiency. In conventional units, cooling is difficult because heat produced in the copper coils must travel through thick insulation walls. In the new system, the copper strands are coiled around rectangular stainless steel tubing, through which a coolant—hydrogen gas—is passed at velocities up to 10,000 feet per minute. Such a technique permits greater kilowatt capability without an increase in physical size because the cooling tubes are an integral part of the copper coil structure. Hydrogen was selected because it has high heat transfer abilities, and its light weight keeps gas friction at a minimum. The picture (below) shows the inside of the generator stator with the continuing circles of enclosed cooling tubes. The stainless steel is supplied by Carpenter Steel Corporation of Union, New Jersey, and the manufacturer of the generator is Allis-Chalmers Manufacturing Company of Milwaukee, Wisconsin.



Tubing with a curve

Stainless steel tubing (above) with a unique sine curve twist incorporated into its length is being built for use in the sodium heat exchangers of the Fermi Atomic Power Plant near Detroit. The curve, which is required because of space limitations, will accommodate differences in thermal expansion in the tubing. Another interesting design feature of the exchangers is that the tube bundle can be easily removed from its shell to facilitate maintenance work. In most other exchangers, the tubes must be cut apart for repair. The tubes, each approximately 18 feet long and with a ⅞-inch OD, are supplied by Allegheny Ludlum Steel Corporation for Alco Products, Inc., Dunkirk, New York, who is building the exchangers.



Line justifier for offset printing

A machine (above) has been developed that optically justifies over 700 lines per hour from a typewritten or hand-lettered copy, and produces a photographic negative of the justified copy for offset printing. Known as the Optype, the machine, which was originally produced in France, does away with the necessity of having a highly skilled typist type a rough draft copy and then retype a second copy to justify the right margin.

It is operated by first sighting the image of the line being justified on a frosted glass screen, then turning a knob to adjust the scale of reproduction to fit the line within the desired space. Another knob controls spacing between the lines. After the line has been justified, the operator presses a button to photograph it. Typographical errors can be corrected by skipping lines or paragraphs and substituting corrected material in the unexposed area.

By adjusting the different control knobs, it is possible by optical means to reduce, condense and italicize the type face. Thus, the single machine can provide many type variations. Trademarks and line drawings may also be reproduced. The Optype is said to require no special training or skill for operation. Distributor: Specialties, Inc., Syosset, N. Y.

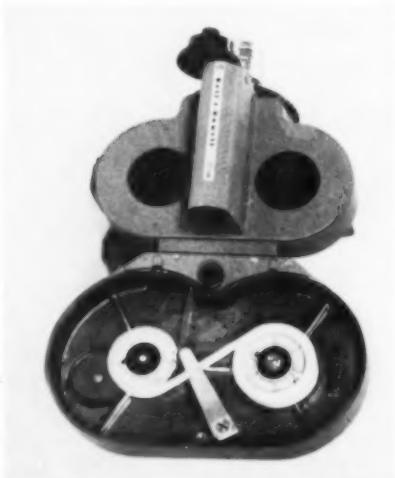
Rubber window seal gasketing

To meet the insulation and cushioning problems encountered when large panels of glass are used in construction, a new rubber gasketing known as Climatite has been developed. It is a custom-extruded, three-sided gasketing which has molded corners to fit different shapes according to specifications. After it is fitted around the edges of the windows, it is said to provide protection from wind shock, vibration damage, weathering and deterioration. Climatite, which is a synthetic rubber, is also available with an adhesive-backed stripping for use with various glazing compounds. Manufacturer: Firestone Tire & Rubber Company, Akron, Ohio.

Rapid film processing

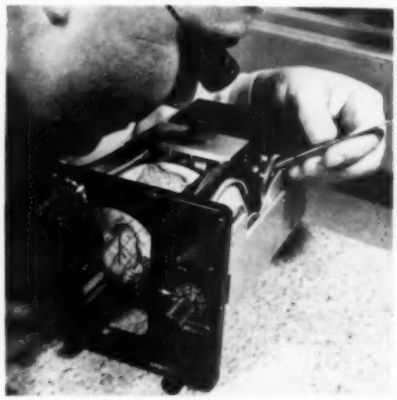
A new developing process which permits film projection only 60 seconds after shooting is now available. Known as Rapromatic, the process promises to have wide application in those areas of industrial photography where it is important to see a developed film as soon as possible, such as oscillography and instrumentation reading.

The new process employs a paper web, called a Raproroll®, which is saturated with appropriate chemicals and held on a spool in a special magazine-processor (below) that is attached to the back of the camera. As the film is exposed, it is fed back into the processor where it is sandwiched onto a special spool with the Raproroll which releases its liquids under pressure. Free liquids, pumps, seals or metering equipment are not required because the correct quantity of chemicals is controlled by the thickness and composition of the web. The processing, which is available for 16-mm. film, may be made permanent if the film is washed within a period of 24 hours after the initial fixing. The Rapromatic processing is said to produce good image quality with maximum contrast. Manufacturer: Specialties, Inc., Syosset, New York.



Plastic properties calculator

A compact plastics-use calculator has recently been made available which will enable the designer to determine which plastic has the properties best suited to a specific design. Conversely, it also may be used to determine the properties when the plastic is known. The calculator is supplied free of charge by the Plastics Division of Monsanto Chemical Company, Springfield 2, Mass.



World in a box

A tiny, revolving replica of the earth (above), with complete markings including latitude and longitude, continents, major cities, and topography, will be placed in the Project Mercury space capsule for use as a position-finder. The astronaut will be able to "see" where he is at all times because the movements of the device, which will be mounted on his instrument panel, will exactly correspond to what he would see if he could look out of the capsule. It was developed to supplement electronic navigation equipment, and will be the prime source of position information if the astronaut loses contact with the ground. It will also be used to determine the firing position for the rockets that will return the capsule to earth. The globe, which has a four-inch diameter, is made of aluminum sheet coated with acrylic plastic. Manufacturer: Minneapolis-Honeywell Regulator Company, Minneapolis, Minnesota.

Manufacturers' Literature Supplement

A bibliography of currently available technical brochures dealing with materials, methods, components, and machines

Materials — Metals

1. **New Electric Wire.** Hoskins Manufacturing Company. 8 pp. Ill. Bulletin contains information about Chromel-R, a new nickel-chromium alloy developed especially for precision wire-wound resistors and potentiometers. It is said to possess high resistance and low temperature coefficient with good stability over a wide range of operating temperatures.

2. **Seamless Steel Tubing.** Ohio Seamless Tube Division, Copperweld Steel Company. 8 pp. Ill. Catalog offers information on both seamless steel tubing and electric welded steel tubing. Also covers fabrication and forging of tubing into finished or semi-finished tubular parts and components.

3. **Cast High Alloy Designation List.** Alloy Casting Institute. Latest revision of the list of standard designations and chemical composition ranges for heat and corrosion resistant cast alloys.

4. **Stainless Steel Analyses Specifications Chart.** Peter A. Frasse & Company, Inc. Revised chart offers analyses specifications of 58 different types of stainless steel.

5. **Stainless Steel Filters.** Micro Metallic Division, Pall Corporation. 8 pp. Bulletin describes multiple-surface, porous, stainless steel filters, including information on method of manufacture, particle size removal, flow rates, working and welding.

6. **Testing and Evaluating Precious Metal Electroplate.** Sel-Rex Corporation. 6 pp. Ill. Technical article discusses resistance to corrosion and resistance to mechanical and abrasive wear of electroplated jewelry articles.

7. **Molybdenum Products.** Universal-Cyclops Steel Corporation. 22 pp. Booklet lists specifications on complete line of molybdenum mill products. Information includes manufacture, chemical composition, structure, mechanical properties, dimensions, finish, inspection, quality, etc.

8. **New Low-Cost Metal.** Whitehead Metals, Inc. 4 pp. Brochure describes Hydro-T-Metal which is an alloy of zinc, copper and titanium. Available in sheet metal form, as well as in wire, tubing or extruded shapes, it is said to be strong and easy to work. It is non-magnetic, non-sparking, can be soldered, fusion welded, and deep drawn without work hardening or annealing, takes nickel and chrome plating, has high resistance to corrosion, and is easily color-coated.

Materials — Plastics

9. **Design with Custom-Built Elastomers.** Lord Manufacturing Company. 6 pp. Ill. Bulletin describes origin, composition and properties of natural rubber and synthetic elastomers, and illustrates examples of custom-built products such as keg seals and mountings.

10. **Polyethylene Film.** Chippewa Plastics Company. 14 pp. Booklet contains specifications of company's standard films, including information for packaging and marking, and charts and formulae for calculating yield.

11. **Vulcanized Fiber.** Taylor Fibre Company. 4 pp. Ill. Booklet describes how vulcanized fiber has been used in various applications; for example, bobbins for electrical windings, insulating heads for armatures in model train motors, composite gasketing material and distributor caps.

12. **Industrial Tapes, Adhesives and Coatings.** Mystik Adhesive Products, Inc. Industrial manual contains full information on company's line of industrial tapes, bulk adhesives, coatings and pressure-sensitive products.

13. **Metallic Colors for Vinyl Extrusions.** Claremont Pigment Dispersion Corp. Technical bulletin describes Claremont's Q Series of "Quikmil" Golds which can be used with clear vinyl compounds to produce a variety of bright gold and copper metallic colors. The pigments are said to resist the discoloration commonly experienced during extrusion with conventional bronze powders.

14. **Synthetic Abrasive Compound for Anti-Skid Floors.** Carborundum Company. Folder describes a synthetic latex abrasive compound for safety anti-skid floors, stair treads, sidewalks, etc. Known as Carbo-Latex P5, it is said to possess excellent affinity to concrete, asphalt, sealed wood, steel and other traffic surfaces.

15. **Directory of Plastic Packaging Suppliers.** Koppers Company, Inc. 36 pp. Directory lists both custom and proprietary plastics packaging molders and extruders. Description includes types of service and names of each company's officers.

16. **Inorganic Insulation Material.** Taunton Division, Haveg Industries, Inc. 8 pp. Ill. Bulletin describes properties of Havelex, formerly known as G. E. Mycalex, which is a rigid inorganic insulating material composed of glass reinforced with mica. Because of its high temperature resistance, dimensional stability, low moisture absorption and arc resistance, it has special application in the electrical industries.

17. **Industrial Plastics Samples.** Iten Fibre Company. Idea kit provides specimens of various plastic parts such as washers, gaskets, shields, wedges, bushings, etc. Descriptive data useful in product design and development is also included.

18. **Design Considerations for Plastics Molding Materials.** Dow Chemical Company. Brochure is the forerunner of a complete Plastics Design Data Book now in preparation. It discusses material selection data, classification, engineering, quality control, etc.

19. **Color Card of Industrial Finishes.** United Lacquer Manufacturing Corp. Chart shows 64 shades available in lacquers, synthetics, vinyls and specialty finishes in various lusters.

Methods

20. **Noise Reduction.** A. M. Byers Company, Product Development Department. 8 pp. Ill. Case study describes how machine shop noise can be substantially reduced by using Byers' stock tubes, which are made of polyvinyl chloride, to line or replace metal tubes on automatic screw machines, hand screw machines, and turret and engine lathes.

21. **Vacuum Forming Process.** Minnesota Mining & Manufacturing Company. 8 pp. Ill. Booklet describes method of forming molds for casting resins by vacuum-drawing heated thermoplastic sheets over electrical components. Advantages of this method are said to include elimination of high mold costs, absence of parting lines, elimination of release agents, economical and effective use of resin, and ready adaptability to changing designs.

22. **Bi-Metallic Casting.** Arthur Tickle Engineering Works, Inc. 8 pp. Ill. Brochure describes bi-metallic bonding by the Al-Fin Process, which uses an intermetallic compound of iron and aluminum that has a tensile strength of 15,000 psi and a shear strength of 7,000 psi. The construction, which is used to bond aluminum to ferrous metals, nickel, titanium, etc., is said to have wide application to problems involving heat transfer, joining, abrasion and wear resistance, cost reduction and oxidation resistance.

23. **Partition Installation.** Workwall Division, L. A. Darling Company. 12 pp. Ill. Manual describes how a single man, without special tools, can erect a complete system of partitions. Fully illustrated with detailed drawings regarding cutting panels, attaching partitions to walls, and glazing.

24. **Computer Programming.** Minneapolis-Honeywell Regulator Company. 94 pp. Manual describes FACT (Fully Automatic Compiling Technique), a system of automatically preparing electronic data processing programs that has been designed for use with the Honeywell 800 all-transistorized data-processing system. It is said that the use of FACT has made it possible to write out and check programs five to ten times faster than by manual techniques.

25. **Automatic Spray Decorating.** Conforming Matrix Corp. Brochure discusses a machine that combines automatic spray decorating and automatic mask washing; the machine, which is used for intricate and detailed painting, permits continuous production with clean masks available as needed.

26. **Flame Hardening.** Modern Engraving and Machine Company. 8 pp. Ill. Brochure describes electronic controlled flame hardening, which is used on large steel forgings that must be machine finished before heat treatment, and, because of size and shape, cannot be heat treated by furnace or bath methods.

27. **Watertight Masonry.** The Master Builders Company. 6 pp. Bulletin describes how Omicron mortar-proofing provides a plastic mortar that can be used in the design of tight masonry walls to minimize shrinkage.

Miscellaneous

28. **Infrared Heating.** Infrared Division, Fostoria Corp. 20 pp. Ill. Bulletin gives principles, advantages, applications, and typical standard systems of infrared heating.

29. **Industrial Lamp Annunciator Systems.** Edwards Company, Inc. 20 pp. Ill. Brochure describes lamp annunciator devices which are used to monitor and report failures in equipment with a visible and an audible signal. The new line introduces a modular set-up with plug-in circuits that can be removed and changed for different operational sequences.

30. **Flexible Hoses and Ducts.** Flexaust Company, Division of Callahan Mining Corp. 24 pp. Technical bulletin offers information on flexible hoses used in air and materials handling, dust collection, and fume control. It discusses problems of selection, performance, and installation.

31. **Lunning Collection of Scandinavian Design.** Frederik Lunning, Inc. 72 pp. Ill. Catalog of Scandinavian design in the fields of furniture, lamps, rugs and textiles. The work of more than a dozen designers is included, among them Hans Wegner, Finn Juhl and Poul Kjaerholm.

32. **Decorative Floodlighting.** Stonco Electric Products Company. 6 pp. Ill. Catalog of complete line of weatherproof, outdoor and indoor bullet-style fixtures made of die-cast aluminum.

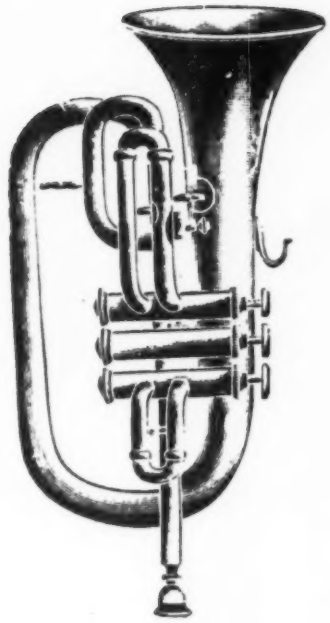
33. **Fuel Cells.** General Electric Company. 12 pp. Ill. Booklet discusses basic facts about fuel cells including operation, special features, applications, and various models. A fuel cell is a continuous-feed electrochemical device in which the chemical energy of the reaction between a hydrocarbon and air is converted into useful electricity.

34. **Pressure Measuring Instruments.** U. S. Gauge, Division of American Machine and Metals, Inc. 16 pp. Catalog illustrates characteristics of standard diaphragm and Bourdon tube measuring elements. Technical data and factors determining selection of each are also included.

35. **Ceramic Permanent Magnets.** Indiana Steel Products, Division of Indiana General Corp. 8 pp. Ill. Catalog describes properties and applications of ceramic magnets, which are composed of barium carbonate and iron oxide. Because they have a longer effective life, and are smaller, lighter and less expensive than the conventional Alnico magnets, the ceramic magnets are being used in electronic equipment, motors, sonar, and magnetic separators.

36. **Industrial Lighting Equipment.** The RLM Standards Institute, Inc. 52 pp. 1960 Specifications Book contains revisions of existing specifications, new high specifications for materials and new specifications for aluminum reflectors, as well as added provisions for inspection and testing.

37. **Aluminum Bearings.** Aluminum Company of America. 90 pp. Ill. Booklet contains case histories and engineering and test data relating to the design of aluminum sleeve bearings and bushings.



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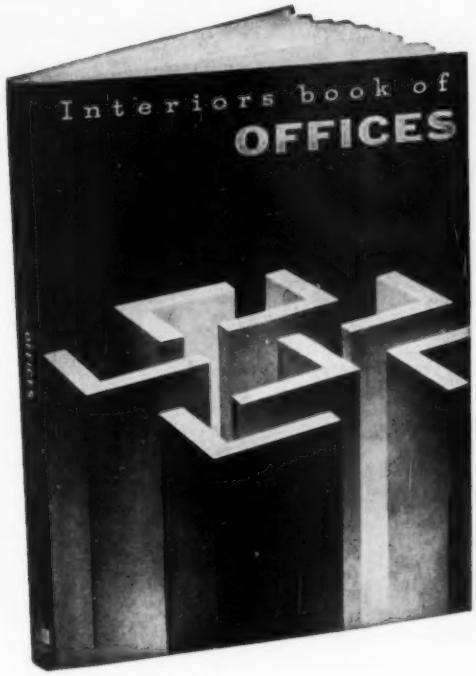

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For Your Calendar

Through June 19. "New Dimensions in Porcelain Enamel." Exhibition sponsored by the Porcelain Enamel Institute National Design Center, New York.

April 13-May 15. "Form Givers at Mid-Century." Exhibition of America's original contribution to world architectural history. Organized and sponsored by Time magazine for the American Federation of Arts. Art Institute of Chicago.

May 1-3. "The American City in the 19th Century." Smithsonian Institution traveling exhibition. Gibbes Art Gallery, Charleston, South Carolina.

May 2-3. National symposium on "Safety for Electrical Instrumentation in Hazardous Areas" sponsored by the Wilmington Section of the Instrument Society of America. DuPont Country Club, Wilmington, Delaware.

May 2-6. Part I of course in product and brand management sponsored by the American Management Association. Part II, June 20-24. Hotel Astor, New York.

May 3-28. Pratt Institute Industrial Design Exhibit. International Business Machines Gallery of Arts and Sciences. New York.

May 15-22. Annual show of graphic arts and illustration students. Pratt Institute, Brooklyn, New York.

May 4-14. U. S. World Trade Fair. New York Coliseum, New York.

May 6-31. "Architectural Photography." Smithsonian Institution traveling exhibition. University of Florida, Gainesville, Florida.

May 7-13. National conference and annual meeting of the Society of the Plastics Industry, Inc. Cruise on "Queen of Bermuda."

May 8-31. "Advertising in the 19th Century." Smithsonian Institution traveling exhibition. Los Angeles County Museum, Los Angeles, California.

May 9-11. Third annual power instrumentation symposium sponsored by the Power Industry Division of Instrument Society of America. San Francisco State College, San Francisco.

May 9-12. Summer instrument-automation conference and exhibit of the Instrument Society of America. Conference, Civic Auditorium; exhibit, Brooks Hall, San Francisco.

May 9-13. 1960 annual conference of the Society of Photographic Scientists and Engineers. Miramar Hotel, Los Angeles, California.

May 16-17. Eleventh annual appliance conference sponsored by the committee on domestic appliances of the American Institute of Electrical Engineers. Mansfield-Leland Hotel, Mansfield, Ohio.

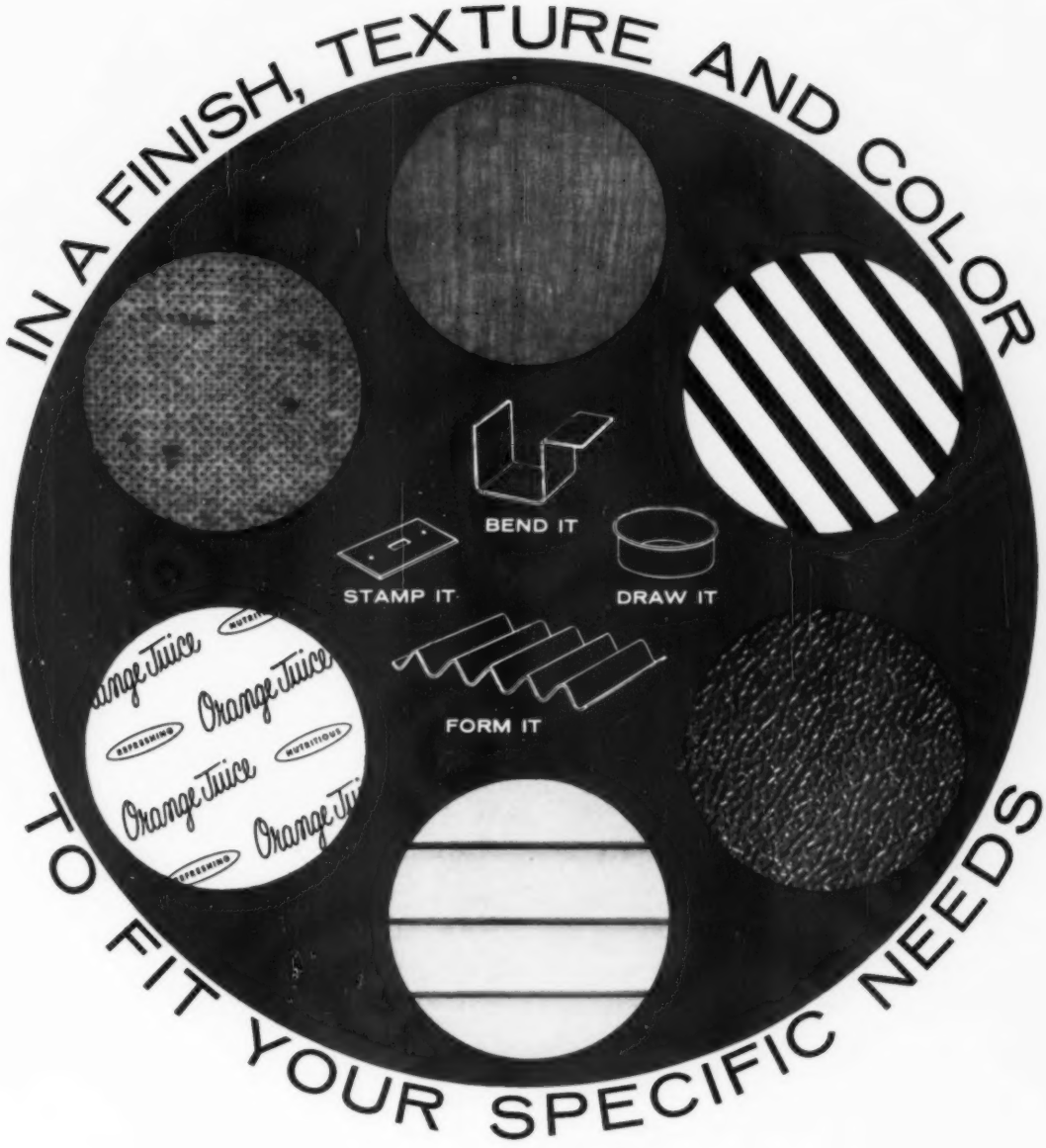
May 16-18. Forum on simulation and business games sponsored by the American Management Association. American Management Association Academy, New York.

May 17-19. Product engineering conference sponsored by the American Society of Mechanical Engineers. Schroeder Hotel, Milwaukee, Wisconsin.

May 18. Twentieth Anniversary meeting of the Chemical Market Research Association. Biltmore Hotel, New York.

May 21-June 30. Annual Exhibition of The Society of Typographic Arts. Art Institute of Chicago, Illinois.

May 23-26. Design Engineering Show and conference sponsored by the machine design division of the American Society of Mechanical Engineers. New York Coliseum.



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