INDUSTRIAL DESIGN

September 1957 $1.50 per copy

The U.S. plans for the Brussels World's Fair

Designs for the roadbuilding boom

Special modelmaking systems

TRUCK BODY AND TRAILER MANUFACTURERS CHOOSE ROYALITE...for damage-free paneling of refrigerated units

After thorough testing, several of the largest truck body and trailer manufacturers found that nothing measures up to U. S. Royalite paneling for refrigerated units. Royalite (the industry's standard for A.B.S.* plastics) is extremely light, yet so durable it withstands everyday abuse. Keeps its toughness even at very low temperatures. Is acid-resistant . . . completely sanitary . . . easy to clean. Production men have found great economies in assembly costs by using Royalite panels. Find out how U. S. Royalite can benefit *your* product. Write for information.

**acrylonitrile, butadiene and styrene*

US Royalite® NITRILE THERMOPLASTIC SHEET

US RUBBER **United States Rubber**

2638 NORTH PULASKI ROAD, CHICAGO 39, ILL.

TEMBER, 1957 VOLUME 4 NUMBER 9

INDUSTRIAL DESIGN

monthly review of form and technique in igning for industry. Published for active in- trial designers and the executives throughout dustry who are concerned with product design, velopment and marketing.

CONTENTS

Coming

October—a complete report on design on the West st, another special issue on an important industrial a. In November—a full pictorial report on the Milan iennale; a comprehensive index to modelmakers roughout the country. In December—ID's Annual sign Review issue, rounding up the significant innova- ns of the year.

COVER: Two unrelated subjects are joined by Matilde Lourie to e
two design extremes: The largest plastic suspension roof (photo by
Checkman), designed like a bicycle wheel by Edward Stone for the Br
Fair (pages 44-55); and the Tournatractor, a potent new piece of
building equipment, one of three discussed on pages 66-73.

FRONTISPIECE: Photography, one of the modelmaker's most vital
for transposing scale models into life-like images, plays a part in the
modelmaking systems discussed on pages 96-105.

PUBLISHER *Charles E. Whitney*
EDITOR *Jane Fiske McCullough*
CONSULTING EDITOR *Deborah Allen*
ART DIRECTOR *Aldo Giurgola*
MANAGING EDITOR *Douglas G. Meldrum*
TECHNICAL EDITOR *Arthur Gregor*
ASSOCIATE EDITORS *Ralph S. Caplan*
Robertson Cather
Avrom Fleishman
Irma M. Weinig
RESEARCH EDITOR *Ann E. Forbes*
ASSISTANT ART DIRECTOR *Matilde Lourie*
EDITORIAL ASSISTANT *Nell Himmelfarb*
BUSINESS MANAGER *Alec E. Oakes*
ADVERTISING DIRECTOR *Paul R. Kane*
CIRCULATION MANAGER *Elizabeth Mello*
ASSISTANT TO THE PUBLISHER *Sven K. Martinsen*
PRODUCTION MANAGER *Walter E. Moore*

PUBLICATION OFFICES Whitney Publications, Inc.
18 East 50th St., New York 22, N. Y.
Charles E. Whitney, President and T
Jean McClellan Whitney, Vice-Presid
Alec E. Oakes, Vice-President
Paul R. Kane, Vice-President

ADVERTISING OFFICES

New York 18 East 50th Street
New York 22
Telephone PLaza 1-2626

Chicago Archer A. King & Company
410 North Michigan Avenue
Chicago 11, Illinois

Boston M. S. Beggs Company
462 Boylston Street
Boston 16, Massachusetts

Atlanta Blanchard-Nichols-Osborn
75 8th Street North East
Atlanta 3, Georgia

Los Angeles The Maurice A. Kimball Co., Inc.
2550 Beverly Boulevard
Los Angeles 57, California

San Francisco The Maurice A. Kimball Co., Inc.
681 Market Street
San Francisco 5, California

Tyler, Texas Weaver, Incorporated
P.O. Box 3142
Tyler, Texas

INDUSTRIAL DESIGN is published monthly by Whitney Pub
tions, Inc., 18 East 50th Street, New York 22, N. Y. Subscri
price $10.00 for one year, $18.00 for two years, $24.00
three years in the United States, U. S. Possessions, Can
and countries of the Pan-American Union; rates to all o
countries, $12.00 for one year, $22.00 for two years, $30.00
three years. Price per copy $1.50.
Second-class mail privileges authorized at New York, New Y

Member of the Audit Bureau of Circu

Member of the Associated Business Pu

in this issue...

Rudofsky, Harnden

Painter, Teague, Petertil

Thompson

Carreiro

Smith, Scherr, McDermott

Peter Harnden (right), director of Peter Harnden Associates, has been named by the State Department to supervise the total installation of the American exhibit at the Brussels World's Fair (see page 44). Mr. Harnden trained as an architect at the Yale School of Architecture and studied graphics in Germany. Since 1949, he has been directing government fairs and exhibitions. About fifteen months ago he opened his own office, just outside of Paris, and has designed six official American trade fair exhibits in Europe and four Trade Information Centers for the Department of Commerce. On the Brussels project, he is associated with **Bernard Rudofsky**, architect, author and designer of international scope. Mr. Rudofsky came to America in 1941 after practicing architecture in Austria, Germany, Italy and Brazil. He has designed for industry, theatre and films in this country, created many exhibitions, served as Editorial Director of Interiors, authored *Are Clothes Modern?*, and *Behind The Picture Window*.

Painter, Teague and Petertil, who worked with Le Tourneau-Westinghouse in evolving their three new earth-moving machines (page 66), have been partners since 1950—their friendship dating from student days at the Chicago Art Institute. Their work is divided into about 80% products and 20% packaging. The trio are ASID members.

Benjamin Thompson, who casts a retailer's eye at the value of imported products on the American market (page 86), is both store-owner and a partner in The Architects' Collaborative. Trained at the Yale School of Architecture, he was one of the young architects who joined Walter Gropius in the 1945 forming of TAC, which has been responsible for the design of over one hundred houses and over twenty schools. He divides his time between TAC and Design Research, Incorporated.

Joseph Carreiro, head of the Industrial Design Department of Philadelphia Museum School, expressed the views of the Committee For Industrial Design and Crafts at the 1958 World's Fair. A member of both the ASID and the IDI, he recently opened design offices in Philadelphia with Gimbels and Sana-Shell as clients. He directed the Summer Conference at Boston's Institute of Contemporary Art, and recently returned from a design survey trip to Scandinavia. **William Daley**, of the Industrial Design Department staff at the Museum School, a nationally exhibited potter, is assisting Mr. Carreiro in his programming of industrial design for the Brussels Fair.

Smith, Scherr and McDermott present a system for demountable displays on page 92. A triumvirate since 1955, they appeared here earlier this year because of their ICA survey in Korea. They work for the Wooster Rubber Company (see page 109) and are all members of the ASID.

LETTERS

Product planning postscripts

Sirs:
Our office was particularly impressed by the resultant reaction on the part of one of our most important clients upon being exposed to your excellent series of articles on Product Planning in your June issue.

This issue was openly discussed at a product planning meeting between our office and our client's management (in committee). This resulted in our client's completely reorganizing their product planning to such an extent that administrative and decision-making efforts were greatly facilitated. This firm has now become a smooth working, decision-making organization within whose organizational framework we, as industrial designers, have found new freedom and incentive.

If this is indicative of INDUSTRIAL DESIGN's policy for the industrial design field, we say more power to you and your magazine.
Mitchell Bobrick
Industrial Designers Group, Inc.
Pacific Palisades, California

Sirs:
... Truly the June issue illustrates that the publication has again fulfilled its editorial promise to the active industrial designers and the executives throughout industry who are concerned with product design, development and marketing.
Frank E. Cook
Industrial Designer
Erlton, New Jersey

Sirs:
... We would like to commend your magazine for its fine and thorough report on Product Management, in all of its phases, which appeared in the June, 1957, issue. The report was read with much interest by various members of our Product Management group.
N. Coxall
Philips Industries Limited
Toronto, Canada

Sirs:
... You and your associates are to be congratulated for an excellent treatment of this all-important and extremely difficult subject of product planning. It seems that everybody has a product plan but very few people commit the plan to paper so it can be communicated and understood not only by the outsider but the individuals within the company responsible for carrying out the product planning.

As you probably know, the number of individuals that have specialized in product planning is rather few. Hence, your article is quite helpful in naming people to whom I can go and exchange experiences. It undoubtedly will be helpful in cutting down the amount of time required to correct some of the inconsistencies and the rough edges that are experienced in developing product plans.

Once again, we thank you very much for an excellent treatment of a difficult subject.
William R. Rinelli
Coordinator of Product Planning
Ansul Chemical Company
Marinette, Wisconsin

Management and motivation

Sirs:
In your Aspen Report (August, 1957), I note some of the comments that Mr. Latham originally made at the Conference on the dynamics of motivation in current management practices, which were also brought out in your June Product Planning report.

As a participant in the Aspen Conference, this viewpoint interested me very much. I feel that interest in considering each individual in the corporation who is affected by design or merchandising activities is a very important principle today—and bears strongly on the success or failure of design.

The increasing complexity of function and relationship within any business, and the increasing difficulty of acquiring personnel who can cope with the complexities, has forced management to accept certain concepts created by the social sciences.

These concepts really stem from the interplay of personalities in a group situation. It is manifest that the human organism functions best in what is called a "permissive atmosphere," which provides an opportunity to be wrong as well as right, an opportunity to influence at any level the direction in which an enterprise is moving—to influence the objectives of the enterprise.

Out of this attitude of management has developed a philosophy of leadership: when one leads, one cannot act arbitrarily or autocratically, regardless of one's position within the management hierarchy. One must respect the inherent human dignity of any individual, regardless of his status or his hierarchical position. In other, words, the employees no longer hop when the boss says jump. Rather, the boss creates situations in which the employees are motivated to jump by their own initiative, thereby exercising their rights as free individuals. The corporation places a higher value on the development of the individual as a part of the attainment of a corporate objective, than it formerly did on the value of sacrificing the individual to the corporate objective.

As a management specialist, it is my belief that a designer serves his client to the extent that he really understands the dynamics of the particular organization. The designer must know the precise relationship at all levels of authority, from the foreman level up to the board of directors—and by this I mean the real relationship, which is sometimes different from the policy-dictated relationship.

May I make a personal plea to designers? Use your own particular process of design as a tool for learning the intimate, discreet and real functioning of that collection of human beings—of aspirations and frustrations, of disappointments, of strivings—which is called a business.
Harry Baum
President, Noreen, Inc.
Denver, Colorado

Clarification

Sirs:
... I feel a certain concern about the possible misconception that may be created by your presentation of my work for Upjohn (May, INDUSTRIAL DESIGN). My relationship to the Upjohn Company is that of a consultant designer, in addition to which I am art editor of *Scope* and am concerned with similar editorial endeavors. The enormous flood of visual material that originates at the Upjohn Company's advertising department is far too much to handle by one person or organization, and the exhibition, therefore, also contains material which was developed by agencies and other services. The house organ, *Overflow*, is art-directed by a designer within the company, although the recent re-design of that publication was done at my office.

I am consulted on problems which are not always connected with printing, or only indirectly, such as editorial planning or exhibits. I feel, therefore, that if it would appear to the reader that I had designed all the pieces shown in the exhibit, the impression would be incorrect and unjust to the people who are cooperating so well with Mr. Deal of the Upjohn Company and myself.
Will Burtin
New York City

premium on purity

From the cow to the container, the purity and delicate flavor of dairy products must be protected. Dairy equipment made of stainless steel resists corrosion, imparts no odor to the product and is easy to keep clean and sterile. The highest quality dairy equipment is designed, improved and protected with McLOUTH STAINLESS STEEL.

specify

McLOUTH STAINLESS STEEL

HIGH QUALITY SHEET AND STRIP

for the dairy industry

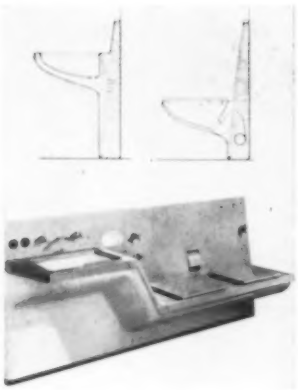
McLOUTH STEEL CORPORATION DETROIT, MICHIGAN

MANUFACTURERS OF STAINLESS AND CARBON STEELS

INTERNATIONAL DIGEST

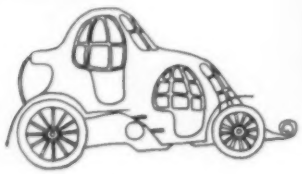
Summaries of articles from leading foreign publications that reflect the current design climate abroad

ITALY



STILE INDUSTRIA, Milan
Number 12, 1957, page 32
New Approach to Bathroom Design: As the kitchen has been transformed in recent years into a coherent unit with logic and beauty of its own, the bathroom has remained a makeshift collection of appliances. Now plastics have opened the door to better integration of bathroom fixtures, and Montecatini Co. recently exhibited an example of what can be done. Its components are joined into three self-contained sections (bath; washbasin; WC and bidet) that may be arranged in different combinations. Each section contains its own piping, and is easy to assemble. The research was conducted with an eye to mass-production of sections.

SWEDEN

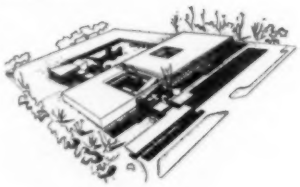


FORM, Stockholm
Number 3/4, 1957, page 67
Degenerate Design: Through its publication, the Swedish Society of Industrial Design vents its feelings about cars. The article reviews the decline of auto design since the '30's, when car owners ceased to be knowledgeable experts. Gradually the car became a foolproof everyday product for the anonymous consumer, until today its secondary gadgets, rather than its mechanical perfection, are emphasized. *Form* finds signs of a change for the better, even though American cars are influencing Europe; it cites the inroads of Italian design, and the Swedish Volvo and Saab, on the American market. In a companion article, car designer Sixten Sason opines that speed-dictated shapes and fins are quite meaningless in terms of workaday driving, and do not lend themselves to quantity output. His design for the Saab was dictated by safety and operating conditions, and he predicts that his sketches, first made 12 years ago, will withstand the ravages of fashion.

GREAT BRITAIN

DESIGN, London
June, 1957, page 40
Packaging Precepts: The prevailing level of design in British packaging—exemplified by the packages above, collected on a shopping trip—is the subject of an article that points to the packaging industry as the source of trouble. The tradition of speculative rough sketches turned out for clients by the supplier cannot, the editors feel, produce satisfactory design of any sort. The problem, however, is too large to be solved by consultant designers. Only the industry itself, by setting up serious design staffs with creative incentive, can effect a significant improvement on the graphic scene.

INDIA



DESIGN, Bombay
July, 1957, page 15
Design for a Crafts Museum: A new review of architecture and applied arts just launched in India (in English) is patterned somewhat after its English namesake. This slender issue puts its emphasis on architectural problems, weaving, and glasswork. Illustrated here is the concept for a museum of colorful handcrafts in New Delhi; the architects' (Kanvinde and Rai) prime objective is integration with nature, through patios that make display interesting and avoid boredom; the visitor could take refuge in the garden if the exhibits begin to pall on him.

A second artcle, "The Second Aspect of Architecture" by Gio Ponti of Milan, describes the design of the Pirelli skyscraper as a definite concept of "finite form" — a composition with a defined form and climax, as opposed to the endless repetition of elements that is typical of most American skyscrapers.

GERMANY

Parfum

PARFUM *Parfum*

Beton BETON

BETON

Zement

Zement

GRAPHIK (Advertising Art and Industrial Design), Munich
June 1957, page 37
The Expression and Magic of Script delves into the psychological relation of words and type, in order to understand the spiritual power of expression in creative calligraphy. "If one wants to design appropriate type, one must know *what* he is writing. Consider the word 'perfume.' Does it not demand an airy, fluttery type? Consider the title of the book, 'From the Life of Caesar.' One will almost automatically select a classic type. Really? The book may deal with the life of a *dog* named Caesar, in which case something quite different is required. Which shows how important it is to know all the details."

The work of the best script designers, author Anton Sailer concludes, shows the great opportunity to create fresh ideas. Leaving "beautiful script" behind, they apply imagination, temperament and courage to finding original and appropriate expression for words.

made with Du Pont HYLENE*

sound absorption, vibration dampening

to most surfaces while foaming. They have K factors as low as .21. Their cell structures are controllable. / *HYLENE is Du Pont's trademark for its organic isocyanates—key ingredients supplied by Du Pont to formulators of foaming compositions. Mail the coupon today for further details.

Write for our new, free booklet describing the properties and uses of urethane foams.

URETHANE FOAMS
made with DU PONT HYLENE

DU PONT
REG. U. S. PAT. OFF.

Better Things for Better Living
. . . through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Dept. ID-9
Wilmington 98, Delaware

☐ Please send me a copy of your free booklet, "Rigid and Semi-Rigid Urethane Foam."

☐ Please send me a list of foaming composition suppliers.

☐ I'm interested in urethane foams for possible application in

_____

Name _____ *Title* _____

Firm _____

Address _____

City _____ *State* _____

NEWS

Ford shows Edsel, nine years in the making

The first new car line, since the brief reappearance of the Continental, to be released by the "big five" of Detroit makes its introduction this month. After nine years of proposals, research and planning, Ford has entered its much-whispered-of Edsel line in the sales derby of the medium-price car field.

Ford chose to enter the race (in competition with its own Mercury line) as a bid for saturation coverage of the market with as many car lines as its competitors, General Motors and Chrysler, to achieve a better "corporate loyalty" position. The trend on the American market is believed to be toward "trading up" into higher-priced cars, and Ford has had the worst of the fight to retain its customers in the next higher brackets. While 85% of Chevrolet owners stayed with GM cars when they moved up and about half the Plymouth drivers bought Chrysler Corp. again, only 25% of the "up-trading" Ford owners bought Mercury.

Three years and more than $250,000,000 have gone into the physical development of the Edsel since the proposal was first made by Henry Ford II on Sept. 28, 1948. Studies were continued during the Korean war but definite plans were held in abeyance until the creation of a Special Products Division in 1955 under General Manager Richard E. Krafve. Research included a nationwide market survey to develop an efficient dealer location system. So much thought was given the dealers, and so full was the planning that the Edsel will be introduced with the largest unified dealer identification sign program in history, developed by Federal Sign and Signal Corporation of Chicago.

What are the results? The 18 models in four series that make up the Edsel line are intended to stand out on the road with a vertical grille in front, a concave tear-drop scallop on the sides and horizontal tail-lights in the rear. In keeping with the trends, the Edsel is long (213-219 inches), low (56.4-56.8 inches) and wide (78.9 inches—.2 inches less than the maximum legal limit set by most states). And it is "hot": the Ranger and Pacer series develop 303 hp, while the Corsair and Citation series are rated at 345 hp!

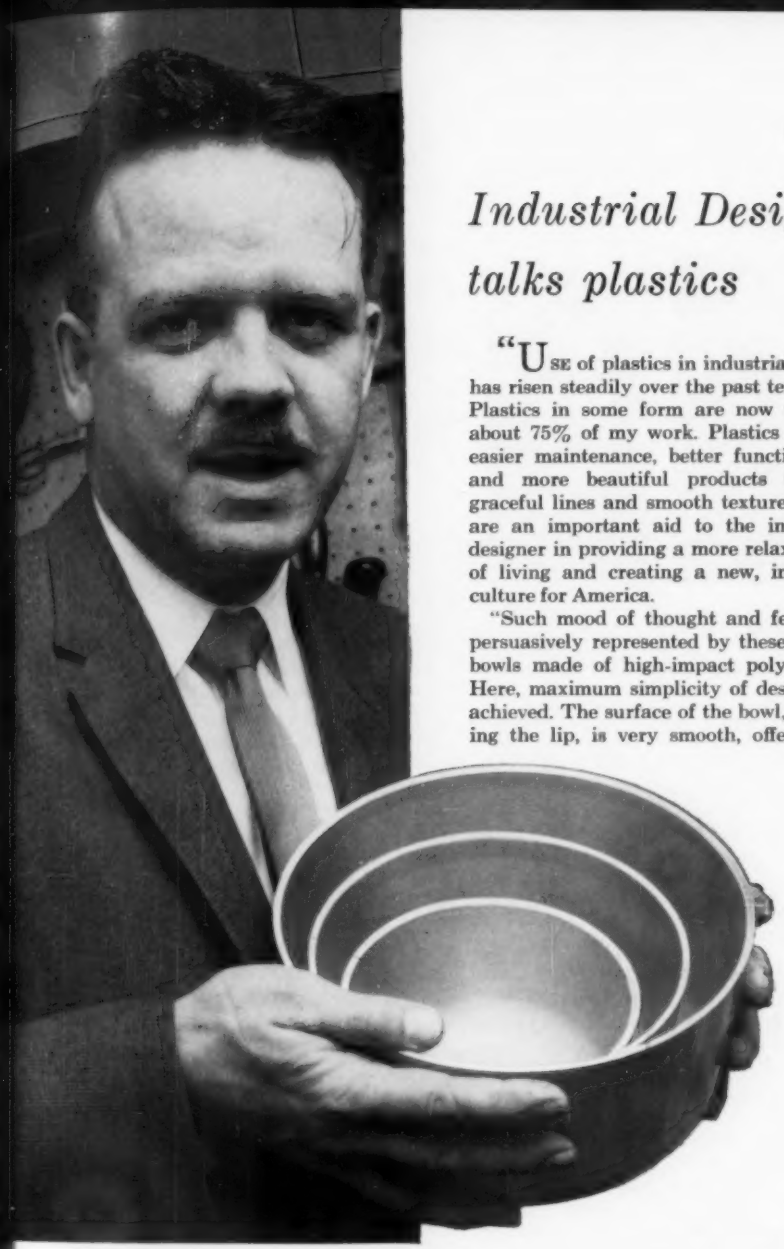
Engineering innovations that will be pushed to sell the car are "Teletouch" push-button transmission controls located in the steering wheel hub, and single-dial control for heater, defroster and ventilator. Both are electric servo motor systems that simplify operator function, without, however, greatly simplifying the dashboard. Design was supervised by Roy A. Brown, Chief Stylist of the Edsel Styling Studio, under Vice President of Styling George Walker.

Interior design center for public

The first permanent exhibit hall in the U.S. for interior decor and allied design fields is scheduled to open early in 1958, to provide a new meeting ground for consumers and manufacturers of quality products. The decorative design field has heretofore functioned mainly under a closed-showroom system, with products shown only to designers, decorators, architects, and their clients. Interior Design Center, Inc., aims to emulate two other permanent exhibits, the Design Center for British Industries in London and Den Permanente Udstilling in Copenhagen, in disseminating information and increasing public exposure to good design.

The Design Center for Interiors, as it will be called, is to run a full block from E. 53rd to E. 54th Streets in New York, adjacent to the Decorators' Mart in the interior fashions center of the city. Planned and executed by its permanent design consultant Tom Lee (below, right), the Center will occupy 40,000 square feet of floor space on two levels, with individual display areas for 400 exhibitors. An advisory council will set standards for prospective exhibitors.

The Center aims to provide not only a chance for a free and easy look but also a reference file of information for both professionals and consumers on the price and availability of furniture, decorative accessories, lighting fixtures, wall coverings, fabrics, floor coverings and basic materials. An information staff will handle inquiries from the public (no salesmen will be present), and will arrange such educational projects as films, lectures and special "Panorama" exhibits. Norman Ginsburg, President of IDC, Inc., (below, right) promises exhibitors an overall program of promotional support.



Industrial Designer Jack Collins talks plastics

"USE of plastics in industrial design has risen steadily over the past ten years. Plastics in some form are now used in about 75% of my work. Plastics provide easier maintenance, better functionality, and more beautiful products through graceful lines and smooth textures. They are an important aid to the industrial designer in providing a more relaxed way of living and creating a new, improved culture for America.

"Such mood of thought and feeling is persuasively represented by these mixing bowls made of high-impact polystyrene. Here, maximum simplicity of design was achieved. The surface of the bowl, including the lip, is very smooth, offering an uncluttered, easily cleaned product that will fit in any electric mixer, withstand the wear and tear of constant use, and won't smash to pieces when accidentally dropped. (End result—these bowls won a First Prize, Class I, in Koppers 1957 Design Competition.)

"Today's widespread acceptance of plastic materials is the result of care and caution on the part of the designers who accepted the responsibility of refusing to incorporate plastics in designs on the basis of simply reducing production costs without consideration of eventual failure. *The incentive to use plastics is there, and it is a challenging one.* The material has more than a definite position in production. In many cases now, it is the only answer.

"Plastics have improved many of the old-fashioned methods of production, and our design range extends from tiny control knobs to large clothes hampers. Plastic bowls, spatulas, cereal dishes, mixing decanters, tape dispensers, cups, basting brushes, picnic accessories, photographic equipment, and packaging have not even begun to utilize the potentiality of plastic materials and processes."

Have you used the full potential of plastics by including them in your design plans? Koppers offers this choice of fine materials: DYLENE® polystyrene, DYLITE® expandable polystyrene, DYLAN® polyethylene, and SUPER DYLAN® polyethylene. Write for information and technical facts on these interesting and useful plastics. Koppers Company, Inc., Dept. ID-97, Chemical Division, Pittsburgh 19, Pa.

KOPPERS

KOPPERS PLASTICS

Offices in Principal Cities • In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario

Monsanto's almost all-plastic commercial building

Monsanto Chemical Corporation's recently completed research center for its Inorganic Chemicals Division, part of the company's new headquarters in Creve Coeur, St. Louis, features an exterior surface nearly 100% plastic. In addition there are more than 120 different special applications of plastics throughout the building. A Building Research Institute plastics study group will tour the new lab September 18. Earlier this year a "cutaway view" group saw the building in construction and heard a symposium on "Plastics in Construction" by Monsanto personnel.

The lab, designed by the Chicago architectural firm of Holabird & Root & Burgee and constructed by William H. and Nelson Cunliff Company of St. Louis, is a three-story structure of about 70,000 square feet of floor space. It was planned as a demonstration of what can be done with plastics within the framework of conventional building practices and existing resources. It thus differs from Monsanto's "House of the Future," which generated new design ideas from the unique structural properties of plastics.

The architects, working closely with Monsanto's plastics divisions, spent at least a year of study before construction was begun late in 1955. Suppliers of materials, many of them buyers of raw materials from Monsanto, also contributed to the background of plastics information on which drawings and specifications were based. Applications include new uses of plastics in building and novel uses of contional materials, as well as conventional uses of conventional materials. All applications are possible with plastic materials available on the market today.

Among the highlights are: reinforced polyester and foamed styrene sandwich wall panels; polyester molded exhaust fans; laminated polyester and urethane foam structural support for front canopy; vinyl foam insulation; polyester-faced concrete paving blocks; styrene-latex-based paints; foamed styrene sandwich panels for roof; phenolic impregnated honeycomb panels with polyester face on stair rail; polyester closing strips on mullions; polyester vent stacks; styrene wall tile; polyester molded drawers on modular basis; aluminum honeycomb sandwich with polyester face for canopy; luminous rigid vinyl ceiling; urethane-based paints on exposed concrete floors; polyester control dampers on laboratory hoods; urethane, corrosion-resistant structural steel paint; and high-impact styrene glazing mold in partitions. The building marks one of the first installations of Teraise, a decorative plastic wall covering developed by the Monsanto Industrial Design Department, of which William A. Lang is Director.

The photos above show some of the practical advantages of using plastics in construction: (l.) the use of plastic pipe in the intricate system typical of a chemical laboratory makes possible on-site welding of many of the complex joints; (c.) labor saving is demonstrated by workmen, each carrying in a full louver-type acrylic window for installation in the background; (r.) integral color on both interior and exterior surfaces is present in sandwich-type curtain wall panels with facing sheets of polyester resin reinforced with glass fiber cloth. In addition, a two-inch core of foamed styrene provides insulation equivalent to a 16-inch brick wall; yet the panel weighs only 70 lbs., as compared with more than 300 lbs. for a metal sandwich panel of comparable size.

Chicago still dynamic

"**Whereas**, Chicago is the birthplace of American architecture, the curtain wall building, which ushered in the age of the skyscraper; and **whereas** the Chicago Dynamic Committee comprising our community's business and civic leaders has been organized to honor the sound building and far-sighted planning of Chicago, the world's most dynamic city, and bring together the nation's leading architects, builders, city planners and financiers to discuss universal city building problems; **now, therefore**, I, Richard J. Daley, Mayor of the city of Chicago, do hereby proclaim the week of October 27 through November 2, as "Chicago Dynamic Week."

With this proclamation and under the symbol below (by Bill Williams of B. B. D. & O.), Chicago made official last month its determination to renew its "great tradition" in architecture, and to solve some of its civic problems (outlined in ID's "Design in the Midwest" issue, (October, 1956). With five major buildings going up on the Lakefront area and a new look at planning exemplified by the conversion of West Jackson Boulevard to an arterial highway, the city is to discuss further city planning and steel-curtain-wall construction problems in forums that will bring together such notables as William Zeckendorf, Frank Lloyd Wright, and Carl Sandburg—who has been commissioned to write a poem of the new city.

From the "first skyscraper," the twelve-story Home Insurance Building designed by Major William Le Baron Jenney in 1883 (below, left), to the forty-story Executive House, Milton M. Schwartz's stainless steel apartment hotel, the first to go up in the downtown area and the tallest reinforced concrete structure in the nation (below, right), Chicago has led the world in the use of steel frame construction and the curtain wall. Others now being built will be headquarters for Borg-Warner Corp., Morton Salt Co., Mutual Trust Life Insurance Co., and the Salvation Army; three will have stainless panels.

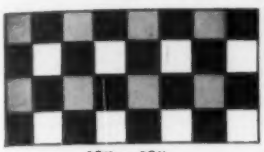
CHICAGO
DYNAMIC

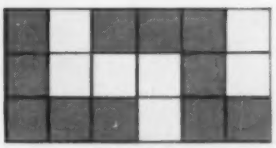
Recap of curtain wall history: first one by Jenny (l.), latest and tallest (r.).

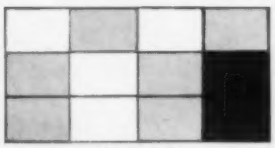
ANOTHER HOMASOTE "**FIRST**" IN DRY-WALL CONSTRUCTION

NOW ON 4′ x 8′ PANELS

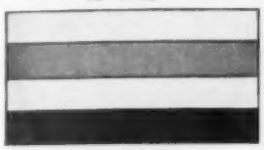
WALL and CEILING TILES

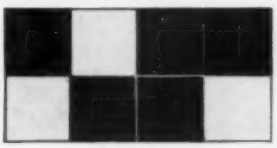

12″ x 12″

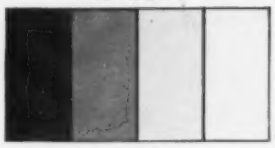

16″ x 16″

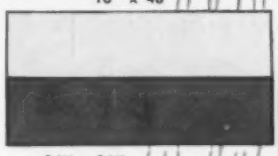

16″ x 24″


16″ x 48″


12″ x 96″


24″ x 24″


24″ x 48″


24″ x 96″

in 33 different designs

A totally *new dimension* in wall and ceiling treatments — offering an endless variety of design at great construction economies

PANL-TILE is the first material of its kind for dry-wall tiling of *both* walls and ceilings. These sturdy 4′ x 8′ panels are grooved every 12″ or every 16″—and on special order may be grooved in any multiple of 8″ or 12″. Thus the architect or builder has tiles in the shape of squares — in several sizes; in the shape of rectangles — in several proportions and sizes, *horizontal or vertical*. In addition, the tiles take any paint or stain beautifully in a myriad of color harmonies — may be used with moldings for raised paneling effects.

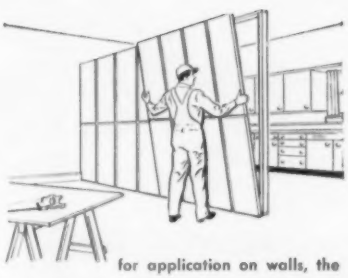
The unique 3/8″ wide groove is far more striking than simple scored lines — and can be painted in blending or contrasting colors to original color schemes.

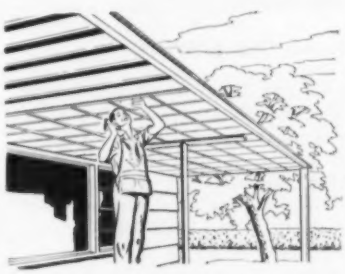
The 4′ x 8′ panels make application of Panl-Tile exceedingly fast. Joints are automatically taken care of with the 3-stage, groove-lap joints on all sides and edges. True-line joining is assured.

Because Homasote Panl-Tile is weatherproof, it is used outdoors as well as indoors. The standard linen surface exhibits important sound-deadening qualities; and for greater acoustical effect, *Panl-Tile is also available with funnel perforations.* The tile may be secured unpainted, or painted white, one coat, one side.

* * *

Write now for complete specifications and application data. Thirty-three different wall or ceiling designs are suggested in the new Panl-Tile folder. Kindly address your inquiry to Department J-16.


for application on walls, the 4′ x 8′ panel means real speed and ease of handling (also in 2′x8′, 2′x4′, or 1′x8′ panels).


for ceiling and soffit erection, a "T" supports the panel during nailing.

HOMASOTE COMPANY, TRENTON 3, NEW JERSEY

IN CANADA: TORONTO, ONT.—P.O. Box 35, Station K • MONTREAL, P.Q.—P.O. Box 20, Station N

Events

International exchange

American designers visiting the Triennale played host in Milan August 6th to a group of Italian designers at cocktails. Dave Chapman writes: "There were no speeches, but lots of exchange of feeling and opinion. The Italians are very attractive people, are keenly interested in what we are doing at home, and are of course doing a stimulating job here."

A. M. A. meeting previews

News of the fall program of conferences of the American Management Association comes in pleasant packages, a series of cartooned brochures like the one above (Dale Pelow, art director; Fred Shelley, cartoons; George Neumann, Kenneth Egbert, designers). The theme of this one, to be held October 2-4 in New York, is "Planning Ahead for Profits." The personnel conference will debate on the accuracy of fictional portrayals of the businessman (New York, September 23-25); other meetings include finance, office management and marketing. In addition, a new course on executive decision-making will be given four times this year at the recently established A. M. A. Academy of Advanced Management at Saranac Lake, N. Y. A. M. A., 1515 Broadway, N.Y.C.

ASID and The Next 100 Years

The American Society of Industrial Designers' 14th annual meeting and design conference has been rescheduled to take place at the Ojai Valley Inn, 75 miles northwest of Los Angeles, October 17-20. Harry Greene, chairman of the Pacific Coast chapter, has planned a program centering on the theme, "Designing the next hundred years." The major event of the conference will be a presentation by the three California Institute of Technology scientists who wrote the book, "The Next Hundred Years": Harrison Brown, James Bonner, and John Weir. Other speakers will include Morris Rappaport, Coordinator of Behavioral Sciences Research at Stanford Research Institute; Karl With, Head of the Department of Integrated Arts at UCLA; Stephen Bosustow, President of United Productions of America; and Charles Luckman of Pereira & Luckman, Los Angeles architects.

The Southern New England chapter of the **Industrial Designers' Institute** will hold its fourth annual symposium on Saturday, October 5th, at the Silvermine Guild, Silvermine, Conn. The theme, "Ultimate: the consumer," will be explored from the consumer viewpoint by designers, market researchers and consumers themselves—a panel of housewives has been assembled to comment on design of current products.

Another Art Center student wins

An Art Center School student has won the $5,000 national grand prize of the 1957 Fisher Body Craftsman's Guild Contest, giving the Los Angeles school this distinction for the second straight year. This year's winner is Arthur Russel (left); last year's, William Moore (right); they are shown examining scale models of their winning entries. A third Art Center industrial design student, Robert Sylvester, won a $3,000 scholarship in this year's contest. The school now has nine national winners of this contest in its history.

Awards and Contests

The eleventh annual Industrial Arts Awards and Student Craftsman's Fair sponsored by Ford Motor Company, the largest program of its kind in the world, received 40,000 entries this year. Seven hundred and thirty-two junior and senior high school students shared $50,000 in prizes. Projects ranged from necklaces to power saws and drill presses, from electronic instruments to decorative sculpture. Among the most outstanding were a remote-controlled lawnmower by David W. Howell, 18, of Whittier, Calif. (above), and an intricate electronic combination lock by Dennis Garrabrant, 17, of Paterson, N. J. Winning projects are touring major U. S. cities in August and September, and entries for next year's contest may be made at Ford's IAA office, The American Road, Dearborn, Michigan.

The Akron firm of **Smith, Scherr & McDermott** was awarded an honorable mention in potato chip bag design by the Glassine Greaseproof Manufacturers Association for its Salem potato chip pack.

The third annual contest for **Informative Labelling of Plastic Products sold at Retail** has been announced by the Society of the Plastics Industry, Inc. It is open to all companies and individuals in the U.S. Entries, which may be labels, hang tags, inserts, packaging, etc., may be submitted to SPI, 250 Park Ave., New York 17. The contest closes December 1, 1957.

The 1957 **Aerosol Package Competition** for brand owners or marketers of push-button products has been announced by the Aerosol Awards Committee of the Chemical Specialties Manufacturers Association. The contest closes October 15 and entries may be made to the Secretary of CSMA, 50 East 41st St., New York 17.

The $25,000 **R. S. Reynolds Memorial Award** is to be made annually for "a most significant contribution to the use of aluminum, aesthetically or structurally, in the building field." The first award was presented earlier this year to Cesar Ortiz-Echague, Manuel Barbero Rebolledo and Rafael de la Joya, three young architects from Madrid, Spain.

Langmuir's contributions great

Dr. Irving Langmuir, Nobel-prizewinning chemist and physicist, died on August 16 at the age of seventy-six. His passing after forty-one years of service in the General Electric Research Laboratory, brings to mind a large slice of the history of the electronics industry. Besides contributions to pure scientific knowledge—such as his studies of electron emission, gaseous discharges and surface chemistry—Langmuir played an important part in the development of the gas-filled incandescent lamp, the high-power vacuum tube and atomic hydrogen welding. Dr. Langmuir's fruitful career is closely linked with the achievement of American industry in the fields of electric lighting, radio-television and production processes.

Company news and views

Monsanto Chemical Company has "modernized" its block M trademark from a hand-lettered Gothic type face to a hand-lettered Roman type. The change also includes removal of the horizontal rule over the word Monsanto, increased proportional width of the M, and a more deeply notched letter.

Business Week predicts: From 1957-1960 industry plans to introduce more new products than in any previous four-year period. Business plans to increase research expenditures 20% in 1957, and to continue stepping up research during the years 1958-1960. By 1960, at least 10% of total manufacturers' sales are expected to come from products not made in 1956. For 1957, plans call for 52% of capital spending to be on expansion and 48% for modernization. But in plans for 1958-1960, the percentages are almost exactly reversed.

The Reporter (summarizing Leon Keyserling's testimony before the Senate Finance Committee, April, 1957): While investment in heavy machinery and durable equipment grew by about 12.7% from 1955 to 1956, and investment in new construction (other than housing) grew by about 6%, consumption grew by only 1.6%.

Buick Division of General Motors will distribute the 1958 German-made Opel two-door sedan and station wagon.

Alcoa has announced the development of a complete line of colored aluminum paints and aluminum asphalt roof coatings. The company was also named a winner of the National Home Fashions League 1957 Trail Blazer Citation for its Forecast advertising program (ID, July, 1957).

Owens-Corning Fiberglas Corporation continues to exhibit a monthly series of decorative prints and weaves on glass, in its Patterns-of-the-Month program.

Eastman Chemical Products, Inc., subsidiary of Eastman Kodak Company, is celebrating a quarter century of Tenite plastics production this year with a medallion, a movie and a new publication.

Mimosa Corporation has acquired **Hoosier Cardinal Corporation's** Cardinal Division for additional injection-molding facilities.

People

Paul Dearborn has been named to the new post of Director of Packaging Markets by Reynolds Metals Corporation.

Langer Industrial Design Company opened new offices at 15 Bond St., Great Neck, New York.

Lippincott and Margulies, Inc., has appointed Management Development Associates, Inc. to survey the design field for design talent—a move without precedent in the field, it claims.

Stowe Meyers Industrial Design has new offices at 1903 Central St., Evanston, Ill.

Karl Brocken has been commissioned by Continental Can Company to create an advanced styling and design section with the company.

Design Research, Inc., an affiliate of Dave Chapman Industrial Design, has been awarded a contract for technical assistance to Iran by the International Cooperation Administration.

San Francisco IDI officers (l. to r.): Bluhm, Sampson, Ketcham, Harada.

Melvin Best Associates has been incorporated, to allow "all of the regular design personnel to participate in the ownership and growth of the business."

Dearborn

McDevitt

Ken White Associates has new studios at Madison Ave., Westwood, N. J. Executive offices remain at 7 James St., Westwood, N. J.

Gerhard Lang has been appointed Director of Client Relations of Ken White Associates.

Schnur-Appel Design Consultants has appointed **David Wachter** as Director of Product Development.

Westinghouse has named **O. H. Yoxsimer** as manager of its East Springfield appliance plant, and **G. R. Masquelier** as manager of product planning for its electric range department.

Orr Associates Ltd. has appointed **James Pilditch** to its staff.

The **Michigan State University** student chapter of Industrial Designers' Institute has been chartered with twenty-three members at its initial meeting.

Francis E. Blod has been elected a member of the Board of Trustees of Pratt Institute of Brooklyn, N. Y.

Howard W. Arnold has been named manager of product planning and marketing research for General Electric's metallurgical products department.

Newly elected officers of the San Francisco chapter of Industrial Designers' Institute are **Henry Bluhm**, secretary; **Cornelius Sampson**, chairman; **Richard Ketcham**, vice-chairman; and **Walter Harada**, treasurer.

John J. McDevitt has been named Vice-President of Lippincott and Margulies.

Rene Burvant has joined the staff of Reinecke and Associates as Director of Packaging and Graphics.

Whiting N. Shepard has been appointed manager of Plaskon molding compound sales for Barrett Division of Allied Chemical & Dye Corporation, succeeding Henry DeVore.

Francis E. Blod, President of Design Associates Ltd., has appointed **Richard E. Tupper** as marketing coordinator of packaging projects.

Otis Zumwalt has been elected Vice-President in charge of merchandising and product planning of Thomas Industries, Inc.

Sardines: a fable for all time

A wholesaler in groceries met a colleague on New York's 10th Avenue, so the story goes, and let him in on a big bargain. "I've just heard about a shipment of sardines from Norway," he said, "and we can buy them at a sensational price: $1.00 for a case, twenty-four cans to a case, and with the price of sardines what it is, why don't we go in together on a carload?" So the partnership was formed, the purchase consummated. When the new member of the team got his portion of the shipment, he called a wholesaler friend on 9th Avenue and tipped him off to a big bargain—half a carload of fine sardines for only $2.00 a case. The 9th Avenue man lost no time in calling an acquaintance on 14th Street, who snapped up the offer of half a carload of sardines at only $4.00 a case. He then remembered a friend he wanted to help out down on Canal Street, and made him a very special price at $8.00 a case.

Now the Canal Street man liked sardines very much, so before converting his treasure into hard currency he decided to enjoy a sample. He opened one of the cans and eagerly mouthed a delicate morsel. It was terrible. Hungry as he was, he could not eat it. The buyer rushed to the phone and called the man who had sold them: "I know I shouldn't complain when you gave me such a bargain, but these sardines are really too terrible to eat."

"You dope," the merchant replied, "those sardines aren't for *eating;* they're for buying and selling."

Moral: The proof of the price-padding is in the eating. The seller whose sardines aren't for eating may find himself in a pretty kettle of fish.

J.F.McC.

Peter Harnden and Bernard Rudofsky oversee construction of model of pavilion's interior exhibit structure (bottom, opposite page), at Orgeval, France, headquarters.

USA

at Brussels' Fair, 1958

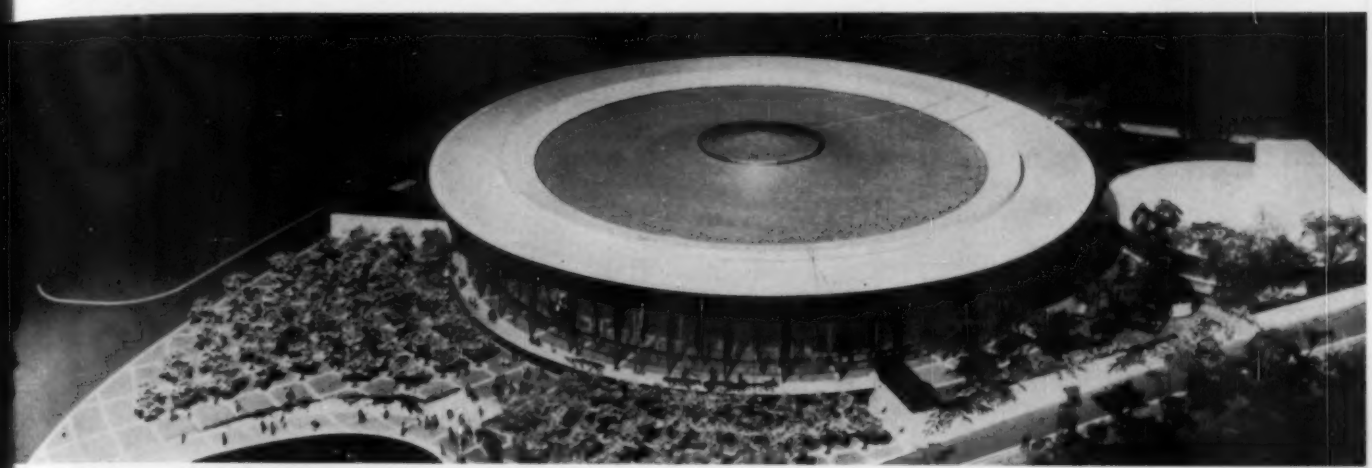
The first World's Fair of the atomic era opens in Brussels, Belgium, next May, nearly 20 years after the last international get-together in Flushing Meadow. In 500-acre Heysel Park, fifty-one nations and seven international organizations will take stock of accomplishments, affirm to some 35 million viewers their faith in man's ability to live a fuller life with the new energies at his command.

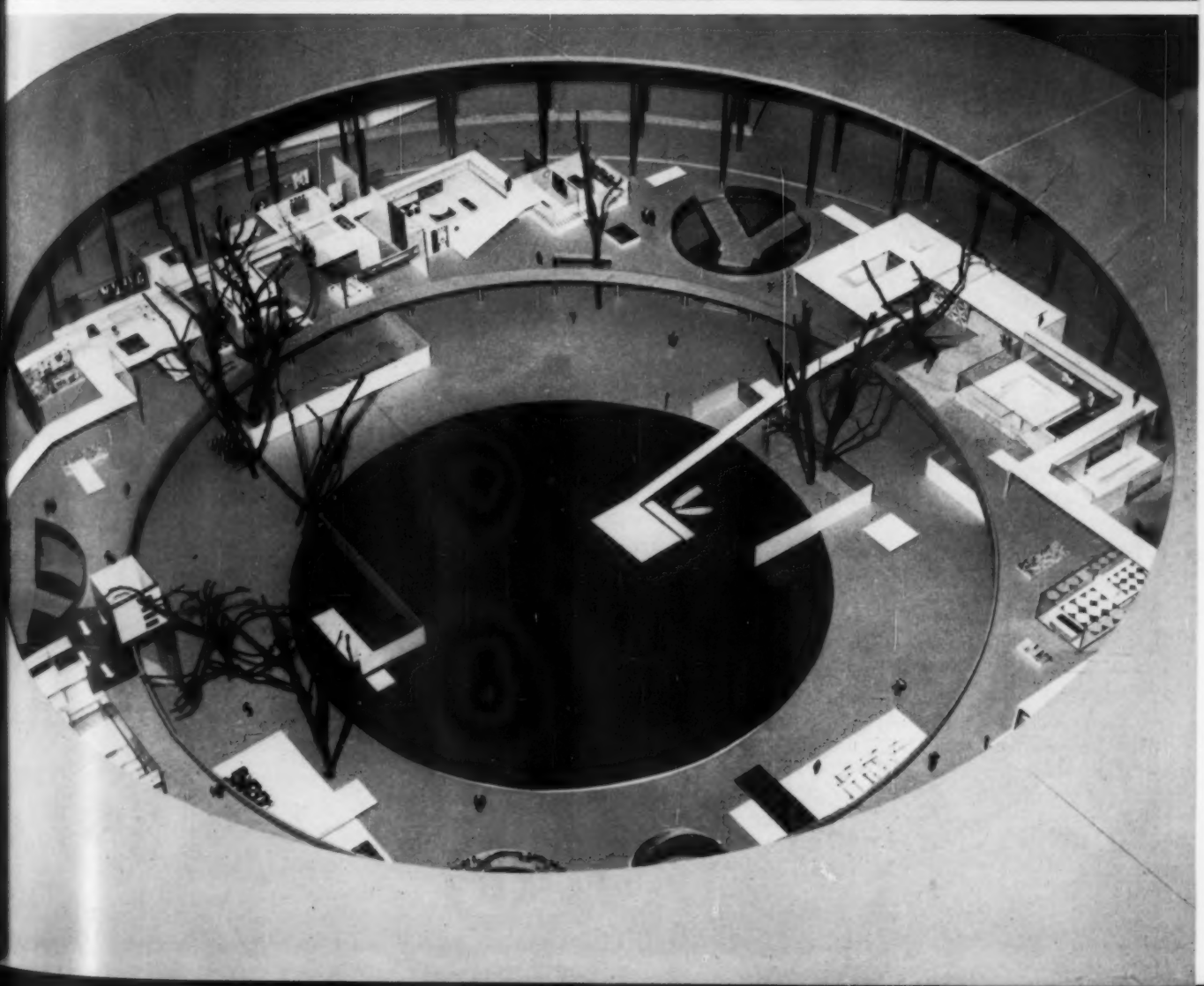
Plans for American participation—through an exhibit that will be an important design event as well as a national statement—are being readied by the State Department, with Howard Cullman as Commissioner General, James S. Plaut as his deputy.

For the complex job of showing the world how we live, within the space of the gold and crystal (colored steel and aluminum, plastic) palace at the right, Cullman has named Peter G. Harnden Associates and Bernard Rudofsky. How the designers are planning to give visitors an experience of the variety, tempo and color that is America is revealed on the following pages. One of their decisions has been to include a major section on industrial design. On page 48 a report on the work of the committee for that section—the first representative design committee formed for a government project—indicates how American design will be represented to the world.

In a circular pavilion, the U.S.A. plans to project the flavor of our restless land

Under leadership of Commissioner General Howard S. Cullman (right). United States is erecting pavilion and circular theatre (below) designed by Edward D. Stone on 6½-acre triangular plot for 1958 Brussels Fair. Interior display system, arranged by Bernard Rudofsky and Peter Harnden Associates, is indicated in their model at bottom.

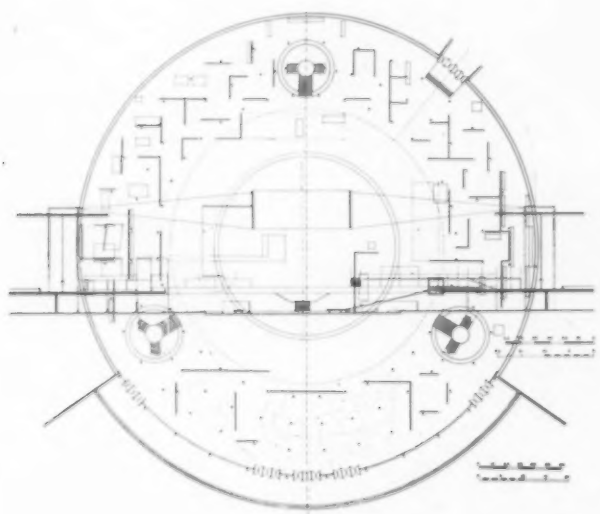


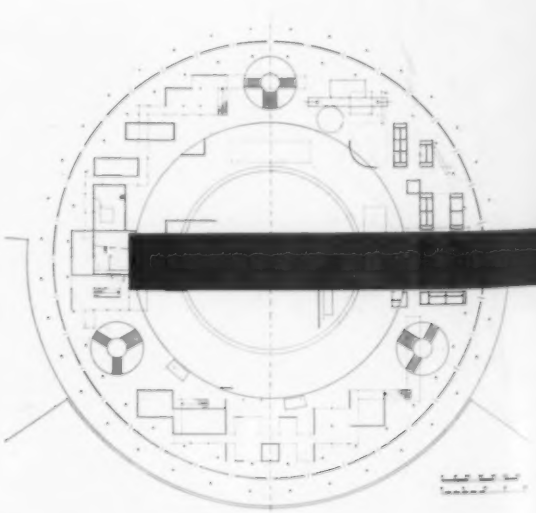


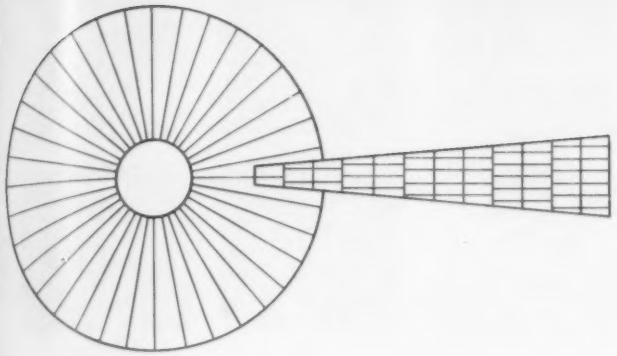
Plastic roof of American pavilion is world's largest—128 ft. wide donut-shaped band. It is made up of 2,100 translucent structural panels of Fiberglas-reinforced plastic sheets bonded to an aluminum grid. Joining details at right.

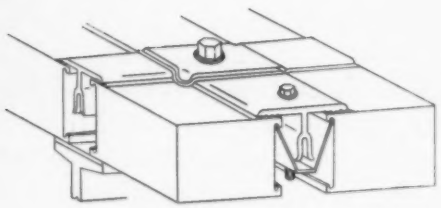
Main floor plan (clockwise from 6 o'clock): Face of America; Unfinished Business (America's problems) Communications; Industrial Models; Voting Machines; Music Bar; International Geophysical Year; Atomic Energy; Contemporary, Indian and Folk Art; Map Room.

Balcony plan (same order): Architecture; Children's Museum; Industrial Design as part of Islands for Living: garage, dressing room, garden, living room, kitchen and dining area, bath, bedroom; Photo Manhattan, San Francisco; Cityscape: billboards, shops, drugstore, advertising tower.









To attach plastic panels to the cables radiating from outer concrete rim to inner metal ring, Kalwall Corp., maker of panels, has new joining system. Steel purlins, joined to panels by t-shaped aluminum extrusions, straddle cables at 10 ft. intervals. Interior bolts join panels and are themselves fastened to purlins.

Below: Industrial design's part in products Americans live by will be displayed on the ramp and areas around Islands for Living. Right: Exhibit walls square off main floor area circling pool.

Arc Cityscape includes a photorama of San Francisco city life; largest rectangle is complete drugstore with soda fountain, newspapers.

How, within the white, bright circular pavilion, will the United States convey American life in all its diversity? The Fair committee's summation of their research into the essence of American life—"America is a society in ferment"—lays the ground for an honest, unidealized portrayal of America. It puts the burden on the designers to be fresh and honest in their approach, to make a fluid, impressionistic exhibit that reflects the full flavor of America in this most complex and ambitious national undertaking.

The dimensions and structure of Edward Stone's pavilion necessarily define the exhibit. Its interior is vast—340 feet in diameter, 95 feet high; its circus tent roof open in the center glitters with golden mesh; its floor plan revolves around a calm circular pool flanked by eleven willows (native to the park) and open to the roof—the second floor is a balcony. Man is the measure of this interior, and the grimmer aspects of progress—defined by Rudofsky as satellites, robots and machined entertainment—will be relegated to the main floor. The pool with its dock, boats and seaside beach will be connected to the balcony by a ramp.

The concentric circles of the pavilion's interior are not easy areas to exhibit in, particularly on the ground floor, where numerous columns support the balcony. For practical reasons, the designers have departed from the radial lines, laying out both floors on a rectangular system. The pavilion's geometry has one good point: the circle's continuity favors an exhibition that gives a total impression of America rather than a series of compartmentalized views.

To give visitors a symbolic view of a real situation, not a realistic portrait of an idealized segment, Harnden and Rudofsky will shy away from words and pictures, showing clusters of the objects that Americans accumulate in their pursuit of happiness, and the homes, stores, city streets in which they live. Continuous "loop films," planned as a final punch to many exhibits, will give an unexpected lively look at America.

Keystone of the exhibition will be the opener: the "Face of America"—literally spread on the ceiling in a 120-foot-long map, made more palpable with unusual bits of Americana: a 550-page edition of the Sunday Times, a wall of comic strips, opera broadsheets from the early West, tumbleweed, wheat, tobacco, and more. Other ground floor exhibits will explore America's problems, give visitors a chance to test communications equipment, show atomic energy at work in the operating room.

The ramp that leads from the pool to the balcony also leads directly to the industrial design section: it will occupy the ramp that twines about the "Islands for Living"—a house exploded into three-dimensional boxes representing living areas. The products that will be shown there, and how they will underscore a humane portrait of American life, is revealed in the committee's interim report on the following pages.

—*i.w.*

Jones

Carreiro
Gates

Daley
Auerbach

Hose
Messer

Vassos
Muller-Munk

McCluskey
Staempfli

For the important job of selecting products to represent industrial design and crafts at the Brussels Fair, the Institute of Contemporary Arts assembled the first pan-society committee ever to work on a project of national importance, with delegates from most of the professional design groups and organizations: Theodore S. Jones, director; Joseph Carreiro, administrator; William Daley, his assistant; Robert H. Hose, Robert Jordan Harper (alt.), A.S.I.D.; John Vassos, John Griswold (alt.) I.D.I.; Mrs. Ellen Lehman McCluskey, Melanie Kahane (alt.), A.I.D; John M. Gates; and Alfred Auerbach, A.C.E.C.; Thomas M. Messer, director of the Institute, Peter Muller-Munk, advisor on industrial design, and George Staempfli, coordinator of fine arts for the Fair, are ex-officio members. The committee, which has been meeting regularly since June 19, is an advisory body to Harnden and Rudofsky, who will work out the actual method of presentation. This report on their progress indicates the line of thought the committee is following. Suggestions that will help carry out these ideas are still welcomed by Mr. Carreiro, 1915 Rittenhouse Square, Philadelphia.

INTERIM REPORT ON INDUSTRIAL DESIGN EXHIBIT AT BRUSSELS

from Joseph Carreiro, Administrative Director Selection and Procurement Committee for Industrial Design and Crafts Section, Brussels World's Fair

General considerations

We have spent a great deal of time in formulating proposals which we hope will make it possible to express through American industrial and craft products the many aspects of the American people and the way they live. Among those responsible for the administration of this project, there was a strong feeling that this should be more than just another Good Design or Crafts exhibition. We felt that it should attempt to give the people of the world some insight into American life, that it should express our aspirations and our strivings to realize them, and not only the idealized results of our efforts.

As members of the design field expressing the total impact of this profession, we feel this projection of American life should be more than just an array of the best of the many excellent products available to our people. To be truly representative, it will have to show the many commonplace, and perhaps even homely, everyday artifacts of our daily lives. We should include especially those objects which, because of our very closeness to them, have become invisible. Consider, for example, the shopping cart, the parking meter, the lunch box. To the person who sees them for the first time or with a certain degree of freshness, these objects are often much more evocative and expressive of our habits and our way of living than the old exhibition cliches.

We believe that by making a truthful statement which will express the diversity peculiar to American life we can lay to rest the concept of a typical American with stereotyped traits which looms large in the minds of people in other countries. For example, through our selection of products, we can modify the idea that because we are generally a prosperous people, we are

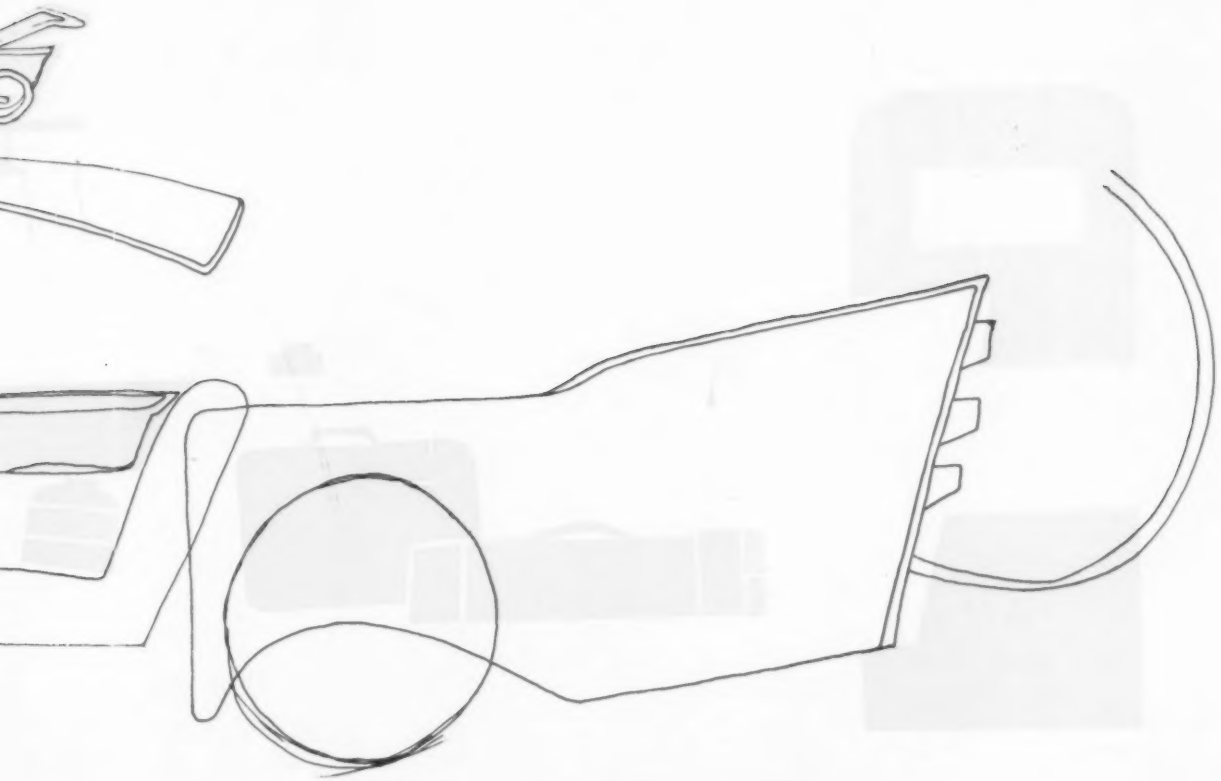
Tri-Taper luggage:
American Luggage Works, Inc.

Portable radio: Motorola

Mobility: *The exploded framework of a car envelops the fold-up items*

The most obvious symbol of America's mobility is the automobile. It is the vehicle of our ceaseless movement, the basis of our quickened tempo of living. For it we have built six-lane highways, drive-ins for eating, sleeping, movie watching, banking. To put on display a Cadillac or a Ford, the committee decided, would be cutting a slice from the top or bottom of the diverse social picture on American roads. Showing the framework of an abstract car, filling it with luggage, a folding crib, portable radio, and surrounding it with a parking meter, gas pump, car-hop tray, drive-in listening post, the committee feels, would better portray mobile America.

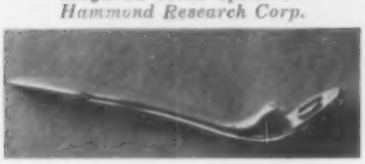
Cherub folding crib:
Tigrett Industries



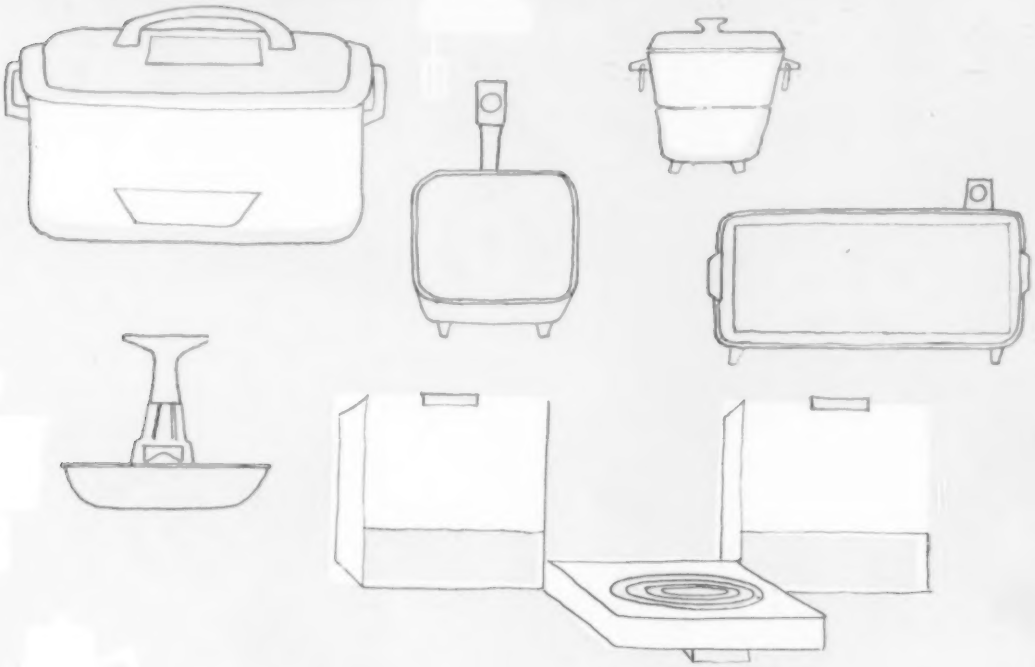
Inflatable plastic table:
Aquador Plastics, Inc.

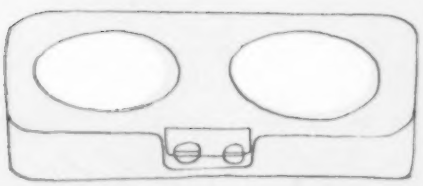
-up items designed to take on the road, the objects encountered while barrelling along.

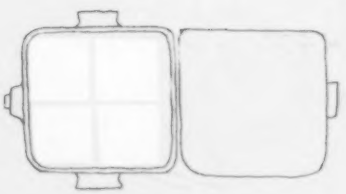
Magnetic bottle opener:
Hammond Research Corp.

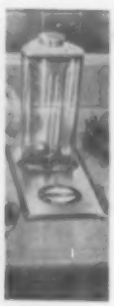


To people abroad, the search for labor- and time-saving devices is typical of Americans, but the other side of the coin, our insistence on a machine that does the job better is less known. One direction products have taken to answer this two-fold demand will be illustrated by the portable appliances in the American kitchen.



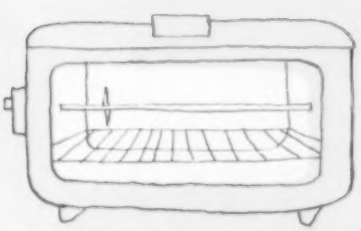






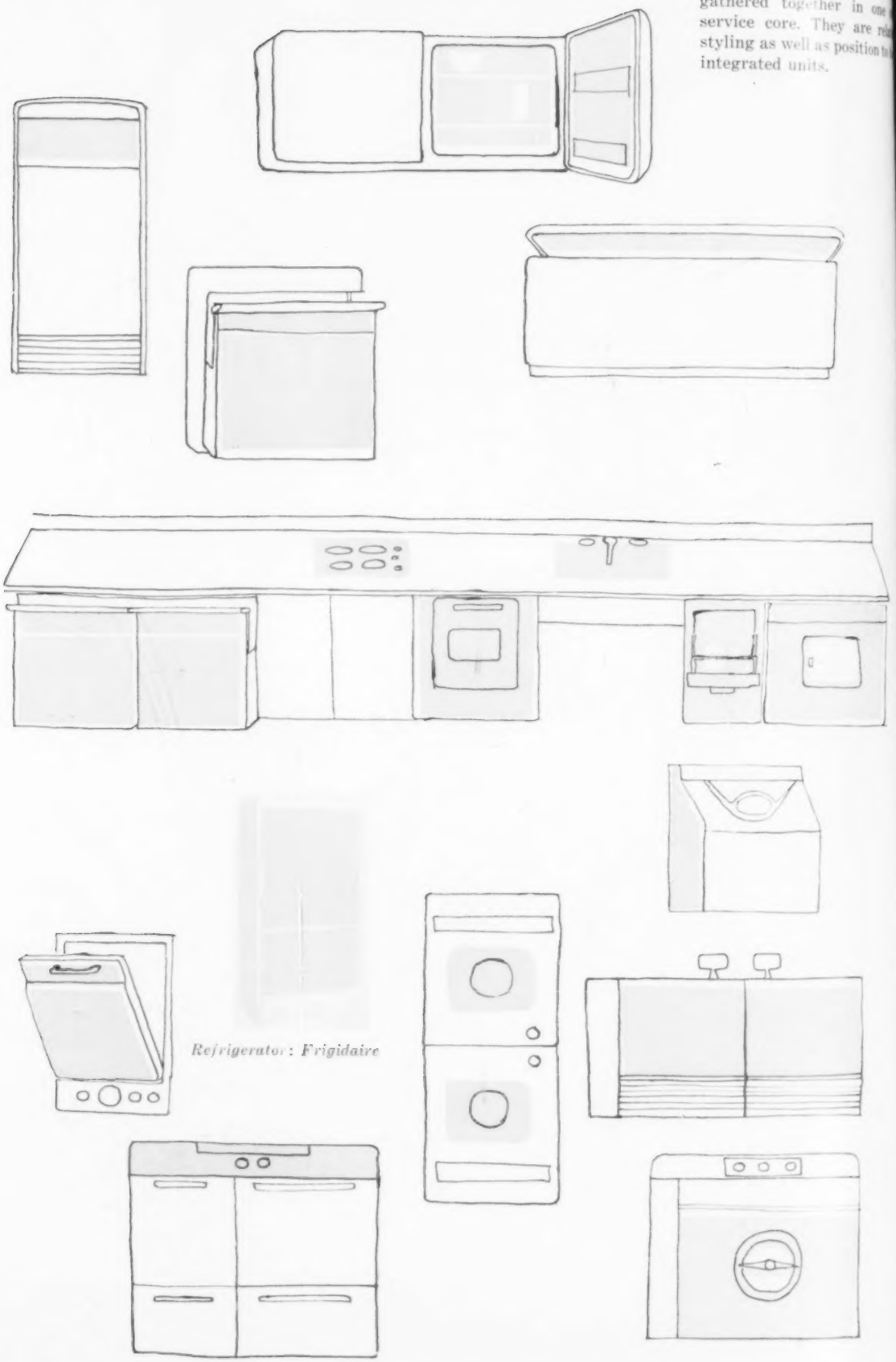
Blendor:
Nutone

Automatic fry pan:
Sunbeam



Product Evolution: *In the American kitchen two examples: small electrical appliances gro*

A second and diametrically
trend in product evolution,
ing place in the kitchen, is
fied by the concentration
tions in major appliances,
gathered together in one
service core. They are re
styling as well as position to
integrated units.



Refrigerator: Frigidaire

nces grow like weeds; major appliances, on the other hand, concentrate their functi

necessarily spendthrifts. What about the man who buys a $3,000 automobile and saves jelly glasses?

We fear the exhibition stereotype because it reveals only one facet at a time: the one we want to "prove." Friendship and better understanding will be created if we avoid proving any one thesis and honestly express our diversity as a slice *down through* our culture rather than the usual slice off the top of a single segment of our society.

Determining the story

From the memorandum issued by Deputy Commissioner General Plaut on the objectives of the entire U.S. exhibit, we have extracted the following thoughts as the basis for our conceptual framework. "The United States constitutes a society in ferment. The American people are dynamic, energetic, impatient and restless for change; and because of the vastness of our country, the diversity of our origins, and the free conditions pertaining to American enterprise, we are committed to a constant, unremitting search for an improved way of life."

One of the essential factors in our dynamic search is our use of energy; both the creative, intellectual and inventive energy of the individual, and the more obvious electrical and mechanical forms of energy. This energy is the driving force behind the rapid and continual growth and change which is perhaps the most identifiable aspect of American life.

We want to express the many manifestations of our restless energy which reveal the character of America. In an attempt to do this, we listed the following categories: *Mobility, Portability, Low Cost, Disposability, Productivity, Labor Saving.*

As we analyzed these headings, in an effort to put them into a larger context, we discovered that they seemed to fall naturally into three related categories — *Mobility,* which includes portability; *Productivity,* to which low cost is directly related; and *Efficiency,* a category that covers disposability, labor saving and the use of time saved—leisure. This synthesis suggested that these major categories might include any number of sub-categories. With this thought in mind, we established the following lists.

Mobility	**Productivity**	**Efficiency**
Portability	Low Cost	Labor Saving
Communication	Diversity	Time Saving
Moving (Relocation)	Quantity	Disposability
Commuting	Improved Appearance	Leisure
Travel	Improved Function	Convenience
		Maintenance
		Push button (automatic control)

Obviously we have not exhausted this list, either in terms of main categories or in subheadings, but it is a device which will permit us first to generalize the areas of greatest importance and then to break down their structure into specific parts.

Telling the story

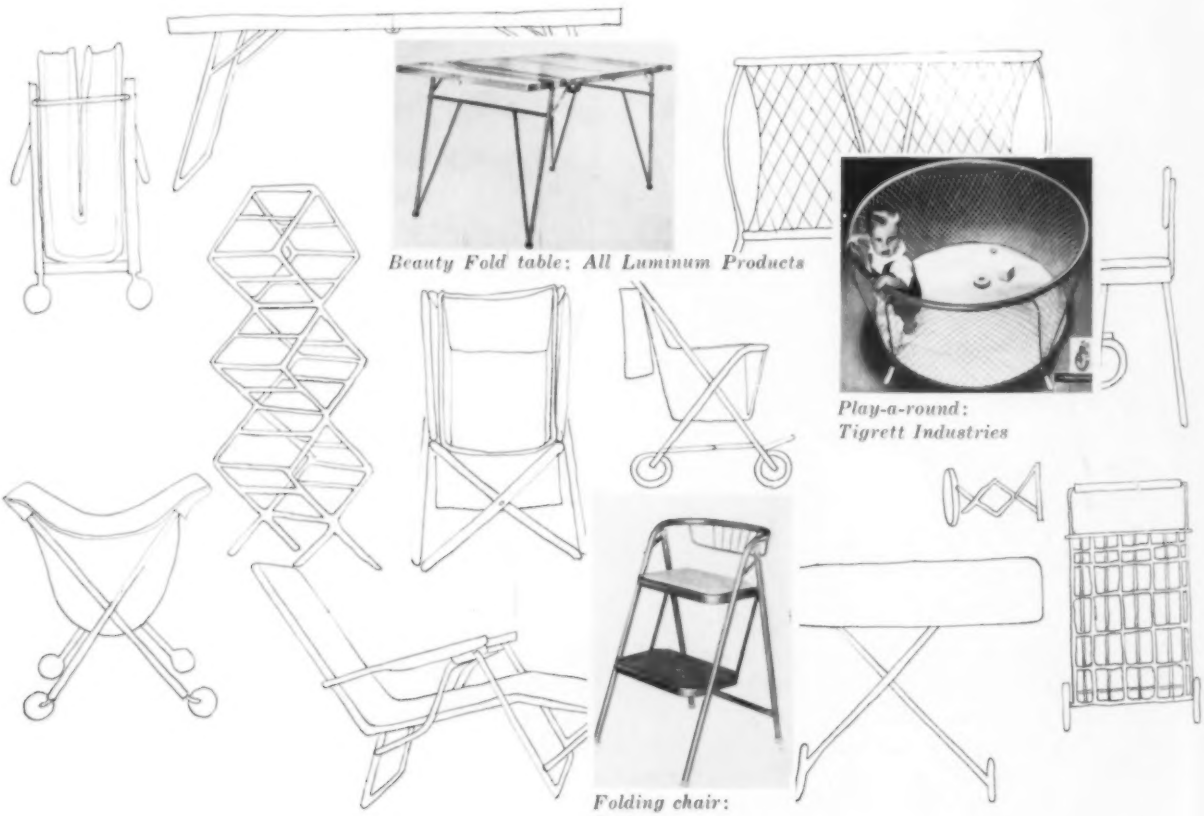
Illustration of these concepts will, we feel, be much more significant and basically more accurate if we can juxtapose objects in terms of their similarities, varieties and progressions in ideas and designs, and through contrasts of forms, purposes and values as revealed through objects. Some of the techniques which might be employed: compare the old with the new, the cheap with the expensive, the hand-made with the machine-made, the disposable with the permanent.

This concept can be expanded in many possible directions: we can go into climatic and geographic differences, historical and contemporary comparisons, differences in occupations, attire, habits and equipment.

Through these techniques, perhaps we can illustrate the fact that we are human, happy and fun-loving; that we share common experiences with all other people; that though we are proud of our accomplishments we can also laugh at our foibles; that there are threads that bind us as a people and give us a sense of unity as a nation, but that there are also many local and sectional characteristics which stem from our differences and perhaps even act as links to our European forebears. If we can accomplish this, then we will not only have established many points of contact with the spectator, but will have presented a more accurate America to the world that watches us with interest.

We want neither to frighten, intimidate, or impress; we want to be understood — the only real ingredient of genuine friendship.

Price Range: *Price tags on coffee pots tell of America's range of choice*



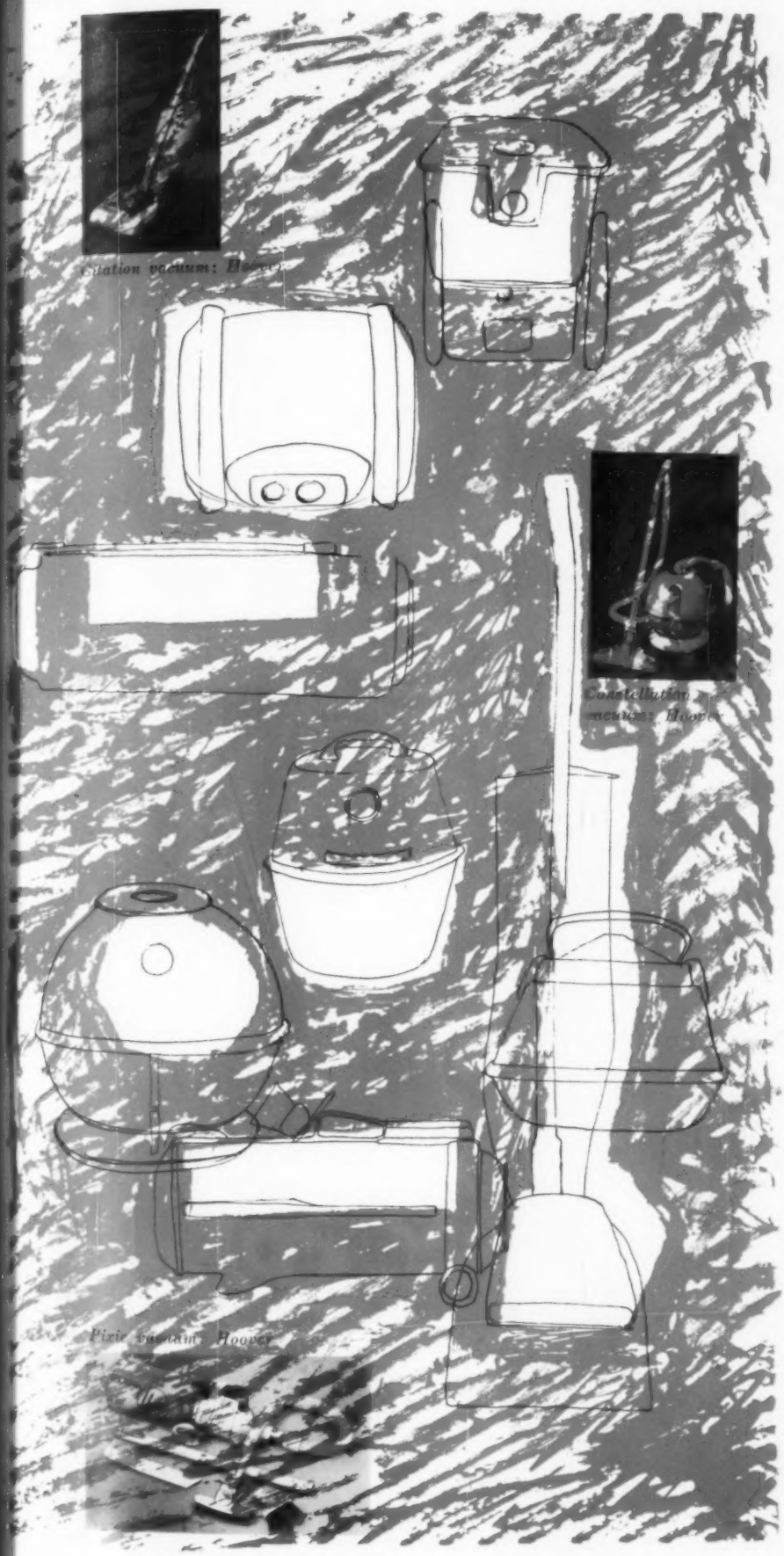
Beauty Fold table: All Luminum Products

Play-a-round: Tigrett Industries

Folding chair: Durham Manufacturing Co.

Flexibility: *Cluster of folding items bespeak a restless people on the move*

Diversity: *For one job the American has many tools*



Pixie vacuum: Hoover

These are some of the other product groupings which are being considered by the committee planning the Industrial Design and Crafts Exhibit for next year's World's Fair:

Price Range: Any one of the fourteen coffee pots on the opposite page will brew coffee—and good coffee, if you know how each works. One of the unique manifestations of our competitive economy is the diversity of solutions that are possible for any given problem—and the attendant choice that the consumer has in finding the product he needs.

The wide range of prices in most product groups can be traced to the methods of manufacture, the materials used, and the refinement of function—both tangible and emotional—that each offers. Thus the money value of coffee making (or sweeping or shaving) is to a large extent something that the consumer can decide for himself—assured of finding a product to match his evaluation of the job.

Flexibility: In the wake of the American urge to move around, to travel both light and well-equipped and to live compactly, comes a range of products which, by the addition of a handle or wheel or folding joint, become a small enough package to pack or store. When a representative selection of flexible and often portable items is assembled—as it is in this projected exhibit for Brussels—it is interesting to see how many products have been made to perform even better as a result of being called upon to double as traveling companions or ghosts in the closet.

Diversity: Another aspect of the diversity of America's competitive market—the other side of the coin, in fact—comes in a product area which allows for considerable inventiveness in the way the job is accomplished. Price differences and consumer preferences in vacuum cleaners, for instance, are closely linked to principle of operation (and how well it works). The diversity of product types also provides the consumer with a choice of products fitted to special problems—the smaller vacuums for light cleaning, the tank-type for versatility, the push-type for heavy rug cleaning, show as much dissimilarity in basic approach as toasters show the opposite.

photo: Marion Post

THE PACKAGE

A survey of the re-usable container:

its pitfalls in merchandising,

its challenge in design.

AS PRODUCT

by *RALPH SAUL CAPLAN*

One day last week a young executive came home from the office with theatre tickets* in his wallet*. He removed his cuff links, throwing them into a black plastic stud box*, rolled up his sleeves, and poured a martini from the mixer* into a glass*. Taking a cigarette from a plastic holder*, he lit it, flicking the ashes into a ceramic ashtray*. Then he turned on a table lamp*, the better to see and admire his wife's new dress* and her new handbag*. He thought he saw a small pirate* on the floor, but it may have been his son. (Or it may have been the martini.)

A designer studying American consumer habits might not find the scene described above remarkable in itself, unless he knew that each asterisked prop (including the theatre tickets, which were used as a promotional-gimmick wrapping) was originally a container for something else! The wallet had held a watch; the stud box had contained face powder; the martini mixer had seen service as a peanut butter jar; the glass had held raspberry jam; industrial cutting tools had come in the cigarette holder. Both the ashtray and the lamp had been, in a previous incarnation, bourbon bottles. The lady's gown came not from Saks Fifth Avenue but from cotton sacks of flour; and her handbag was designed to hold a quart of ice cream, which the young pirate on the floor was happily thinking about, having just finished the taffy that had been packaged in the pirate's mask.

Formerly just a container for something else, the package has in our time gained new stature, if not always new dignity. Of course, as the feedbag-attired lady on the opposite page so eloquently attests, there is nothing *really* new about re-using containers after they have served their original purpose. What is new, and important both to designers and their clients, is the extent to which manufacturers have sought to design packages with re-use in mind, plan the specific uses to which they will be put, and make them a reason (sometimes the most important reason) for buying the product.

The re-usable container trend has raised some provocative questions for the manufacturer, questions that have to do with a merchandising anachronism: selling re-use in a market geared to disposability. Does package re-use run counter to the grain of American economy? What happens to the cheese-in-candy-dishes market when the consumer has more candy dishes (but not more cheese) than she can possibly use? Is re-usable packaging a dead end, and if it is had the packagers better begin turning around now?

For the designer too, re-use raises problems, for it often means trying to design one thing to do two seemingly irreconcilable jobs. Yet the pattern of re-use packaging, while new enough to bring up troublesome questions, is old enough to have suggested some answers. And design, as the following spreads indicate, is basic to them.

The jar was empty, *there it all began: a trend toward re-using packages*

It was the buyer who first thought of re-using jelly glasses, but he has had plenty of encouragement from the manufacturer. Since the plastic tumblers at the extreme right, opposite page, are unbreakable, Sealtest recommends them for children's use, or for parties. Even the top is re-usable, as a coaster.

Philips (Chicago), jelly and preserves are packaged in new private mold glass jars (upper left hand corner) made by Hazel-Atlas Glass Division of Continental Can Co.; Hazel-Atlas also made 10-ounce pressed glass tumblers (left) for Mary Ellen's, Inc. (Berkeley, Calif.); Procter & Gamble's Big Top peanut butter is put up in Early American sherbet glass.

To paraphrase a line from *The Threepenny Opera*, "The box is empty, there it all begins." And there indeed is where it all began: with an empty box (or bag or bottle or jar or hogshead) that challenged the consumer to use it again.

The ready-made package is itself relatively new in American merchandising. Time was when most food items, for example, were shipped in bulk and bagged right at the counter. As distribution methods changed, and manufacturers began packaging more and more products in quantities convenient to the consumer, the thrifty public often found the container "too good to throw away." This is hardly surprising when one considers that the container had to be sturdy enough to hold whatever was in it safe from the perils of marketing operations, which meant that it was often stronger than necessary for the consumer's less demanding purposes.

Consider the classic cigar box. It must keep cigars fresh, keep them intact, and display them attractively. But after it has done all this, after the last panatela has been smoked or transferred to a humidor, the box remains; it has outlived its job, but not its usefulness. It is "a shame to throw it out." What shall the smoker put in it? Collar pins, filing cards, pennies, nuts and bolts, his wife's hairpins or his son's toy soldiers? Sometimes the consumer's ingenuity soars. Somewhere in the heaven of insufficiently sung heroes there must be a place for the man (a designer?) who discovered during

Photo: Matilde Lotrie

Reese's oyster appetizer comes in cocktail glass (above). Glass can also be used for seafood cocktails or fruit juices. Sealtest cottage cheese (right) comes in silver-flecked Bakelite beverage tumbler, resistant to chipping, breaking, staining. Lid serves as coaster.

World War II that a pint flask of whiskey fit perfectly into a standard cigar box. The box was half-filled with paraffin; and the bottle, filled to the brim to prevent gurgling, was set into that. Then paraffin was poured over the top and the lid was nailed on. Result: a fool-proof, detection-proof way of sending liquor to servicemen overseas.

Of course the inspired consumer didn't always follow the manufacturer's lead and re-use the container to contain something. Sometimes, as with the flour-sack-turned-garment, he made a new thing of it. But whatever he did, it wasn't long before some manufacturer followed *his* lead. (This was especially true in periods of economic hardship when conservation caught up with the extravagance of disposable packages, and became an inducement to buy.) If people were going to drink from jelly glasses, why not make a selling point of providing glasses designed and decorated for drinking? And these needn't be simple tumblers either; they could be made with as much variety of form and decoration as any glasses. Today we can see the embellishments this idea has enjoyed and suffered. Spreads of all kinds now come in highball glasses as well as tumblers; delicacies (like Reese's oyster appetizer, above left), retailed in smaller quantities, are more suitably put up in cocktail or sherry glass size. Obviously, this kind of re-use design sells: a household needs not one glass, but whole sets of glasses; and, since they are breakable, there is a replacement market as well.

Having followed the buyer, *the seller took the lead in planned package re-use.*

From whiskey decanters to borscht decanters, containers designed to be re-used have reflected the manufacturer's attempt to see where the consumer is going, and get there first. Not satisfied with merely improving re-usables, producers have tried hard to find new uses for old and new bottles.

Decanters, top left: Old Forester by Raymond Loewy; Lord Calvert by George Nelson; Four Roses; I.W. Harper's "Longfellow."

Center: Merritt Biscuit Co.'s "Cheddar Morsels" jar, full and empty; Borden's gelatin salad dessert in plastic mold, rigid plastic container by Gibbs Automatic Moulding Corporation. Right: Rokeach Borscht in decanter.

photos: Matilde Lourie

The consumer's use of the package usually had logic on its side. If John loved Mary, and gave her a box of candy to prove it, it was perfectly natural for Mary to re-use the box for love letters (so long as they were from John). The idea was appropriate, the box pretty. As the confectioner's fancy lightly turned to thoughts of increased sales, he began putting the candy up in a metal box with lock and key, which the chocolates didn't require, but the love letters and jewelry did.

Logic and congruence, however, did not always restrain the manufacturer, who often strained to go his customer one better. No consumer ever thought of the frameable wall-motto bacon wrapper, the plastic handbag for ice cream, the Gruen watch packaged in or on a leather wallet, or the cigarette-holder cheese jar. Nor did the consumer think of scooping out the side of a liquor bottle to make an ashtray of it, or of turning decanter tops upside down for use as candlesticks.

It was to be expected that re-use planned by designers would be more imaginative than re-use stumbled on by consumers. But while necessity may have mothered the consumer's inventions, some of the professionally designed novelty re-use items appear to have had no such parent. Having advanced from obvious re-use to imaginative re-use, many companies, usually in connection with seasonal campaigns and other special promotions, took the next step:

Above: Crisco decorated kitchen canister. Concept originated with Procter & Gamble art department. Donald Deskey Associates designed the component parts. (Beside it: candy jar being re-used for kitchen shelf storage.)

Left: Two opal jars for vitamins and pharmaceuticals, made by Hazel-Atlas Glass Division of Continental Can Co.

fantastic re-use. The man who boasted that he had designed matching liquor decanters that could be converted into a pair of 8x16 field glasses may have been speaking facetiously, but no one would really have been surprised to see them. Like the pattern of novelty packaging generally, the course of novelty re-usable packaging has been run in fads. For a time, everything from bath salts to olives—everything, in fact, except candy—was put up in old fashioned candy jars. Later the refrigerator jar became ubiquitous. Then came the swing to the decanter, whether for Scotch or borscht.

Certain companies have found it profitable to sacrifice advertising possibilities to the great public relations value of re-use. Breakstone's, for example, thoughtfully labeled their re-usable ice cream and sherbet containers with a brand name that washes right off.

Having learned that what they did to the package could be almost as important as what they did to the product, merchandising men went on to discover that what they did to the package affected what the consumer did with the product. The vitamin jars (above left) are designed not only to offer the customer re-usable jars, but to encourage him to give his vitamins a place at the table. The idea is to get vitamins out of the medicine cabinet and put them in the breakfast nook, where (the pharmaceutical houses believe) they belong.

RE-USING SPECIAL PACKAGES

Children, like everyone else, want something to play with. While their hobbyist parents turn whiskey decanters into lamps, they turn their energies to building castles in the sand with the aid of a cookie-box sand pail, or playing Punch and Judy with hand-puppet candy bags. Re-use is no respecter of ages.

While the economy of a bonus is the attraction in most sales based on re-usable packages, this does not apply to the luxury market. No one buys an expensive basket of imported fruit and nuts just to save the price of a fruit basket. For that matter, one rarely buys such things for himself anyway. Luxury food items are usually gift items, and this is where re-usable packages come in for a new twist. Candy, fruit, honey, tea, exotic syrups—these make pleasing gifts for certain occasions. But one of the demands Americans traditionally make of a gift is that it "go on giving." Food obviously can't do that, but the package it comes in—a jewel case or a vase—can. Hence, Barton's candy comes in a salad bowl, a candle-warmed coffee carafe, and a plastic shofar (ram's horn used in Jewish New Year's services). And the quality implication of the container has become an important consideration in buying such a gift.

Like luxury items, toy-packages deserve special consideration as a class of re-usable containers. Premiums have long been used to make food products more appealing to children. The idea seems to have been that adults know what is good for them (or at least what the copywriters say is good for them), but children have to be bribed until they reach the age of marketing consent. If the package itself can be played with when empty, the premium problem is taken care of. There is another selling point inherent in making a package into a toy: the child uses up the contents as soon as possible in order to play with the container.

Decanters: Beam's porcelain frog; Beam's Italian variety; Old Forester as lamp; Old Fitzgerald with candleholder cap. Smoky Mountains honey pitcher, above, and Rocca olive jar below are displayed at Charles & Co., New York.

Sunshine cookies (left) come in beach pail; candy and cookie bags reusable as hand-puppets (below, left) and pirate mask (below, right, first filled with cookies, then worn as mask) are made by Economy Cover Corporation, New York. Locomotive and freight cars (below, center) are used by Schulze & Burch (Chicago) to package animal graham crackers. Cartons are die-cut and printed, can be attached to each other by couplers cut from end panels. Trains are used in merchandising displays, thus illustrate both re-use and pre-use packaging.

WHEN THE DESIGNER REACHES THE "POINT OF NO RE-USE," WHAT THEN?

The re-usable container, whether inspired by the seller or the buyer, has expanded into a packaging approach of considerable complexity. There is the container (*e.g.* liquor decanters) re-used to contain more of the original product; the container re-used to contain products other than the original (cottage cheese containers as refrigerator jars); the container re-used to do something besides contain (Kraft cream cheese in Pyrex baking cups); the container re-used in a new form (feed bags as clothing); the container that was never, strictly speaking, a container to begin with, but simply a product adapted for packaging (Prince Gardner wallets for Gruen watches); the container (spray cans, shaker salt boxes) that serves a special use until the product is used up, and is then thrown away.

Despite its advantages, re-use, as its complexity would lead us to expect, has meant headaches. For the designer, there is the problem of his attitude toward what he is making. Designers worry a good deal about function and integrity, but what does "integrity" mean to a designer trying to satisfy the functional requirements of a vessel that will hold borscht one day and daffodils the next? Is he designing one thing or two? Can it be good for both jobs? If not, which is more important? Is he, after all, working as a package designer or as a product designer? Small wonder that so many re-usable packages appear to have been born of overwhelming desperation.

The most troublesome drawbacks connected with re-use, however, are marketing problems, and have little to do with "good design." There comes a "point of no re-use"—the point at which the housewife has as many refrigerator jars, candy dishes, jewel boxes, candlesticks, baking cups as she needs. What then?

With the re-uses she thought of herself, this was never a problem. It may have been "too bad" to throw out a perfectly good glass jar, but if she really had no use for it she could dispose of it with a clear conscience. But an ordinary glass jar that "can be used again" is one thing. The molded polystyrene cheese container is two things, and sold as such. Re-use implies value, and the American shopper has been schooled not to turn her back on value. The same impulse that made her save jelly glasses will keep her from scrapping refrigerator jars that she doesn't need, and hasn't got room for. Her solution may be to avoid the quandary by not buying any more re-usables, thus relieving the guilt she feels in throwing away something "too good to throw away." Next time she may buy cheese in a paper container that costs less and puts no strain on her conscience. That will put a great strain on the manufacturer who banks too heavily on the allure of his package.

Similarly harassed are the "special promotion" packagers. The man who buys (or receives) an expensive bourbon in a handsome, nationally advertised decanter, may (deciding that to show the decanter is half the bottle) re-fill it with cheaper stuff. Also, special packages that keep changing radically can render the consumer powerless to identify the brand from one package to the next, and high-powered advertising campaigns have to keep him informed about what the product looks like.

Far too often re-usable packaging really means selling two products—one expendable, one not. Trouble comes when the expendable product is subject to the marketing limitations of the non-expendable package-product.

HOW YOU CAN EAT YOUR CAKE *and have the cakebox too: some solutions.*

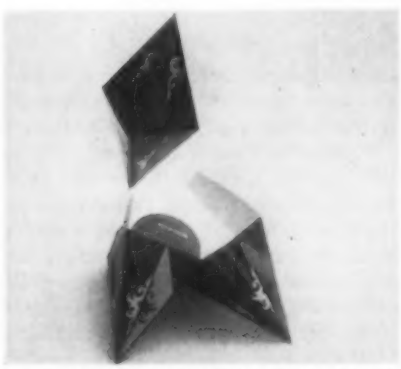
Re-usable packaging, then, can be a jungle. Is there a way out? As with most jungles, there are several ways out, and one of them is to burn the jungle down—to do away with re-use once and for all. The re-use concept seems alien anyway to an economy based not on re-usability but on disposability; not on "keep it" but on "trade it in if it's big, throw it away if it's little." The plastics industry has perhaps the greatest stake in cultivating throw-away habits, and for years some of its leaders have insisted that the industry's packaging hopes lay in bringing the price down, and developing a throw-away psychology. These work hand in hand, for if the container is to be scrapped, it can be made for less, since it needn't have re-use strength. Thus it can compete with other packages on its merit as a protective, transparent container. The ice cream cup below, right, is made to be used just once.

But there seem to be other paths out of the jungle, paths that depend on the perception of a desirable pattern and on the design necessary to implement it. An example is the "one-shot" re-usable. Avon's folding gift carton (below) serves as an attractive Christmas tree ornament—but only once. Pillsbury's sifter flour-container does a job as a shaker for top-of-the-stove cooking. When the flour is gone, the container goes. The next one does the same job—a job that continues to need doing.

The "one-shot" is one approach to designing a re-usable that does not defeat its own purpose by eventually making the customer stop buying the product. Another way is to design so much variety into the packages that the appeal is continually renewed. (And this must be done without sacrificing package recognition.) The Cresca candy jars do this. Designed in series (those pictured below are from the "means of transportation" series), they appeal both to the collector and to the person who "just likes pretty bottles."

There is even greater variety in current versions of the age-old flour and feed sack re-use, for here variety depends not just on the bag prints themselves but on the various articles of clothing that can be made from them. The cotton bags are printed in florals, checks, stripes, plaids and other fashionable patterns and a dress made from them is no longer a bad joke or a comment on hard times or a rural symbol (see page 56). For the woman with sewing skills, it is an inexpensive way to achieve a large part of her wardrobe. And to encourage and help her, the National Cotton Council annually issues a booklet of patterns and instructions. For the woman who doesn't care to lift a thimbled finger, there are useable-as-is bags which have only to be rinsed for re-use as pillow-slips, aprons, tablecloths.

Still another way for merchandisers to use re-use is the "vaguely re-usable" container, like the Skippy peanut butter jar shown below. With a full-width mouth, a leakproof cap, and with measurements from ¼ cup to 1 cup plainly marked, the jar can be used as a measuring cup or refrigerator jar. It is said to be extremely popular for mixing martinis. But since it has not been earmarked by the makers as any one thing in particular (and since it isn't) the consumer is perfectly free morally to throw it out if she wants to. She is discarding an empty peanut butter jar, not wasting a martini mixer. It suggests that the way to get out of a jungle is to design your way out.



Avon lipstick packaged as Christmas tree ornament by House of Harley.

Pillsbury flour shaker, developed by Alcoa, incorporates sifter into the container.

Thin-walled plastic ice cream cup is low-cost expendable container.

Cresca Americana candy jars, designed by Robert Zeidman Associates.

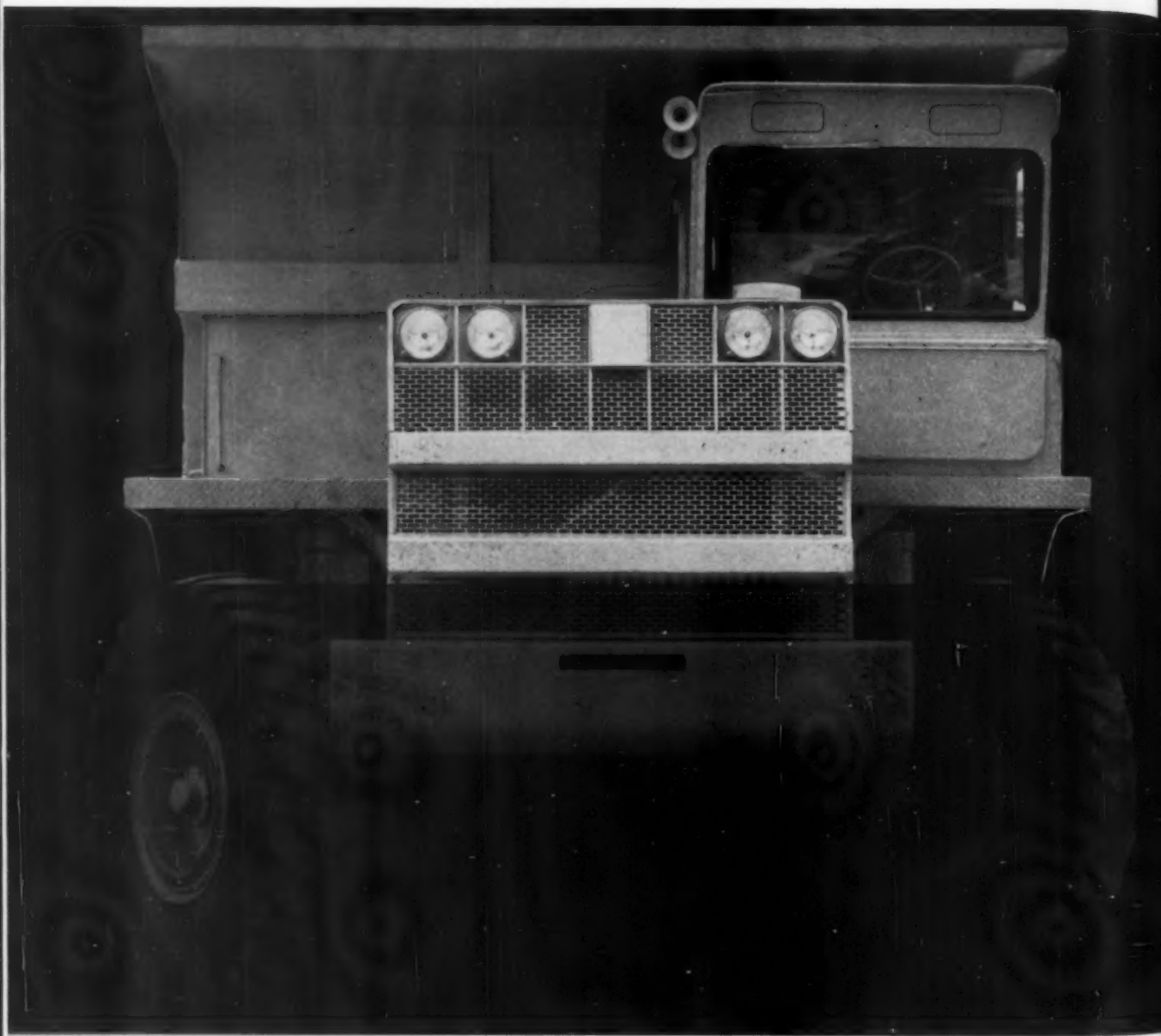
Three 100-lb. cotton sacks were used to make this border print dress.

Skippy peanut butter comes in refrigerator jar with measurement markings.

The consumer continues to use his own ingenuity in discovering re-uses.

Here is the man who started it all in the first place: the consumer. Pictured above in Trinidad, keeping a steady beat and an eye peeled for new ways to use oil drums, this calypso drummer is marching in the footsteps of the first savage to drink from a cocoanut shell, the first girl to wear a feed bag, the first stranded sailor to send a note out to sea in a bottle. He may not be aware of design, but it is aware of him; for the designer, more than anyone else, is his partner in the successful use of the package as *ding-an-sich*, the package as product.

Designs for the Roadbuilding Boom



"A highway is a true index of our culture. The machinery that builds it embodies developments in technology, invention, industrial progress, education, finance and so many other things that our whole cultural heritage has gone into producing it."

Bernard DeVoto

Three new vehicles designed to meet stiff competition in earthmoving equipment

Although earthmoving equipment seems, when compared to other manufactured equipment, to have developed rather slowly, it has advanced via a number of radical changes scattered through the years. The first scrapers (pre-World-War I) were crude horse-drawn scoops which picked up only three cubic yards of dirt during the course of a day's work. By the early 20's scrapers which performed all three earthmoving functions—loading, hauling and spreading—had been introduced, and in 1933 the substitution of rubber tires for heavy steel wheels paved the way for high-speed, money-saving machinery.

The huge Federal highway program which gets underway this year is expected (together with overseas construction projects and a home-building boom) to spur the pattern of earthmoving equipment innovation in the immediate future. For manufacturers the $100 billion program will mean turning out some 70,000 new machines, worth $900 million in the next five years alone. And it is estimated that the present army of 144,000 earthmoving machines now in use will swell to over one million before the sixteen-year program ends.

Taking advantage of the boom, the Westinghouse Air Brake Company entered this highly competitive field less than five years ago by buying the facilities of earthmoving equipment pioneer Robert LeTourneau. The resultant new company, LeTourneau-Westinghouse, is hitting its stride this year with the introduction of three new models. Behind these models lies a new program and a fresh approach to earthmoving equipment significant to industrial designers as well as to the industry.

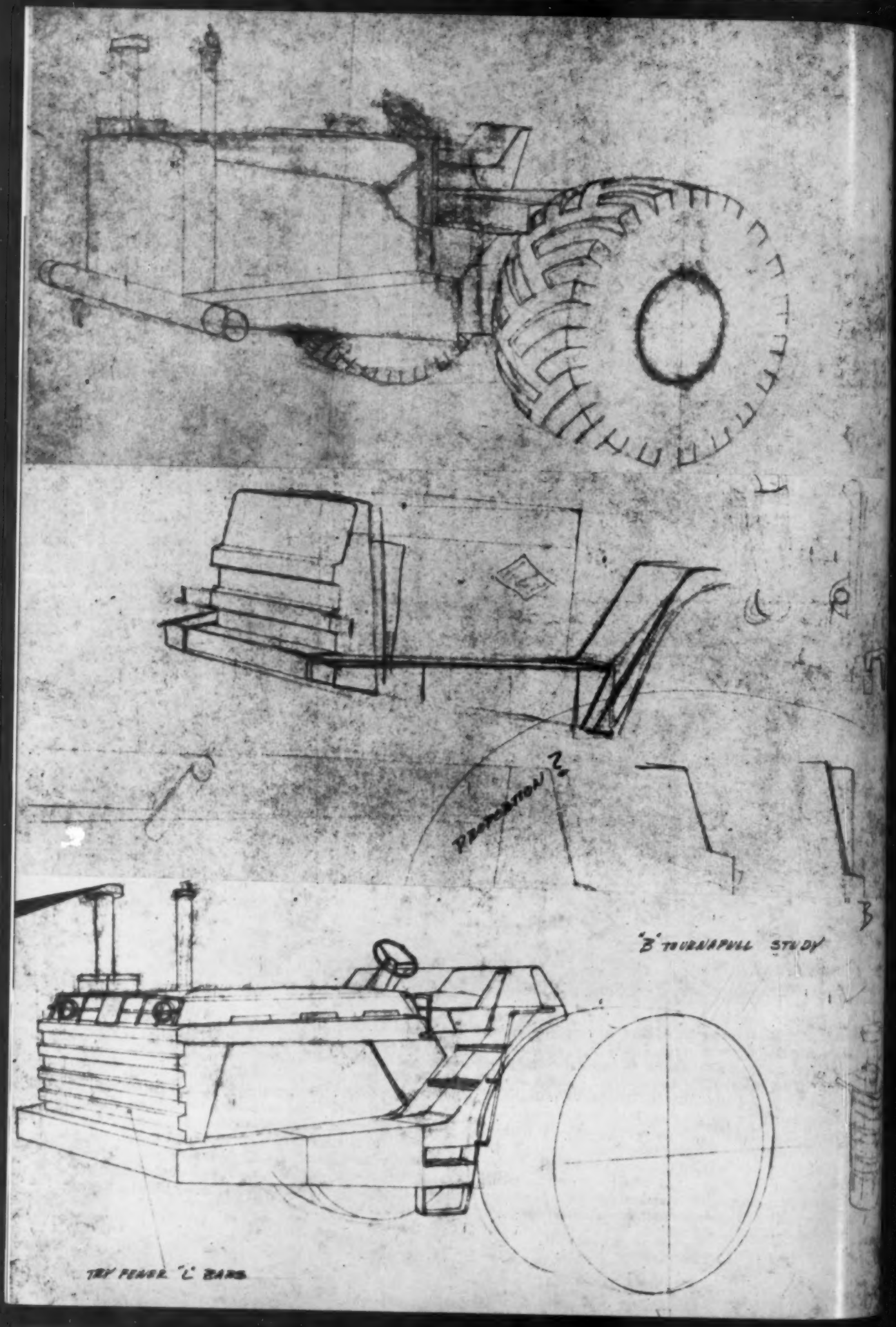
Starting off with a clean slate, LeTourneau-Westinghouse took a step rather unusual in their field: they hired an outside design firm—Painter, Teague and Petertil—to work as a unit with a company planning committee on the new program. The joint group agreed that they could best get what they wanted in performance and capacity by concentrating in three areas: engineering improvements, ease of production and appearance. Before sketches were ever submitted, the group drew up a list of twelve objectives, one of them stating that appearance was to be sacrificed, wherever necessary, to servicing requirements.

In the area of engineering, changes were widespread. Company prototypes existed for the Tournapull and tractor, but the LW-30, a 30-ton off-the-road truck, required of both engineers and designers a truly fresh approach. For the first time an air-hydraulic suspension system was used, eliminating the need for conventional axels. Another new feature, evolving from a cross-influence of engineers and designers, was a v-shaped rather than flat-bottomed loading area. Lowering the center of gravity and fixing the load between the wheels, this innovation increases stability and maintains load capacity despite a shorter wheelbase.

Objectives for improved production also were worked out cooperatively between design and engineering groups, who, in this case, were aiming mainly at simplicity of fabrication. For instance, it was agreed in the original list of twelve points that protective guards would be kept to a minmum and not added simply for the sake of appearance. Interchangeable shrouds were specified wherever possible. The number of cabs (optional equipment on some models) produced was kept to a minimum by standardizing cockpit sizes.

Painter, Teague and Petertil continued to work closely with the LeTourneau-Westinghouse group to achieve a definite company character. By grille treatment and overall massing, they created a family spirit among the three machines that conveys power, sturdiness, and safety. While in a sense the solid, smooth quality of these vehicles grew out of basic engineering and production requirements, the designers emphasized the ruggedness inherent in earthmoving equipment by a straightforward sculptural design far different from familiar automotive sheet-metal forms. Here, as the following examples show, each piece of equipment has a depth of molding suggesting that it might have been carved from a solid block.— *a. e. f.*

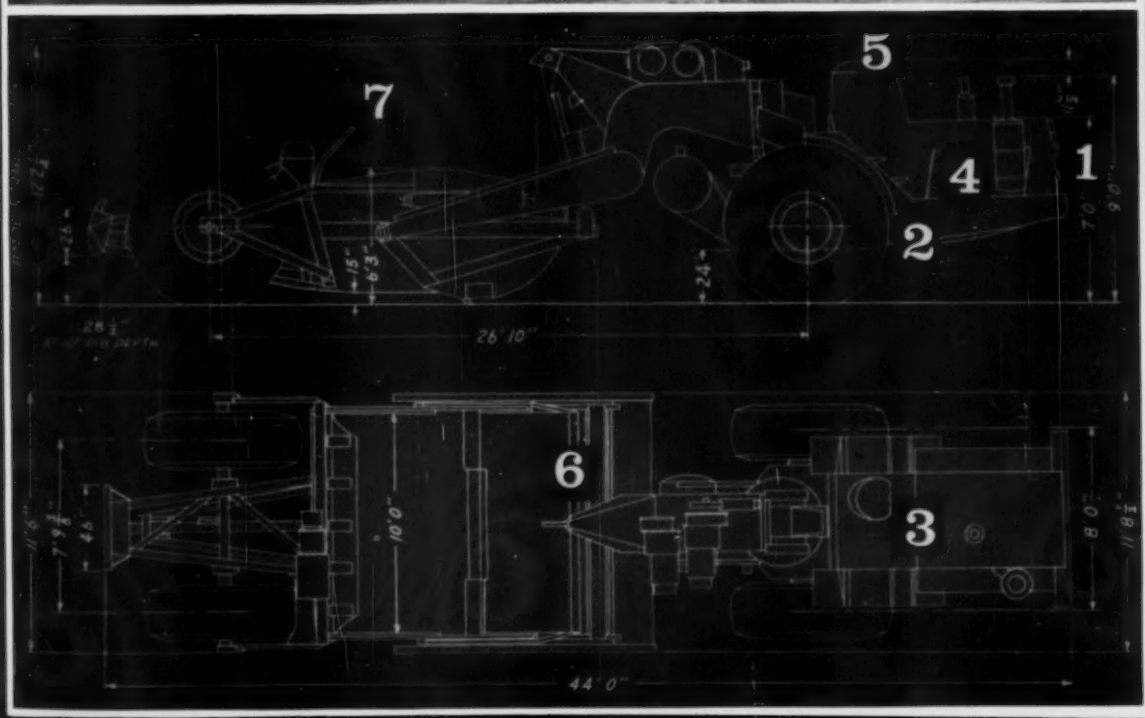
David Painter, Jim Teague, and Victor Petertil (from left to right) were hired late in '55 by LeTourneau-Westinghouse to help in the design of three new pieces of earthmoving equipment: a 30-ton off-the-road truck (at left), a prime mover, and a rubber-wheeled tractor. They worked closely with a company planning committee which included E. E. Isgren, vice-president in charge of production and development, E. W. Spannhake, director of research and development, and members of sales promotion, production and other departments. A series of twelve major objectives were agreed to before any actual design studies were submitted for discussion, as reported above.


PROJECTION 2
'B' TOURNAPULL STUDY
TRY REAR 'L' BARS

← Preliminary sketches for the "B" Tournapull. In final design "L" bars are of ⅛ inch sheet, as are the side members. "L" bars allow maximum opening for air intake needed for cooling.

1. Wide spacing of "L" bars across grill allows for maximum air intake, creates sturdy look.
2. Heavy-duty fenders are designed to give least possible obstruction with maximum protection; also aim at ease of entry.
3. All grease fittings are now centralized in the clutch area for ease of maintenance.
4. Hood is cut away on both sides so that engine can be serviced from top, bottom, sides.
5. Cockpit has been raised to give maximum operator visibility. This was major design consideration.
6. Vehicle has capacity of 27 cubic yards when heaped, 19.1 cubic yards when struck.
7. Curved deflector on tailgate guides material into center of bowl for better distribution.

Elements in the old Tournapull, such as lights, were not as smoothly integrated as in present model.



One-sixteenth scale appearance models were made of all machines except the truck; in addition a full size wooden dummy was made of the Tournapull in order to check visibility. All machines are now in production and will be available this fall. Models in other sizes will also be offered.

Tournatractor, before being remodeled by LeT-Wesco, had perforated grille (subject to clogging) and projecting lights.

Preliminary designers' sketches (opposite page) show steps in evolution of D Tournatractor to finished product below. Original dimensions that designers worked with are indicated at far left. Numerous versions of the grille (left, above and center) were tried and discarded as being too complicated to fabricate or not sufficiently rugged. Final version of grille, made up of ⅜-inch "L" bars, provides ample protection for the headlights, especially necessary in pushing units. Similar grilles, of much lighter sheet, were designed for the Tournapull and LW-30 truck to carry out company identity in all models. A number of fender studies (at left center and bottom) were considered. Final fender design is still under consideration at the Le-Tourneau-Westinghouse plant.

143 h.p. diesel engine

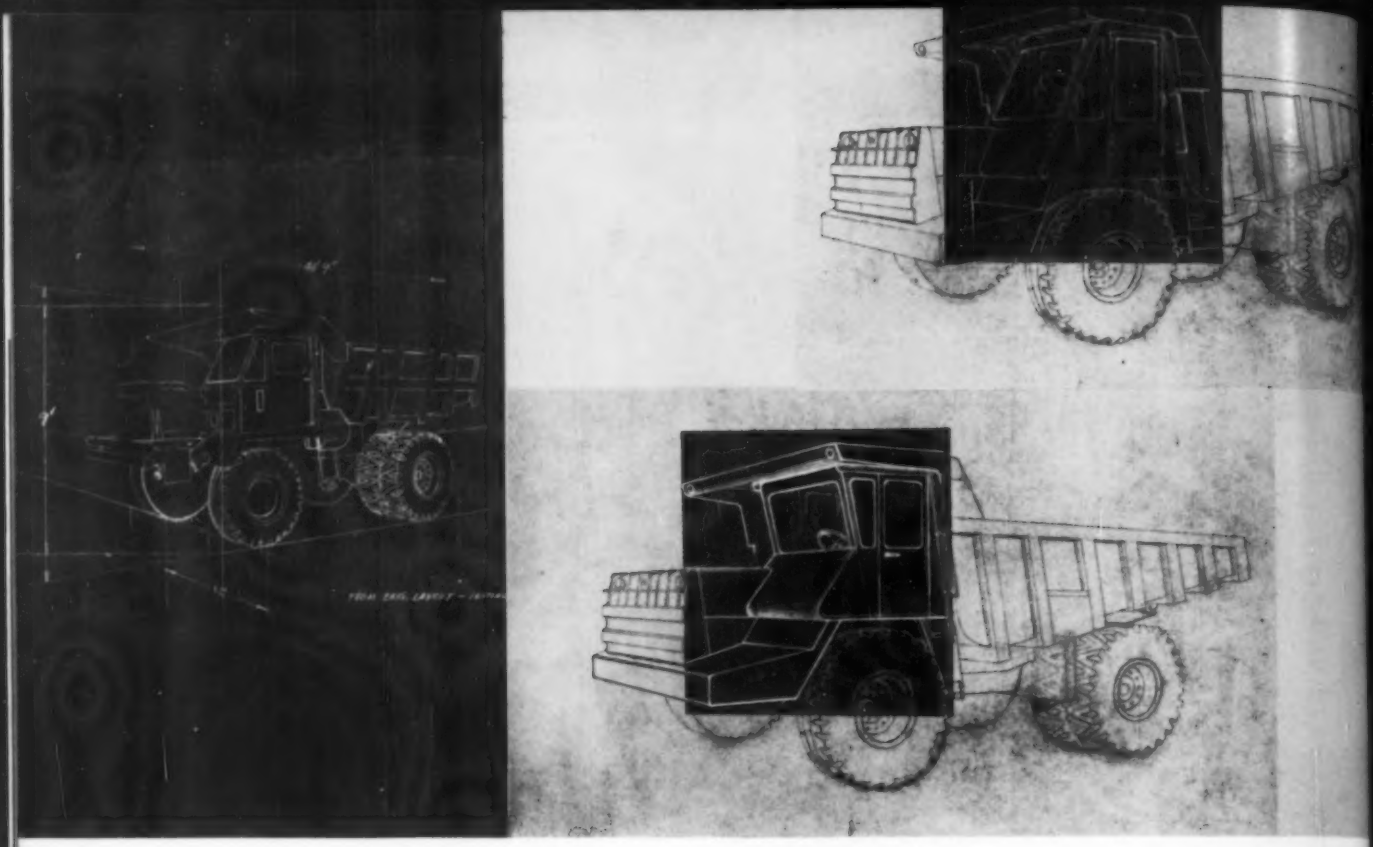
Cushioned seat designed for visibility

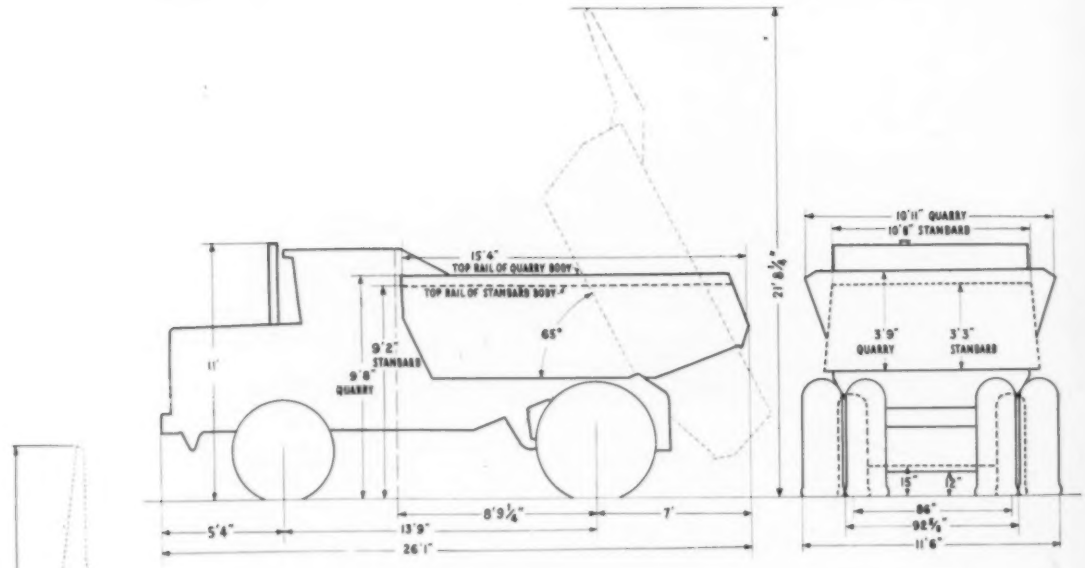
Air-actuated steering controls

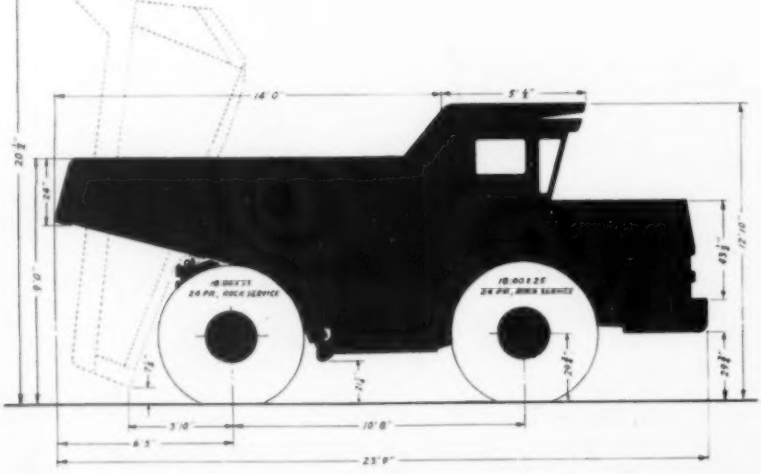
Lighting equipment integrated with g

Unitized hydraulic system pe moval as one assembly

Speeds up to 19.3 m.p.h.







Studies (top of page) for the radically new LW-30 truck went through many stages. For instance, canted windshield is result of angling glass in best way to prevent glare, distortion, and clinging moisture. Interior of cab, with power steering, brakes, and clutch, is designed for driver comfort. At left is sketch of LW-30 truck placed in comparison with conventional off-the-road truck (above it) to show variation in proportions and tilt.

The LW-30 Off-the-Road Truck

1. Sturdy shield protects operator and cab.

2. 375 horse power, turbo-charged engine.

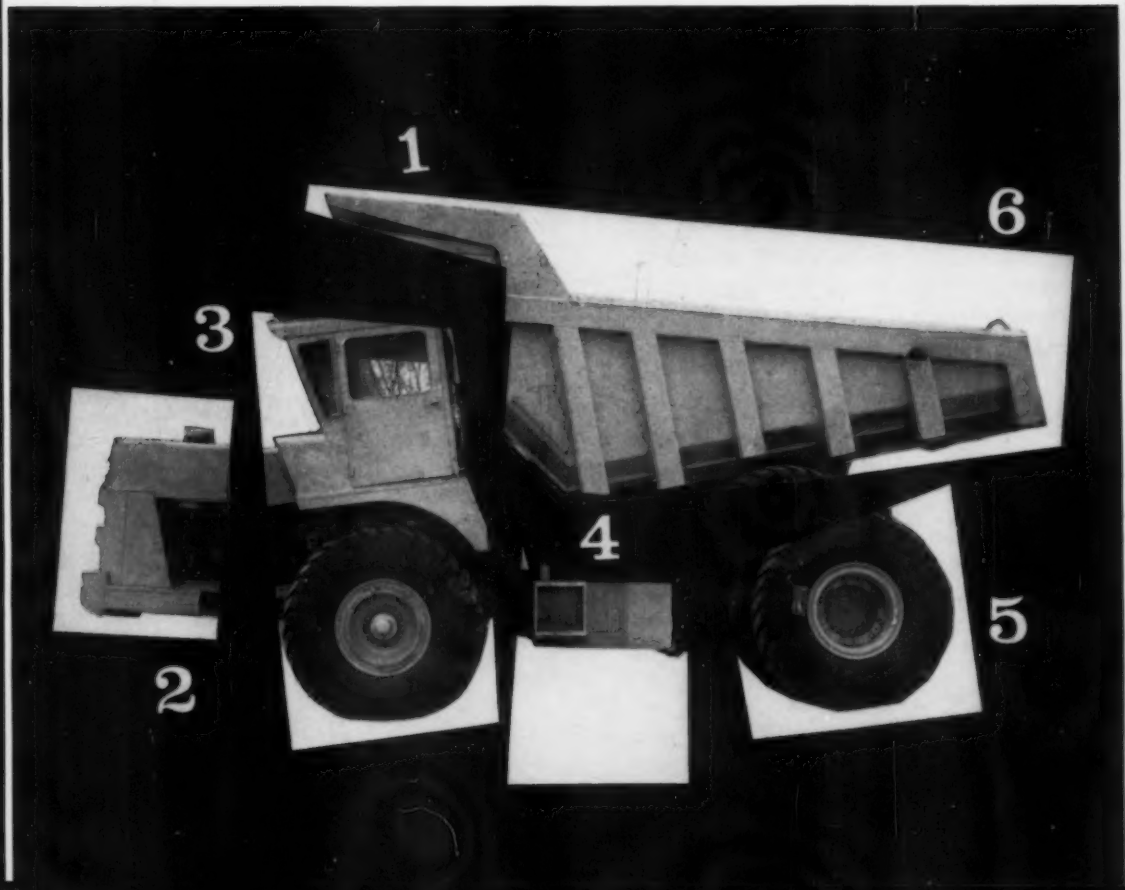
3. Cab may be cooled or heated according to climate conditions in area where truck operates.

4. Unique v-bottom lowers center of gravity, increases stability; ground clearance is doubled.

5. Short wheelbase allows for better load distribution, smaller turning radius.

6. Low silhouette allows for rapid loading.

↑ V-bottomed loading area tilts to 70°, rear overhang keeps dumped material away from wheels.

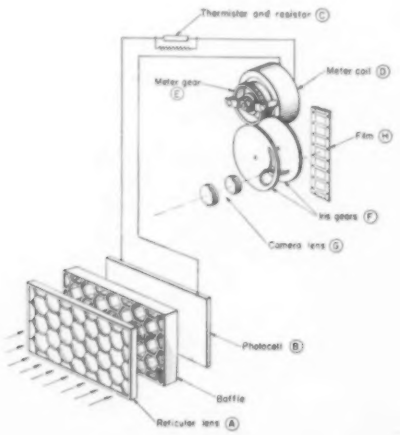


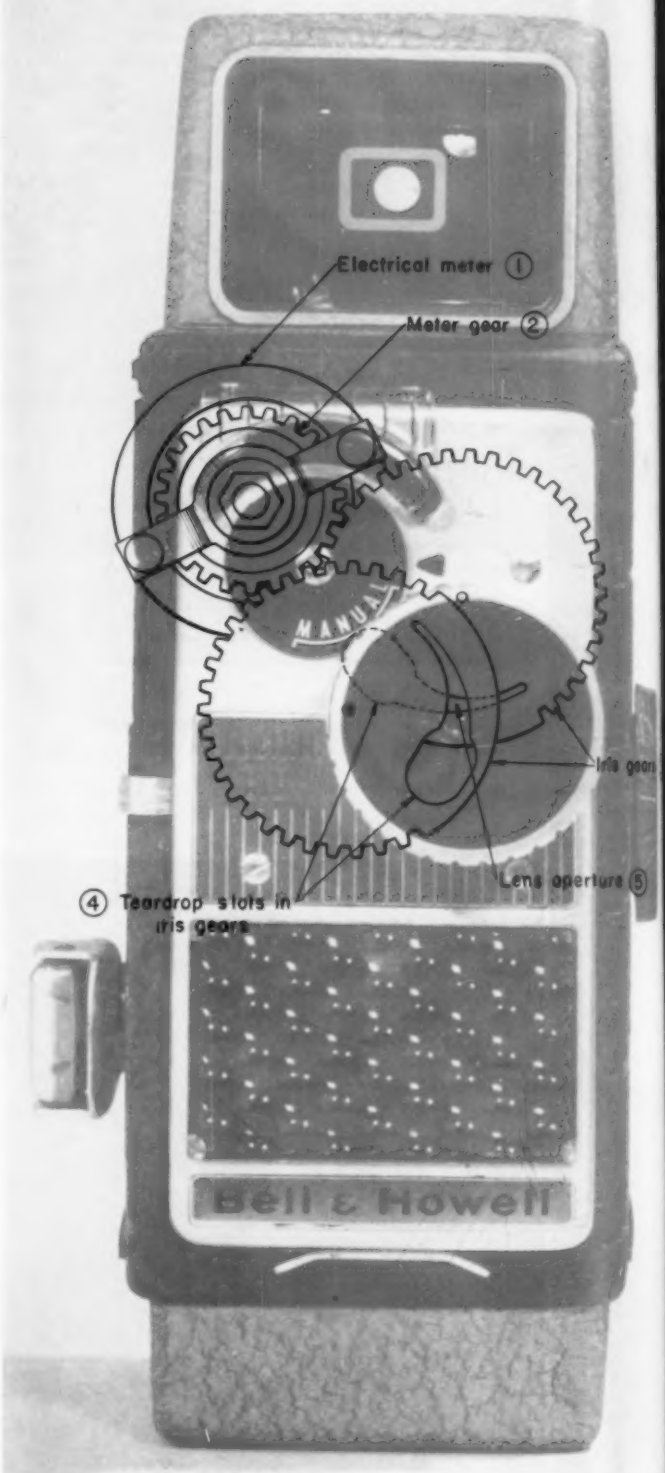
REdesign

Sun power replaces batteries for adjusting 8mm lens automatically

About 30 years ago, physicists discovered the ability of certain semiconductor materials to generate electricity directly from light: when photons of light strike selenium and silicon they jar electrons loose, and these will travel back to the base plate on which the materials are mounted through a coil or wire, producing a small flow of electricity. Last year Bell and Howell applied this principle of the photoelectric cell to a 16 mm movie camera with an automatically adjusted aperture: the photoelectric current controlled a small battery-powered motor that continuously opened and closed the lens according to available light.

This year B & H has pushed the solar energy concept further: its 8 mm electric-eye camera works without batteries, motors or springs, adjusting instantaneously and automatically by direct action between light and a hypersensitive iris of special design. Light reflected from the subject enters the honeycomb lens (A), reaches the photocell (B) and generates current — the more light, the more current. This electricity flows through a circuit (a resistor and thermistor compensate current for temperature variations) to the meter coil (D). According to the strength of the current, the coil rotates or deflects, which in turn rotates the meter gear (E) that engages the two slotted iris gears (F). As the lens diagram shows, the aperture is formed by overlapping slots in the two gears which, because of their irregular teardrop shape, alter the size of the opening with the slightest movement (4, 5). A needle pointer is linked to the meter, so that the actual *f* stop in use is indicated on the face of the camera. With this automatic lens and a universal focus the amateur can expect correct exposure as he moves from light to shadow, from distant to near subjects, without stopping for adjustments. Designed for 8 mm color film, the $170 camera can be adapted to black and white by manual adjustments.





Die casting revamps caster into simplified four-part sphere

In step with a society that is continuously trying to improve the wheel, one manufacturer has come up with an idea that solves anew many of the problems of the small but significant rolling device, the caster. Because each caster moves, supports, and is attached to a piece of furniture independently, it must provide a fixed point of attachment (yolk) and a central axle—both of which are exposed on a conventional caster—as well as lubrication and free swivel action. Shepherd Casters, Inc., of Benton Harbor, Michigan, have answered these demands with a unique circular design. It consists essentially of two zinc die-cast half-spheres that interlock, the outer one carrying the weight while revolving around the inner one, which supplies the axle, pivot, and furniture adapter as well.

The crux of the construction is shown in the cutaway section below: the manufacturer has taken advantage of die casting to cast integrally, a steel axle and its axle bearing, one in each sphere. The whole assembly consists of only four parts: (1) the inner sphere (right), with its cast-in axle and a cored bearing to accommodate (2) the adapter pivot; (3) the outer sphere (left) with a ridged edge and cored axle bearing; (4) a lock pin. The unit is assembled by inserting the lock pin through holes machined in the inner sphere; the pin engages channels in the hub of the outer sphere and the adapter pivot. The pointed thrusts on both the axle and adapter allow permanently lubricated grease wells inside their respective cores, so that the totally enclosed caster moves smoothly and requires no maintenance.

Currently offered with a 2½ diameter wheel, the caster, because of its roundness, tends to look more bulky than a conventional caster of the same size. A model with a significantly smaller diameter would make the most of the neatness of the circular form, especially on chairs and small-scale furniture.

The caster was designed by George Shepherd of Melbourne, Australia, and is now being manufactured for the American market through a license agreement. Morton Goldsholl designed the self-display box, collaborating with Howard Buck of Franklin Folding Box Company on the construction.

The International jury meets to select prize winners (left to right): George Stoffel, Luxembourg; Robert Giron, Director General of Belgian Museums; Alberto Roselli, designer and editor of "Stile Industria"; Jaap Penraat, Dutch designer; Madame Denis des Cressonieres, Secretary General of Signe d'Or; Peter Muller-Munk, American designer; Robert Desamory, Belgian designer.

SIGNE D'OR

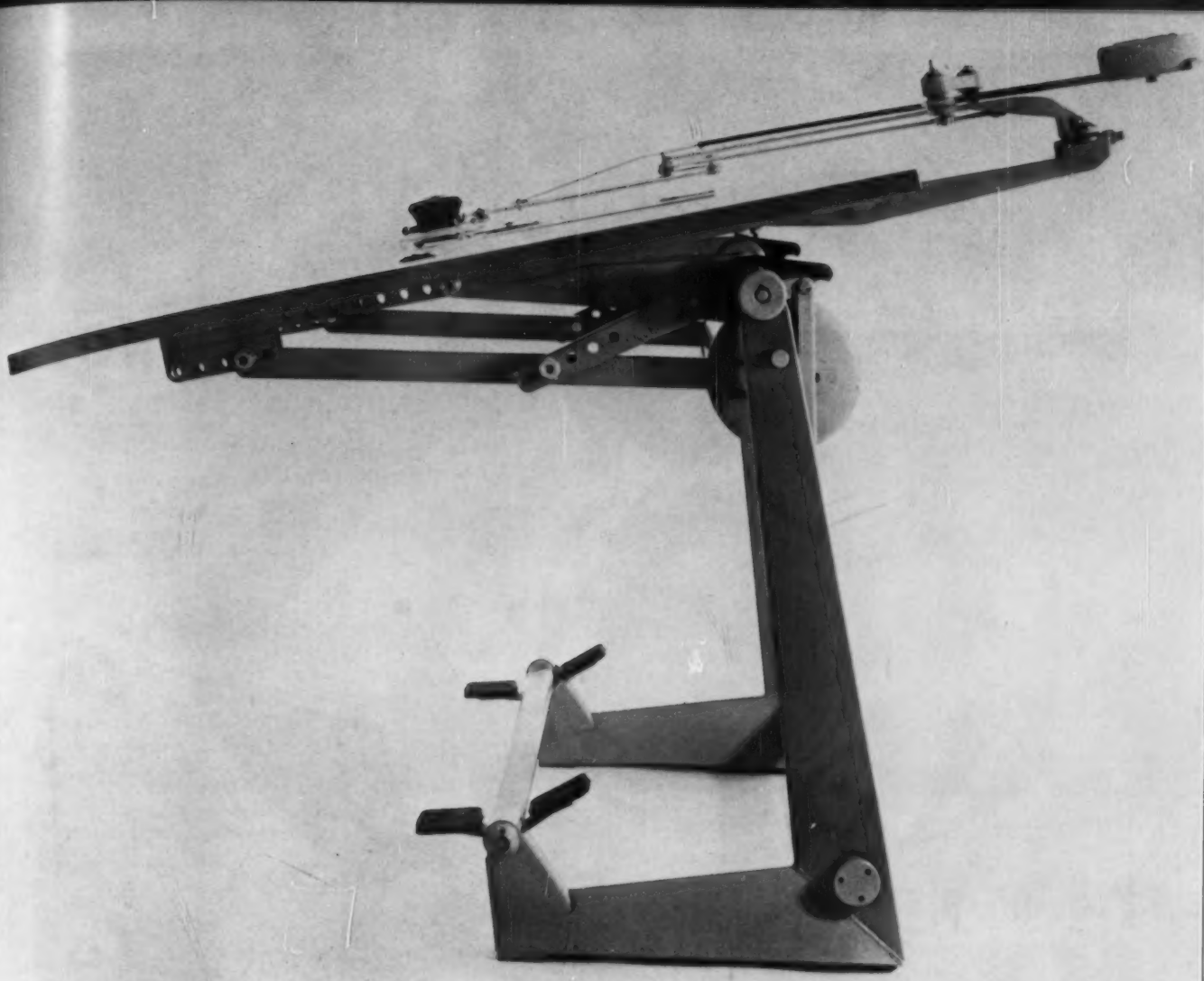
Under the phi-like symbol above, the first Signe d'Or, or Golden Signet Industrial Design Competition, was held in Brussels in June. The competition, aimed at improving the design quality of products from the Benelux countries–Belgium, The Netherlands, Luxembourg–is one of a growing number of exhibits being developed throughout Europe to aid in the competition for wider markets.

Qualite Industrielle, formed at the close of 1956 to promote Benelux products and led by Madame Denis des Cressonnieres, organized the Signe d'Or. Among the winning items were furniture, precision instruments, and heavy industrial goods.

The exhibition as a whole reflected a wide range of quality; it included a few items of little imagination and a number, such as those on this spread, of outstanding merit. American designer Peter Muller-Munk served as chairman of the international jury that judged the work.

↑ *Folding aluminum beach chair produced by Tuytschaever and Billiet of Deynze, Belgium.*

Opposite page. Above: drafting table manufactured by DeCirkel of Holland. Below, left: steel and plywood chair by DeCirkel. Right: stainless steel milker by Fabrique National D'Armes de Guerre, Belgium.



Strippable coating (Minnesota Mining and Mfg. Co.) protects stainless steel during fabrication.

P.S. on plastic coatings

Much has happened in the field since our June, 1955 report. Herewith a summary . . .

In the first comprehensive roundup of plastic coatings (June, 1955), ID remarked that a total survey of this vast field would require volumes. In the intervening two years, this has become more true than ever, as any designer knows who has recently studied a plastics handbook or worked with a coating formulator. The selection of coating applications on the following pages is intended to interpret some of the changes that have occured during the past two years—including improvements over past materials and new trends that have been launched—from the point of view not of their technical category but of the end result, viewing coating as a part of the design problem.

Since our last report, we have become aware of two broad, complementary trends in plastic coatings. One trend is in the direction of new and improved uses of plastic to impart less conspicuous, often totally transparent finishes to a substrate that needs to be protected from a variety of destructive agents—the list of such agents is endless—without any change in its basic appearance. The new Hypalon (DuPont) coatings and urethane coatings, for example, are both being used as a clear protective film over soft rubber goods like overshoes. In this usage, their function is to minimize the effects of ozone on rubber and add extra abrasion-resistance. As with the coating on pig leather (page 84) the desired objective has been a completely unobtrusive service—invisible if possible.

Conversely, more plastic coatings are making themselves felt in the scene by reason of color, texture or other surface effects. The epoxies, for example, have been helping to extend the range of color possibilities on a variety of substrates, including the satisfactory placement of color, particularly the lighter shades, on the ultra-slick surface of low-cost phenolic. New application processes have hastened the trend: A tough wrinkle texture which simulates the general effect of leather can now be derived by special process from organosol as well as plasticol, the new Fluidized Bed Method of coating has broadened the number of plastics which can be successfully mass applied to a variety of substrates.

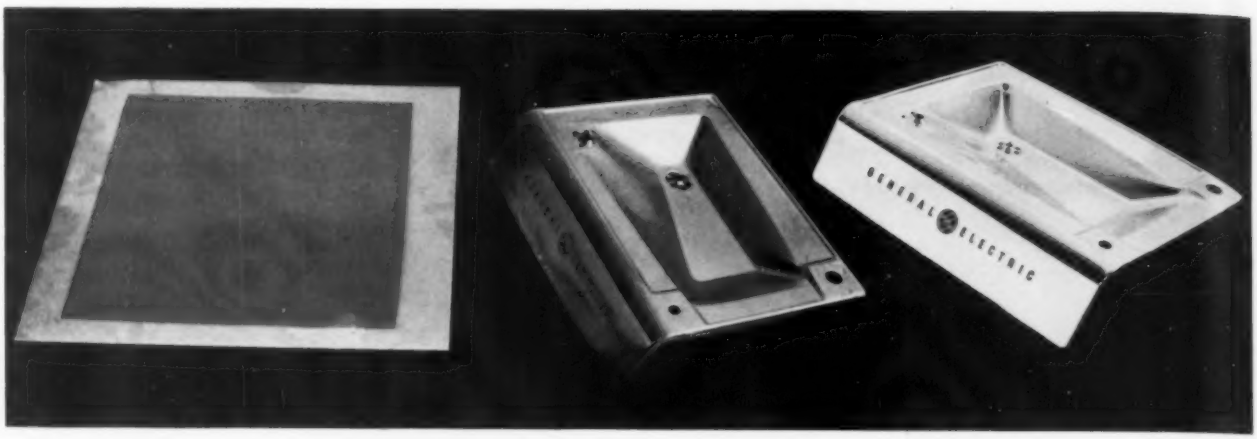
Though the examples overleaf tell the story of plastic coatings in terms of an existing application, each example clearly contains possibilities for the improvement and the initiation of products.—*r.c.*

Plastics for protection — plus

Plastic coatings were first used to protect a variety of substrates from chemically and mechanically destructive elements in the outside world. The destructive elements can range from the abrasive action of weather to the nicks and scrapes of a die press working to the onslaughts of enthusiastic youngsters. Several examples of the growing strength of protective plastics are examined on this page and overleaf.

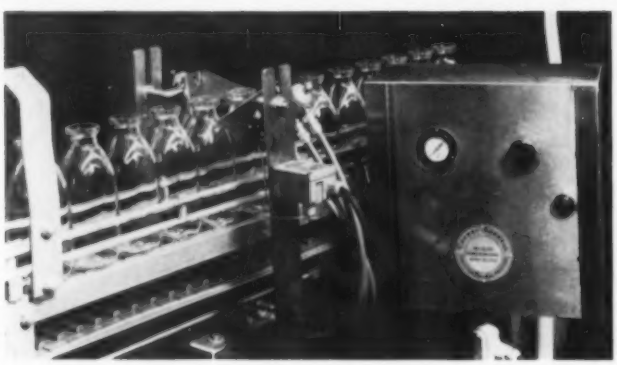
Smooth sliding: How do you take a picture of something the eye cannot see? If the something is a transparent epoxy coating, one way to photograph it is to show a children's slide—like this one in a Princeton, N. J. playground—to dramatize the fact that epoxy coatings are known for their superior weather and abrasion-resistance. The rust-proof whale with the tail slide is formed of Bakelite polyester resins reinforced with sisal and glass fibres. For added abrasion resistance and weather-ability, Rexclad epoxy (Rexton Finishes, Irvington, N.J.) was sprayed on the Fiberglas reinforced surface.

Epoxy coating helps surface of slide stand up to elements and infants.



Scarproof stainless: Stainless steel is notoriously susceptible to scratch and die-mark damage. Cupping, forming and drawing operations involving deep draws, sharp reverse bends, and short radius turns generally require much time and result in an inevitable portion of waste sheet. The fabricators (Hutchinson Sign Co., Hartford, Conn.) of a G. E. water cooler top plate, plagued by die marks along the sharp bends of the plate, which necessitated much hand buffing, now use a spray coating, EC-968 (Minnesota Mining & Mfg. Co.). This is a vinyl copolymer resin which protects flat stock and adheres throughout fabrication, absorbing blows without hardening to a permanent bond. It air-dries in four hours, strips off by hand or air jet, resists water and oil.

Concrete flexibility: The roof of a structure is usually the point of heaviest weather attack and, when the Catholic Church in Ponce, Puerto Rico, decided on a durable, low-cost concrete roof for its new cathedral, something was needed to seal the porous cement and whiten the color of concrete. The Church chose Maintz (West Chester Chemical Co., West Chester, Pa.), a combination of silicone and Hypalon (Du Pont's chlorosulfonated polyethylene) which combines hardness *and* elasticity, with silicone as the waterproofing element. Unlike conventional outdoor paint, Maintz has excellent flex life under extremes of weather: flex life is maintained even at —40°F. It can be formulated in a variety of colors, and applied by brush, spray or roller.



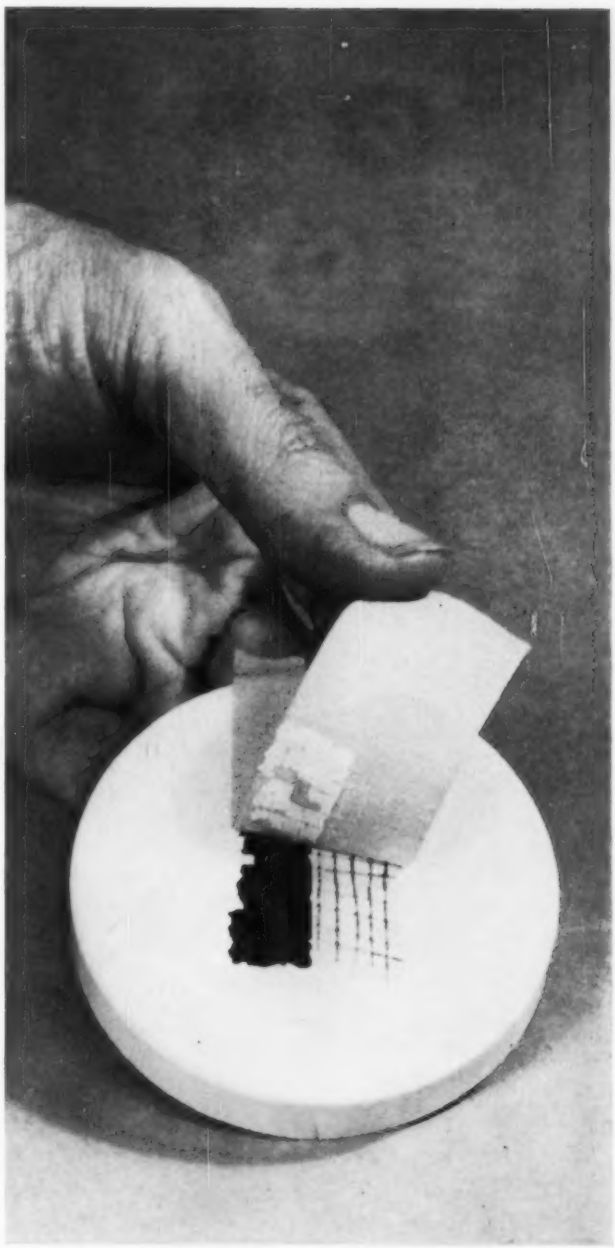
Unscuffable glass: For many years, milk bottles acquired, during the annealing process in oil-fired lehrs, a natural oil film which protected the glass surface against scratches. During the last two decades, however, as a result of new processes used, protective coatings had to be sprayed on the bottle surface; but these solutions lasted only on the trip from manufacturer to filling line. The Thatcher (Elmira, N. Y.) Nu-Glas Process sprays a solution of silica with carbon compound derivatives over the bottle exterior as an integral part of bottle washing in each cycle of use, protecting the bottles from maker to kitchen, extending bottle life and maintaining the appearance of unscuffed glass. It is said that production line breakage is cut by 50%.

Plastic coats plastic

Sometimes the strengths of one plastic can compensate for the surface shortcomings of another.

Featherweight tarp: The combination of strong, lightweight nylon with a protective coating of neoprene has recently replaced heavy canvas in several jobs, including use in stadium tarpaulins. But the drab tar-like appearance of neoprene has been a drawback. Pliovin AO, a vinyl copolymer dispersin resin (Goodyear), can replace neoprene, coating the basket-weave nylon fabric with a colorful weatherproofing film that also stiffens the fabric sufficiently to avoid fabric distortion and decrease ripping. The coated nylon remains supple; the vinyl seal completely encloses the strands.

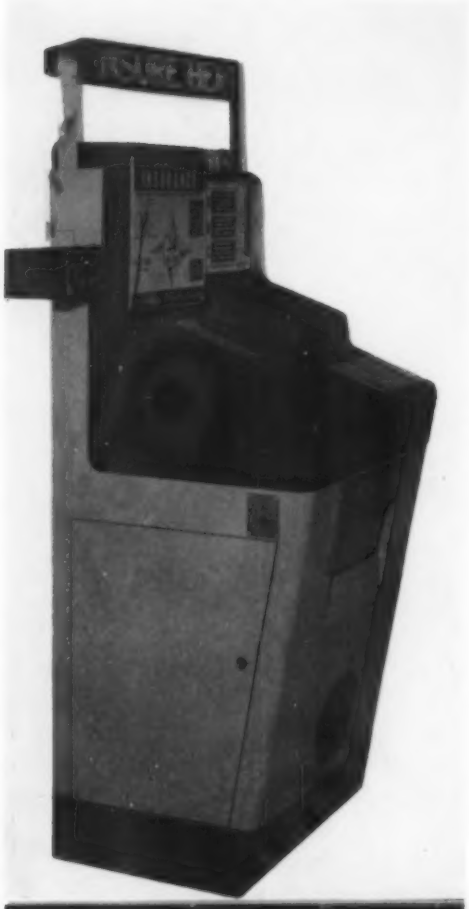
Tonier phenolic: Even though a plastic coating is expensive, it may lower costs by making possible the use of a low-cost substrate which has certain skin-deep deficiencies. This was the case with phenolic, the sturdy, inexpensive molding plastic: most pigmented finishes chipped off its very slick surface and more expensive plastics have had to be specified with the color molded in. Epoxy coatings, like the Rexclad series (Rexton Finishes, Inc.), adhere to the phenolic surface where others chip; (see right side of patch test at right) and spray-coat it for color plus abrasion resistance, which is especially useful on molded items like jar caps.

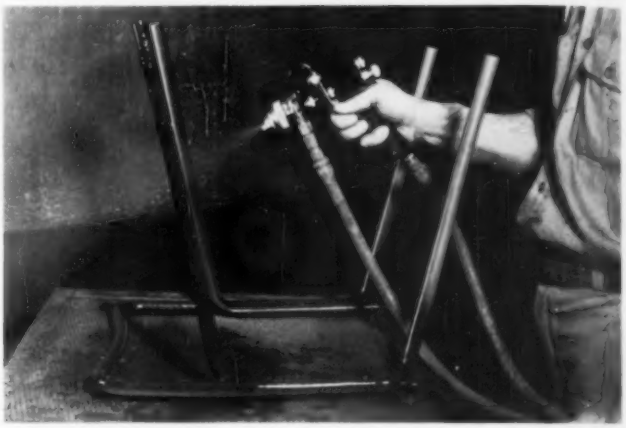


Color to order: When Knoll-Drake designed drawers (left) in low-cost, easily-worked phenolic for a warp-proof, interchangeable unit whose rounded corners would be easy to clean, they wanted to offer light front finishes on the naturally dark color of phenolic. To avoid stocking colors, Rexclad epoxy (Rexton Finishes, Inc., Irvington, N. J.) is sprayed only on the visible portion of the drawer to give a special-order color choice plus a tough, abrasion-resistant protective finish.

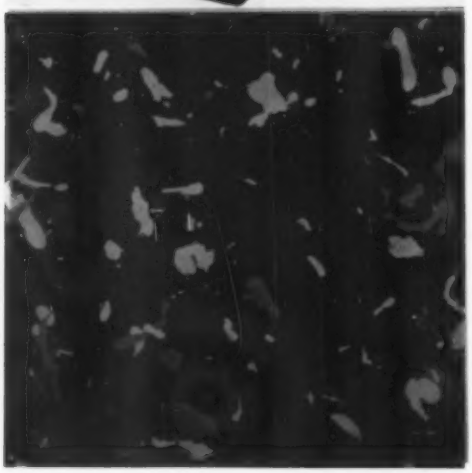
Protection plus — something for the eye

Plastic coatings often do more than just protect a substrate — and often that "something more" is in the realm of a decorative texture, a new color effect that is also an economy.

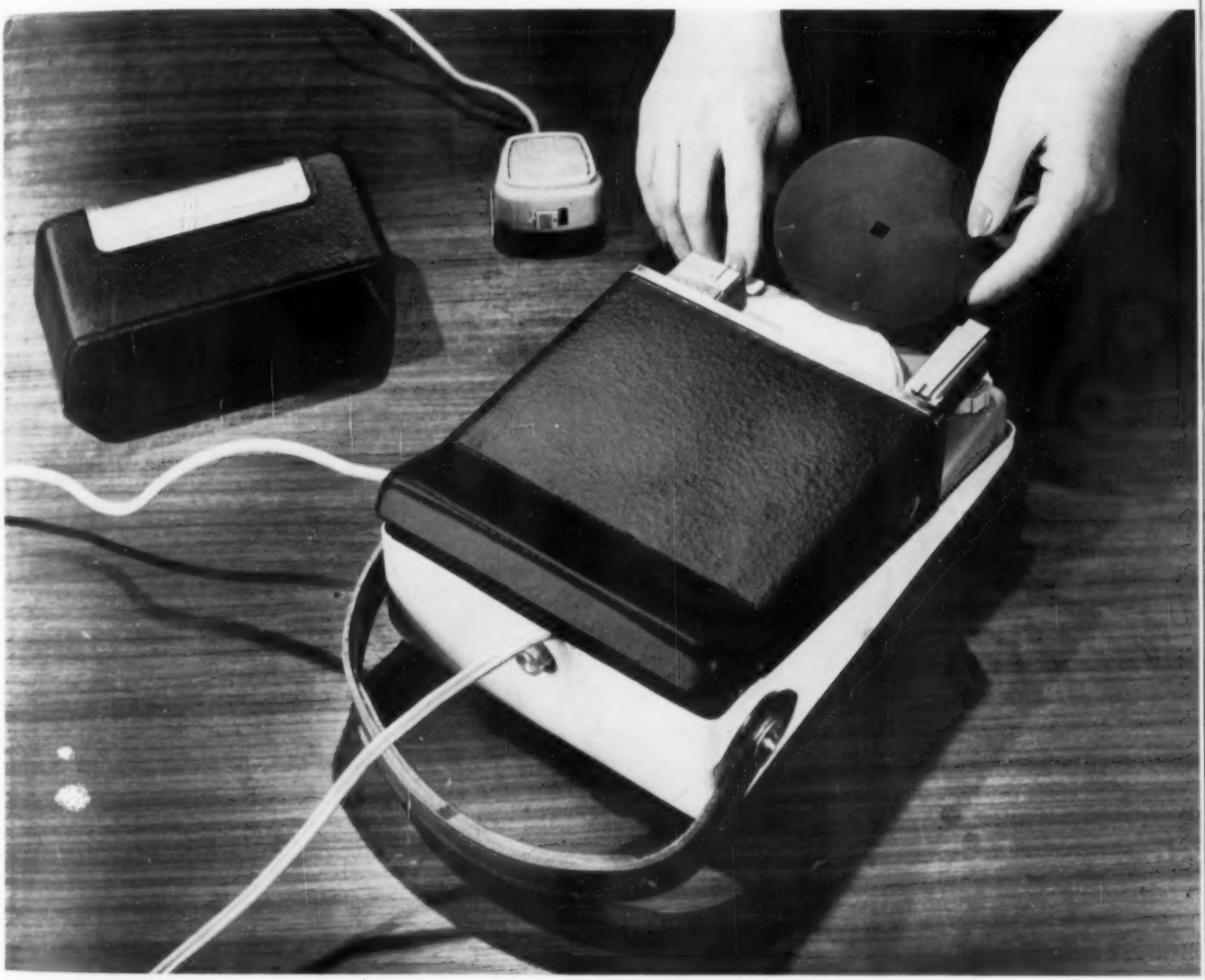




Colorful protection: Vinyl plastisol has long been in use as a tough coating for metal, its popularity based on good abrasion resistance and weatherability. When these assets are combined with a range of colors, the coating becomes a decorative surface that also protects. It is used in the processing of dinette chairs by the Hartford (Conn.) Industrial Finishing Co. Tubular metal chairs, $\frac{3}{4}$ inch cold rolled steel, welded at the joints, are sprayed with a plastisol film (Stanley Chemical Co., East Berlin, Conn.) of .0005 inches, over a primer, in a range of colors, then baked at 375°F for 20 minutes. Unsightly weldings are hidden. Two dozen unwrapped chairs can be shipped in a single carton.



Single-spray for 3-D. The airport insurance vending machine (above left) was coated by Zolatone, a single-spray process, incorporating two or more colors for an effect similar to that of the so-called "polka-dot" paints. Concrete, canvas, metal, and several types of plastics can be coated. Pigmented sacs of vinyl acetate do not mix in the pot or spray gun because they are insoluble in the water in which they are dispersed. The sacs break and splatter upon hitting a surface, forming a coating five to six times as thick as conventional paint. For application to porous surfaces like concrete block, water-soluble silicone primers provide water repellency. A three-dimensional effect is said to result from the multi-color finish.



New wrinkle for organosol: John L. Armitage and Company (Newark, N.J.), coating formulators, use a leather-like plastisol spray-on finish, priced competitively with vinyl laminates (see ID, page 67, June, 1955) but they also now use a more economical wrinkle-finish which is competitive with regular baking enamels. Called Armorsol (R), it is an organosol (Bakelite vinyl resin) used in conventional film thicknesses (two to four mils), in a variety of glosses and textures — leather-like, splatter, etc. — and, unlike wrinkle plastisol, requires no primer. It can be varied from semi-gloss to a mar-proof dead-flat finish. The Soundscriber 200 dictating machine texture (above) results from an undisclosed patented spray process.

Nature kept natural

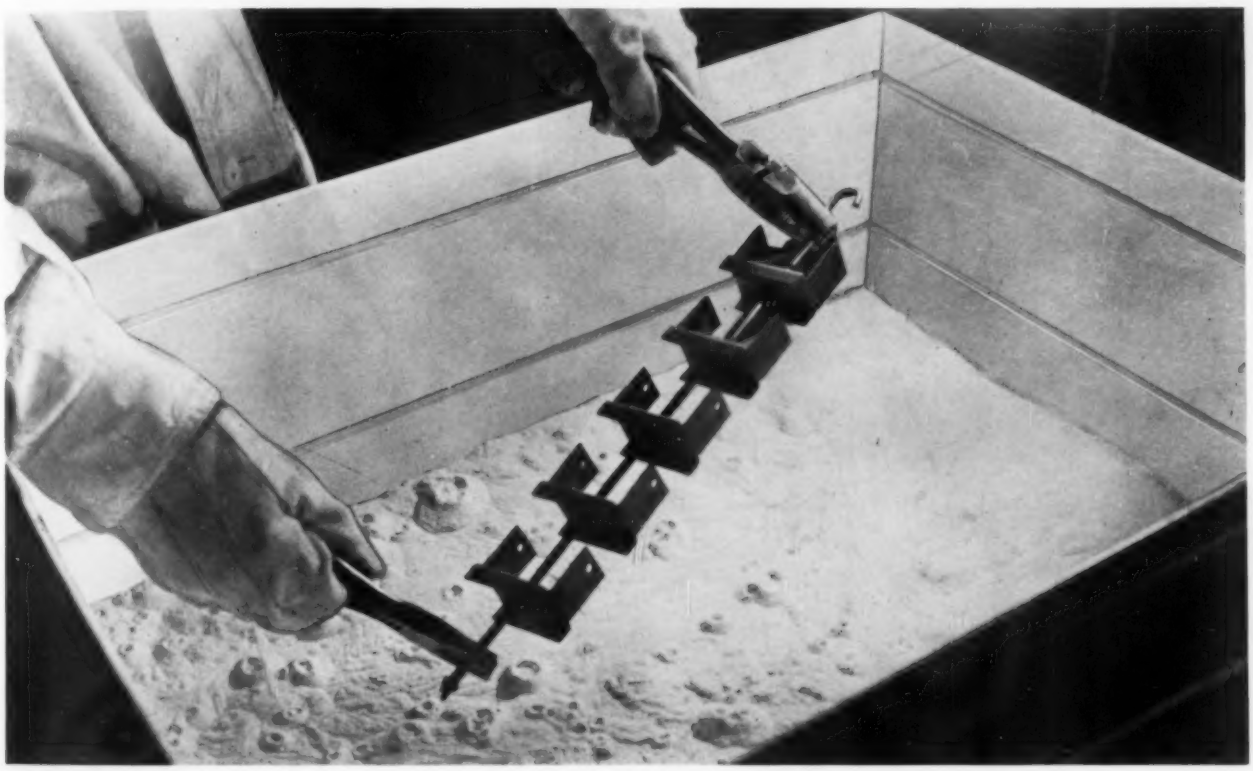
Maintaining the pristine look of natural materials under the impact of corrosive salt-wind or foot scuffing, is a tall order. Below are two ways of handling the problem.

Waterproof stain: Epoxy varnishes (good adhesion, weatherability, light stability) are replacing conventional marine varnish in a number of wood-coating uses, as in this sport cruiser (Smallcraft Co., Lake Wales, Fla.), coated with Maraset V-760 (Marblette Corp., L. I. City, N. Y.), a transparent epoxy applied by spray or brush to the unpainted sides. Conventional varnishes require several coats of heavy stain to bring out the grain rise. Maraset can be used as a stain, with a dark pigment added to the prime coat, rubbed into the wood and then rubbed off immediately, at a saving of time and labor. One coat stains and protects. Wood plug and joint details are clearly visible. There is rich grain in full sunlight with no muddy overcast.

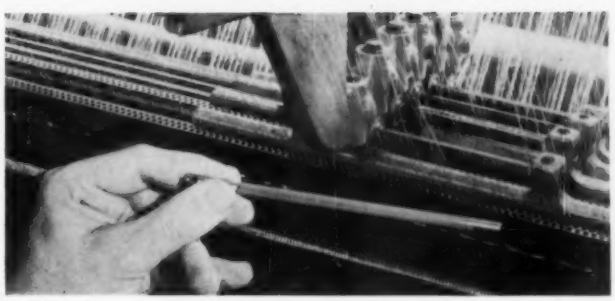
Permanent pigskin underfoot: We don't normally think of leather as a wall tile or — even more startling — as a top-grade floor covering, but the makers of Pigs-Kin (Kiefer Tanneries, Grand Rapids, Michigan), a pig leather tile, 4½ inches square, are promoting their acrylic-coated tiles for just such unorthodox uses. Pigs-Kin has much to recommend it for the job: it is one of the most abrasion-resistant leathers; like teakwood, it has a natural oil that keeps it unusually supple; the grain and feel have always pleased. Kiefer found that three coats of clear acrylic (excellent transparency and light stability) on the Pigs-Kin protects the natural leather look. The first coat forms an intimate bond with the membrane of the leather; the top coats protect with subtle transparency. Pigs-Kin is priced near medium-cost carpeting.

Whirlclad

A new process makes it practical to mass-coat a variety of substrates with nylon or polyethylene by heating the object rather than the coating. Controllable thickness for semi-soft surfaces is one of its advantages.



New whirl for nylon: The Fluidized Bed Method of coating, invented in Germany, and introduced into the United States only recently, has opened up new uses for nylon and polyethylene as coating materials. The Whirlclad Process (Polymer Process, Inc., Reading, Pa.) consists of dipping a preheated article into a level bed of finely divided or powdered particles, suspended in a tank by an ascending current of air or other gas. One advantage is that no solvent is required. (Nylon and polyethylene don't mass coat uniformly in liquid form.) No coating solution is heated. Instead the article to be coated, which is heated, must be able to take pre-heating without distortion, to a temperature above the melting point of the powder into which it is dipped. Among the materials which can be coated are metals, ceramics, wood, glass. There are no color limitations and films of three to fifteen mils are practical. The process provides a heavy coating in one dip with no sags, pock marks, or drip spots—all difficulties with spraying. The coating is uniform, with good penetration of contour on complex shapes and no abrasive micro-edges. The single-dip technique applies coatings for corrosion and wear resistance, electrical insulation and decorative purposes. It is just finding its applications.



The traverse bar on a knitting machine moves back and forth 700 times a minute and the supporting guide pin moves one inch longitudinally in the guide bar hanger assembly during each cycle. When solid steel pins are oiled daily to withstand the friction, normal part life is only three months. Furthermore oil drip damage to the fabric averages $50 a month per machine. Low-friction nylon applied to the guide bar pins (Whirlclad Process) reduces oiling to once a week, eliminating oil-drip damage and extending pin life by preventing metal-to-metal galling and scraping.

Ezra Stoller

The Design Research building stands just across the street from Longfellow's spreading chestnut tree on Brattle Street in Cambridge, Massachusetts. Specializing in foreign goods, they import about 80 per cent of their accessories, 40 per cent of their furniture, 50 per cent of their lighting fixtures and 70 per cent of their rugs. The shop's director, Benjamin Thompson, is an avid buyer who collects much of his merchandise from out-of-the-way points, and has assembled a handsome interior as well as a popular store.

DESIGN RESEARCH INC.

U.S. retailer looks at foreign design

At a time when the popularity of imports is reaching a new high, a retailer discusses why he seeks out foreign merchandise—and why it sells in the U. S. A.

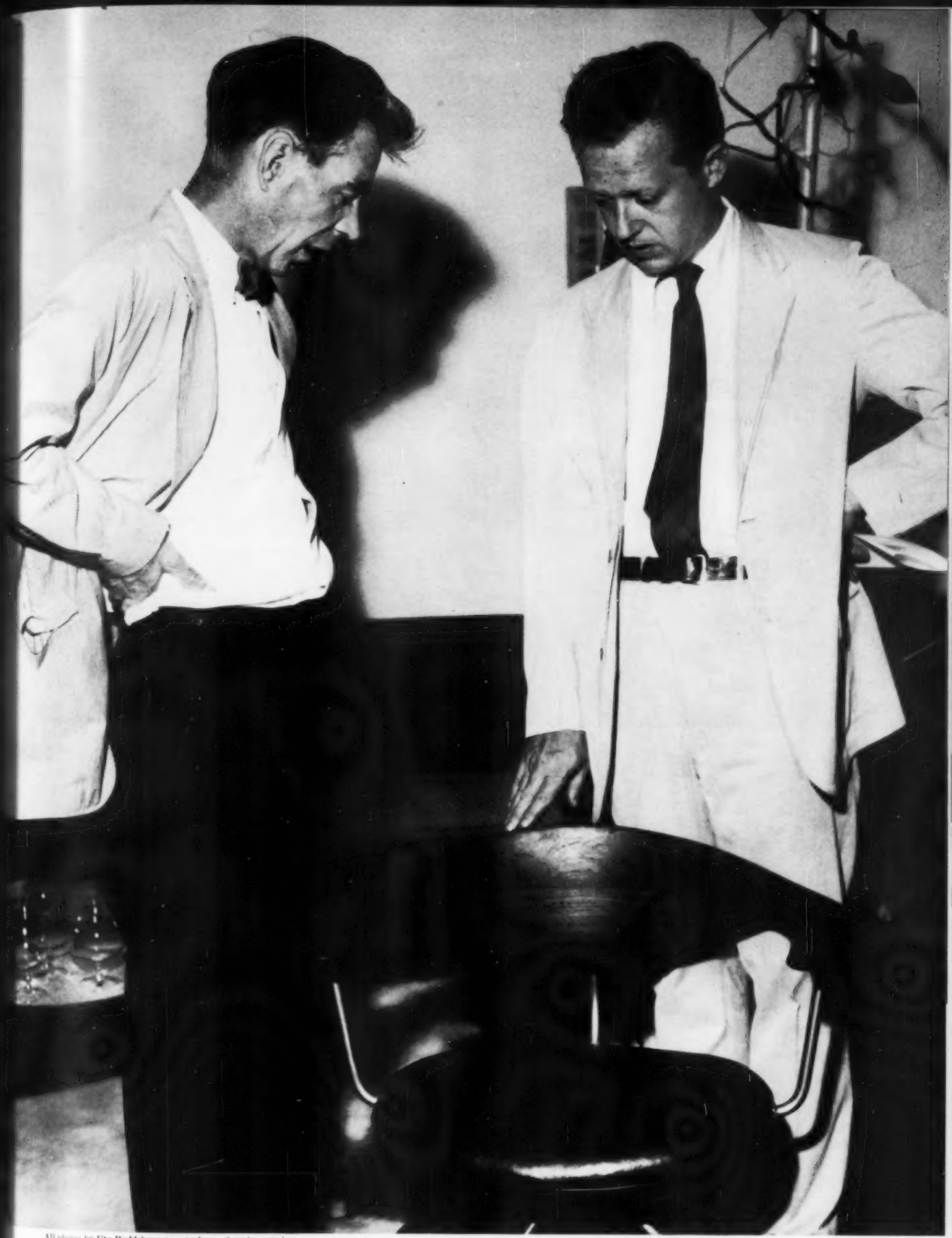
Benjamin Thompson, director of Design Research, Inc. of Cambridge, Massachusetts, a shop specializing in a complete range of interior furnishings, launched the store six years ago to fill a need he had felt personally. An architect by training, and a partner in The Architects Collaborative, which designs both commercial and residential buildings, he was aware of the difficulty of assembling from countless foreign and American sources ingredients that would make distinctively appointed interiors. What was needed, he concluded, was an international selection of furnishings, fabrics, and other contemporary accessories available from a single source.

To make Design Research the kind of store he envisioned, Thompson became an indefatigible shopper, uncovering little known sources and seeking out manufacturers and designers abroad who could supply products that met his standards of esthetic and practical excellence. The store, which began in 1951 as a two-room shop with a two-man staff, has enjoyed several major expansions into new wings as his stock has grown to include tableware, glassware, painting and sculpture, and jewelry, much of which is hard to find even in big city specialty shops. It now has a staff of twenty.

Imports currently account for a major portion of Design Research's stocks; that this has meant a continuing upswing in business may hold some lessons for American designers and manufacturers. What is particularly interesting is the question of why the imports are growing more popular with consumers here. Some of their appeal may lie in factors beyond the control of designer or manufacturer—the availability of craftsmanship or labor, for instance; but Americans like them by and large because of the way designers have made them look and work. At least so Ben Thompson believes on the basis of his retailing experience, and we have asked him to elaborate on this viewpoint in the following interview.

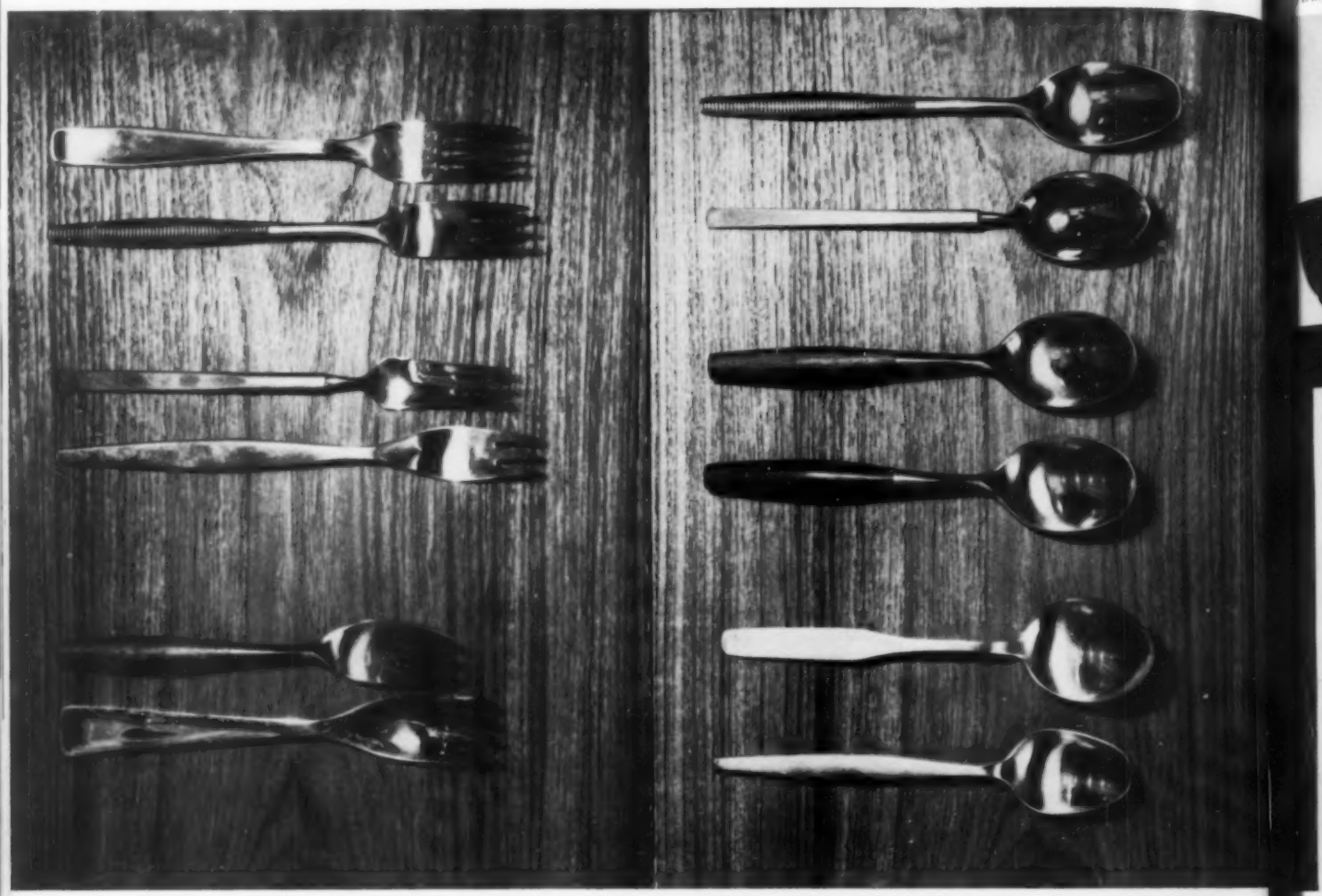
What do Americans especially want from abroad?

"There is a demand for unusual things, whether they come from Italy or Albany. It is hard to intellectualize on the value of being exotic—try it with poetry or good food; the necessity is doubtful to one who hasn't been touched. But there is a value in both a certain specialness and simple, useful common articles. Yet as a retailer you must know what you're looking for. It is combinations of things —whether colors, herbs or interior paraphernalia—that produce personality. In the U. S., we are heavily industrialized, while Europe retains some handcraft traditions,



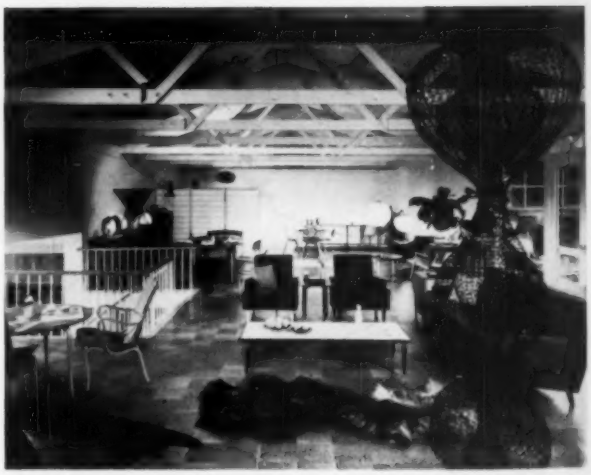
All photos by Uta Buddeberg except where otherwise noted

Benjamin Thompson (right) discusses with his sales manager, Claud Bunyard, a newly imported Hans Wegner desk chair.



which sometimes result in 'one-of-a-kind' products. As time passes and the world develops fewer artisans, certain handcraft items will take on even greater value. The link with the past is appreciated, particularly those things which have retained a folk-way shape, material and use for thousands of years.

"In the U.S. concern with style-change and the seeming economic necessity of 'keeping up with the market' has resulted in confusion of design direction. We have a Japanese phase with oriental-type furniture which a percentage of manufacturers produce that year. Then some magazines develop the 'latest' colors, all furniture is lowered six inches, and you have a new 'trend.' If you have a bad back and can't raise yourself from a low chair, you don't furnish your house that year. (I have even noticed copying by Scandinavians of flamboyant Italian ideas and then recopying by the Italians of the Scandinavian foolishness.) But the European designers have a less self-conscious approach. I guess they've been around longer. When the Scandinavian designs a high desk for a small room to hold small objects, he may be influenced by the roll-top desk design. But he's trying to solve a simple problem in an obvious way. He usually isn't influenced by 'the trend.' When the roll-top desk arrives in the U.S. it suddenly becomes a great invention—nobody thought of it until now, apparently. The trouble is that American designers have often overlooked pedestrian problems of space, of function, of use in the search for some extravagant expression, such as a pear-shaped coffee table of impossible finish and built-in native cactus. The result is that at Design Research we often buy Scandinavian goods since those designers have

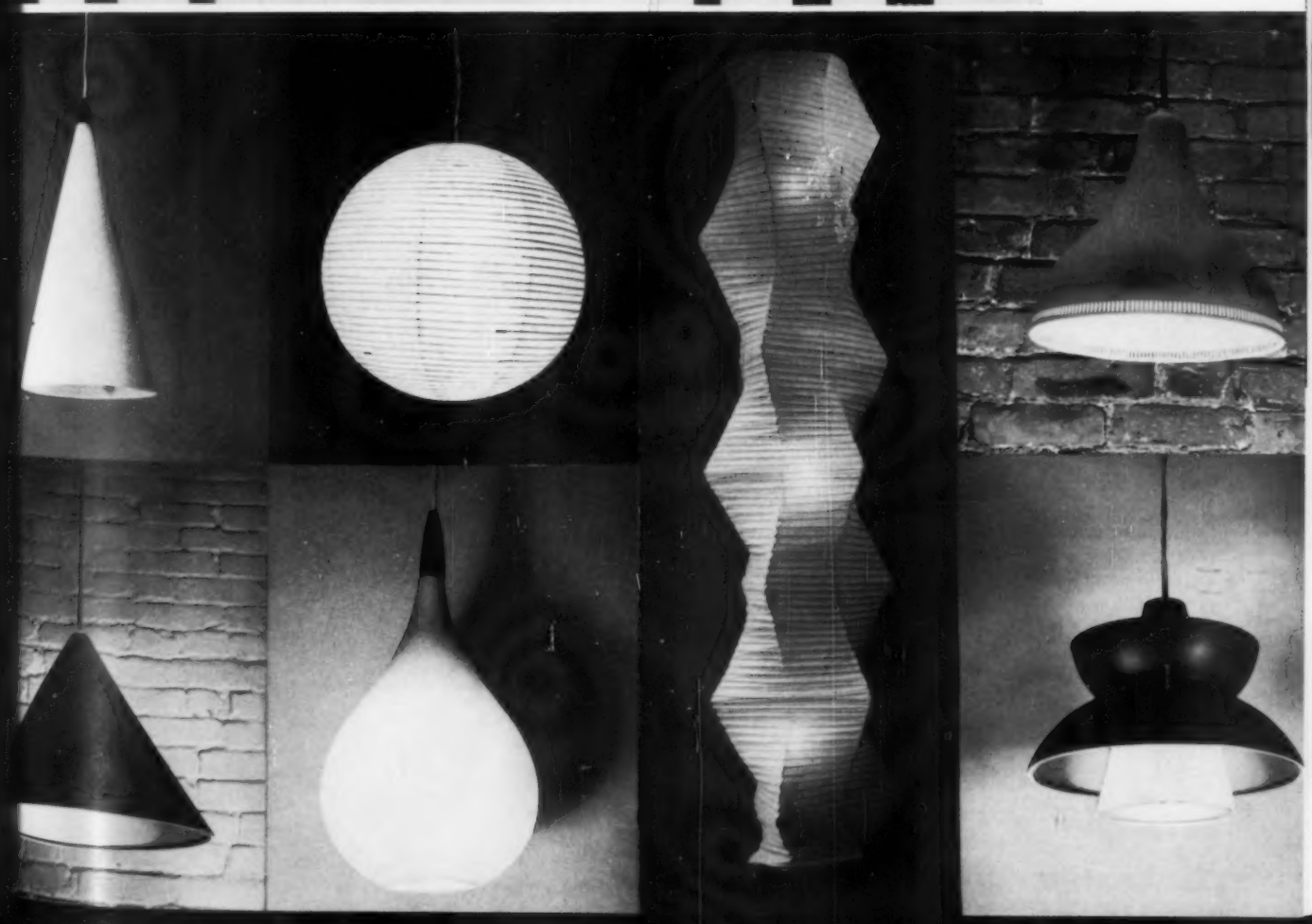


↑ *Design Research, Inc. carries unique goods which often do not appear even in large foreign specialty shops.*

Top "For thousands of years people have been working on the problem of designing implements with which to eat. Here are the latest patterns sold by Design Research, illustrating the shape and form of stainless steel forks and spoons."

→ *"Seven variations on enclosing, directing, transmitting light from a simple bulb on a cord. The materials are metal, paper and glass. Eliminating base, stem, and stand, the hanging lamp is simplest solution."*

"Arzberg porcelain cups: the lines are simple, unaffected and relatively timeless. Mixed in are cups from the Finnish firm, Arabia. They have been producing the sort of unaffected designs for which Americans will pay a premium."



a more relaxed attitude toward designing for the daily routines of living."

What are the problems of importing from Europe?

"Obviously, direct importing involves some technical rigmarole that implies an efficient internal organization. Finding important products at the right price is always a puzzle. This does not necessarily mean that we look for inexpensive things. We don't, but we try to find products which fill the elementary furnishing vocabulary. However, many European things become too expensive when imported to the U.S.A. through a complex chain; unfortunately they become luxury items to the customer. Competition in finding the new and the unusual is great; essentially we all work with the same parts and often it's a matter of combinations rather than uniqueness. Difficulties are encountered dealing with small foreign manufacturers, few of whom can afford even travel to the U.S. to discover the intricacies of national distribution, and usually do not realize the scale of this country. We have often thought that the best distribution system for 'good design' products would be this: a series of regional agents (quality design stores) located in eight or ten principal areas of the country — Boston, New York, Washington, Atlanta, Chicago, Dallas, Los Angeles, San Francisco, Miami — group advertising and pooled orders but direct purchasing by each member store."

What kinds of products are easiest to sell?

"Furniture is perhaps easiest to sell once it arrives in this country. Obviously, it is the most difficult to handle, ship, protect, etc. Textiles are the easiest to import. Since textiles must be bought in large quantities from manufacturers, a small store generally does better through a wholesaler who buys in quantity.

"Lighting fixtures are an enigma for us. New lighting designs in this country are constantly copied and downgraded. For some reason the better, simpler lamps are expensive. Lamps by the thousands have yet to be designed while there is an endless procession of style change with little concern for really good design in lighting."

What are the major differences in the designers' overall situation here and abroad?

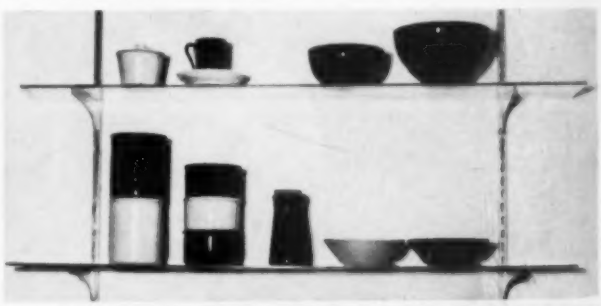
"Historically the European designer is not as commercialized, though we hear the picture is changing. At the same time, observations from Scandinavia, Austria and Italy suggest that certain designers are closer to the shops which produce their articles than are those in the United States. Because of the abundance in these three countries of small shops, it may be easier and more stimulating for designers to have their own articles produced for direct sales, like Auboeck in Austria and Bojesen in Denmark, who have a multitude of special designs produced in small separate workshops around Vienna and Copenhagen.

"One interesting example is Augusto Morello of La Rinascente. Initially trained at Olivetti, this designer-engineer develops ideas for the largest department store in Milan (and Italy). He prods other designers and manufacturers to develop ideas which can be produced at home in Italy. From his office several floors above the buying public, he watches the response to these ideas. His relationship to both the department store and the public is much closer than that of the more specialized U. S. designer."

↑ *"One of the oldest pliable natural materials, wood has a character impossible to imitate. Why try? Variations on a slice of a tree by a skilled craftsman bring admiration not only of the materal but also of the 'art' employed to obtain the result."*

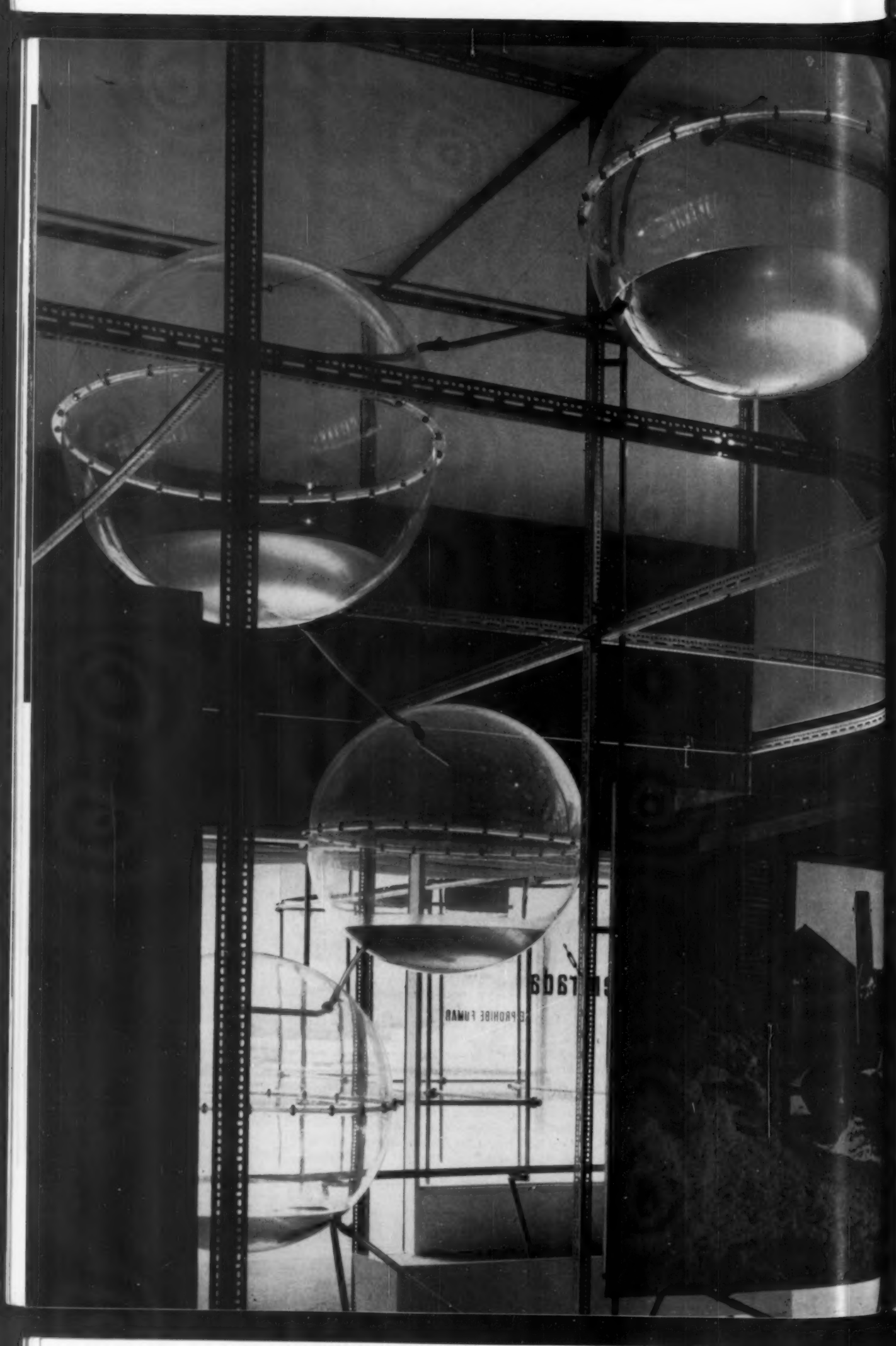
Below: cups and containers in varying colors by Kay Franck.

Bottom: "A container to hold and from which to pour hot liquids. The top should stay on, the handle support the hand."



Ezra Stoller

Foreign designs, such as the toys shown above and the Danish rocking horse and bed at left, are a constant source of interest and stimulation to designers in this country. Taking their place beside American merchandise, they are becoming by far the most popular sellers in some areas. Mr. Thompson says: "Our buying public has been most intelligent, and we don't talk down to them. They seem to both trust us and enjoy the sense of participation. This is half the fun of running our kind of business."



Ideas for export

As "telling America's story abroad" continues to grow more urgent and more complex, the official tendency is to adopt the old story teller's maxim: Don't tell 'em, show 'em. To "show 'em" requires display techniques that attractively and effectively communicate American ideas to foreign viewers. The following three displays, from two foreign fairs and a special exhibit, were designed with that in mind.

BARCELONA FAIR

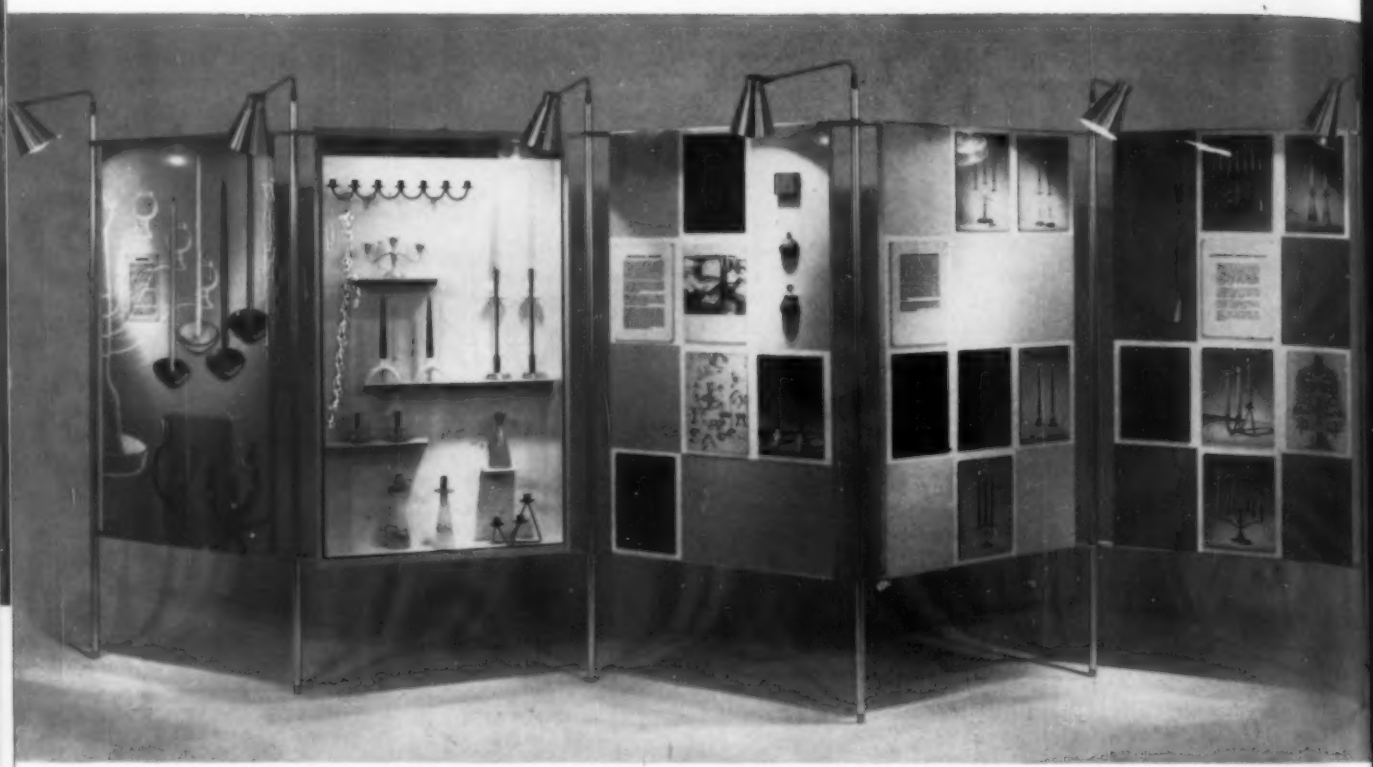
In 1955 the United States was first officially represented at the Barcelona Fair, by a Department of Commerce exhibition; last year the American exhibition was sponsored jointly by the Departments of Agriculture and Commerce. This summer the Department of Agriculture itself sponsored the exhibit which, like its predecessors, was designed by Peter G. Harnden Associates, who also produced and directed it.

The purpose of the exhibit was to stimulate Spanish interest in American farm products and processes that are especially well suited to the Spanish market. These included cotton, tobacco, vegetable oils, grains and milk recombining. Since the exhibit sought to interest the layman and inform the farmer and businessman, displays combined colorful animated devices with more sober pictorial and diagrammatic explanations. To dramatize facts about soybean production, for example, colored oils circulated through a system of glass tubes and globes. The cotton section used "feel-it-yourself" instruments to show tactually various woven textures. In the tobacco display, tobacco leaves, models of factory layouts, and Spanish cigarettes made with American tobacco, were displayed against background photographs of production and manufacture.

Designed to be easily dismantled and transported to a new site, the exhibition was housed in a demountable steel and cotton canvas structure, decorated on the outside with giant pictures of United States farm scenes. The U.S. exhibition won two first-prize awards at the fair.

System of globes, left, points story of soybean production; Cotton display, bottom left, shows dress patterns; tobacco display at bottom right uses giant cigarettes, tobacco leaves, pictures.

I.C.A. DISPLAY UNITS



Smith, Scherr & McDermott display for I.C.A. shows evolution of candelabrum from designer's rough sketch to finished product. Candelabra from various countries are shown. Picture below shows special joining brace made for unit.

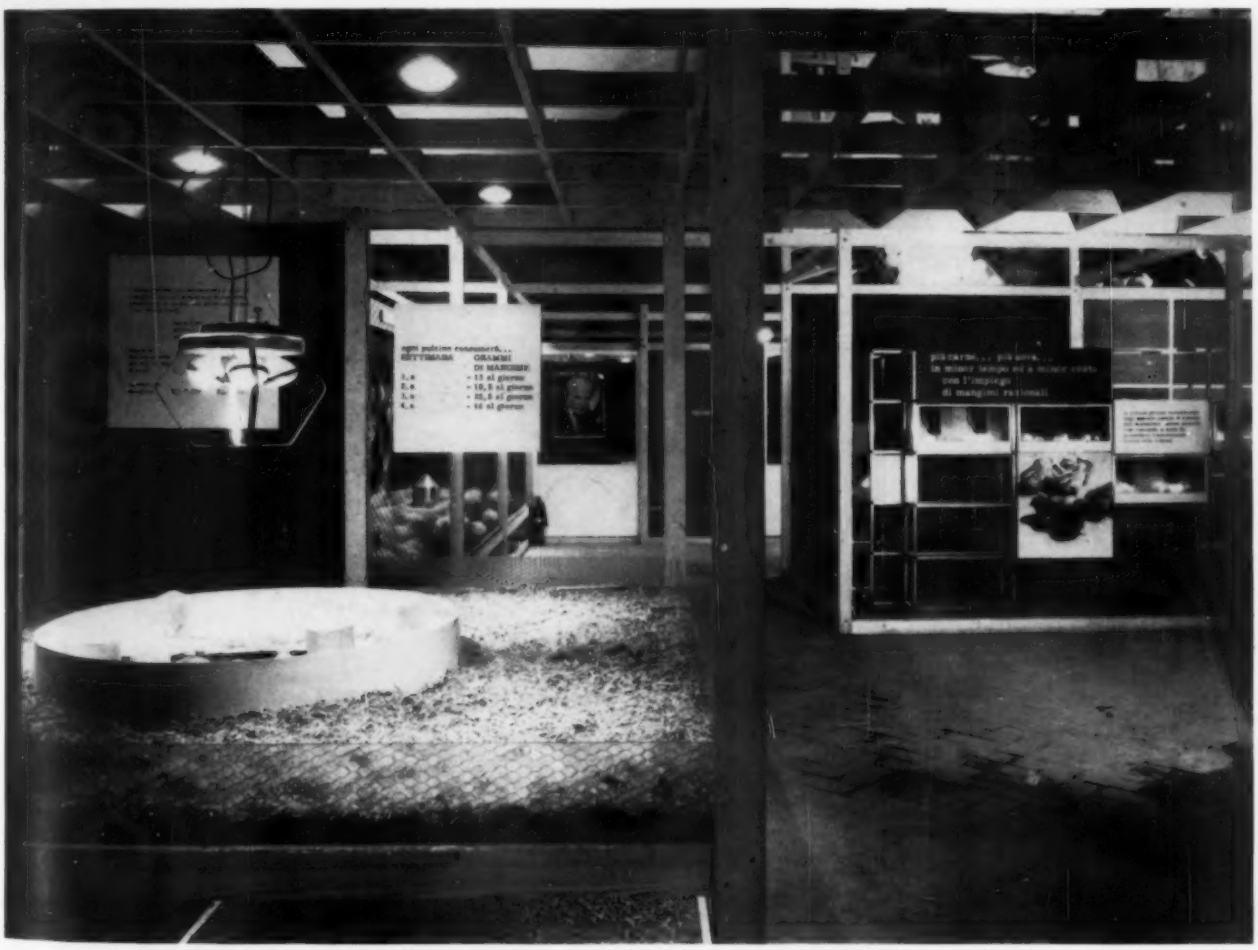
Concerned with stimulating small-scale industries in economically underdeveloped countries, the International Cooperation Administration recently commissioned the Akron, Ohio industrial design firm of Smith, Scherr and McDermott to design and build four display units illustrating various technical resources and explaining their use. Since the displays will travel to I.C.A. missions in South America and the Far East, they were designed to be shipped as complete units, with all wiring, three-dimensional elements and supports built in. The display units discussed design and the role of the designer, emphasized the importance of handcrafted objects, and exhibited materials and equipment available, all in an effort to encourage craftsmen to compete in world trade.

VERONA FAIR

Exhibition building, above, included office space for Department of Agriculture representatives.

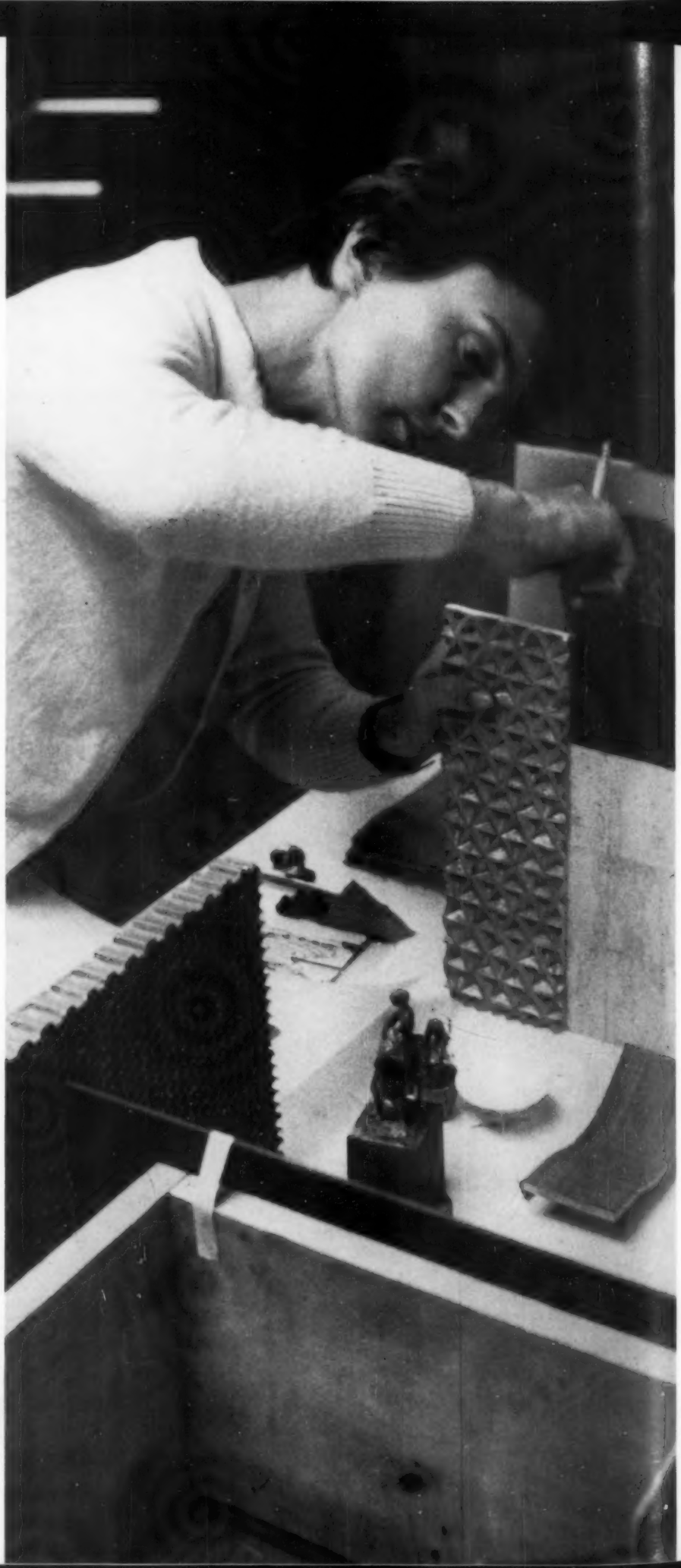
Hatching unit, below, was beginning of "cradle-to-grave" poultry exhibit. Souvenir chicks were given to children.

The U.S. exhibit at the Verona Fair was designed by Peter Harnden Associates to show the spectacular growth of the American poultry industry in the past twenty years brought about by revolutionary changes in production based on the use of scientifically controlled feeds. Arranged in sections, the exhibit began with chicks hatching and ended with a display of birds cooking in rotisseries. To demonstrate egg production methods, photographs and management data charts were used, emphasizing the importance of feed in producing more eggs in less time at less cost. Focal point of the exhibit was a display of rotating "hour glasses" showing new feed development, and large-scale production methods made possible by industrial development.



Designers' Aids and Sources, Part IV

Special modelmaking systems



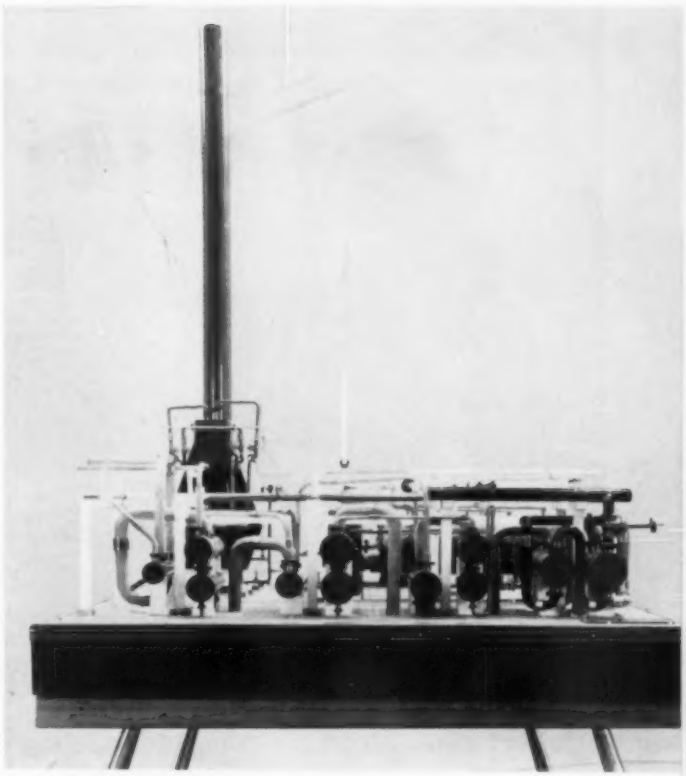
Attaching the model of a wall section, designer Phoebe Murray, of George Nelson & Company, is preparing the miniature model of an interior setting for photography in the firm's workshop. For story see pages 102, 103.

The many uses of models as work-tools

In previous installments we have dealt largely with modelmaking methods and the use of models in product development. In those cases the model was shown as an immediate and effective method for expressing form and function. But the application of models in industry extends beyond this aspect of *design representation.* The use of the model as a *working tool* is becoming increasingly popular. In this capacity it is gaining popularity with men who instruct operation and maintenance personnel in the ins-and-outs of complex industrial and military equipment; with construction and design engineers who express their design thoughts of chemical and power plants directly in terms of scale components; with furniture designers who have at hand standard, miniature models which, by being grouped around the model of a new chair or table design, help them to see in a total context what could hardly have been visualized otherwise.

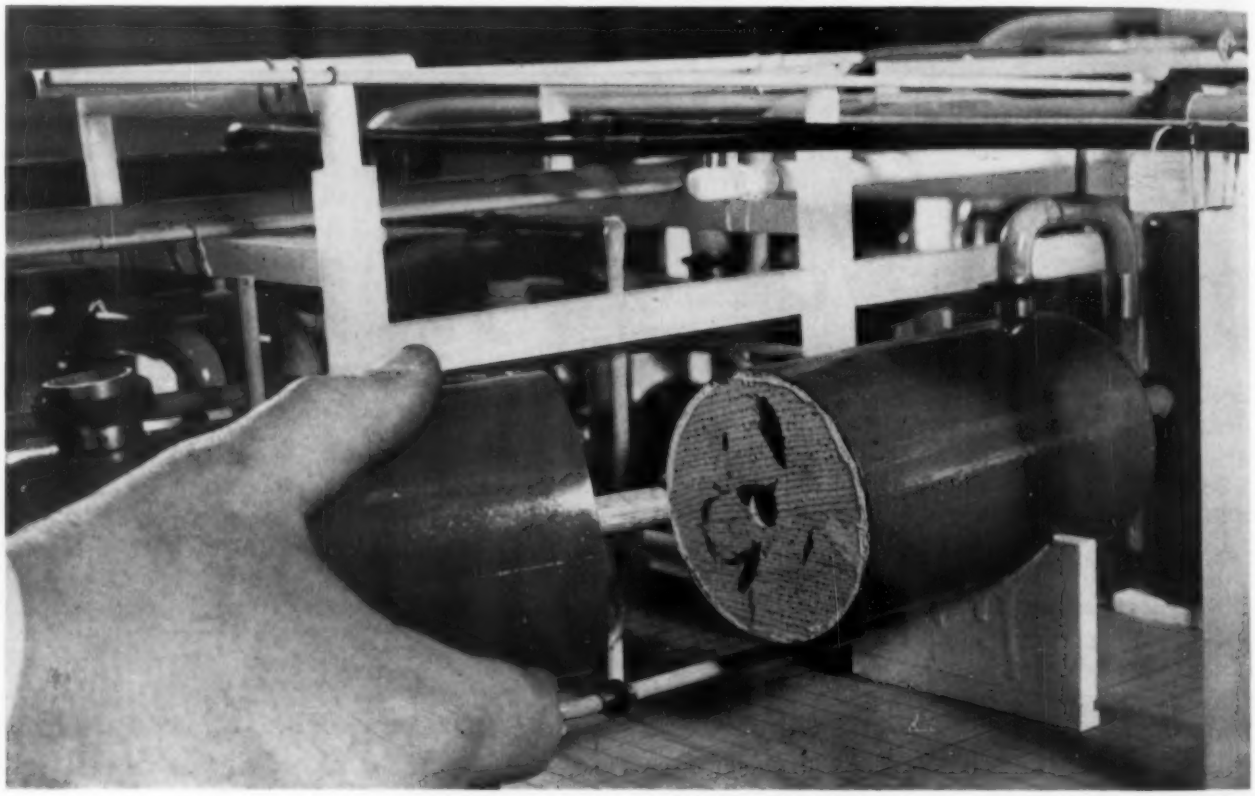
In *architecture,* models are as indispensable as in product development. But while the product modelmaker's job is generally to execute one type of design through stages of development, architectural assignments often involve not one type but a variety of model schemes for a given job. To show a new building in relation to its site, a whole system of models must be constructed to represent the surrounding buildings; and the number of models of cars, people, trees, benches needed to give a realistic picture of a new building in a busy location, can reach the thousands.

On the next eight pages are some examples that demonstrate the application of scale components as direct design tools, and the use of models as tools for instruction. The problems they pose to the modelmaker differ from those discussed so far, and some of the examples might, at first glance, appear outside the usual orbit of the industrial designer's concern with models. Yet they help to indicate from different angles some of the general model characteristics: the cuts they can bring about in project costs, the good service they perform in making for a minimum of misunderstanding in idea communication. Furthermore, the way engineers go about assembling plant models, and the way modelmakers construct architectural sites and develop intricate training aids for classroom projection, point up work systems that have application beyond the fields for which they have been devised.—*a. g.*

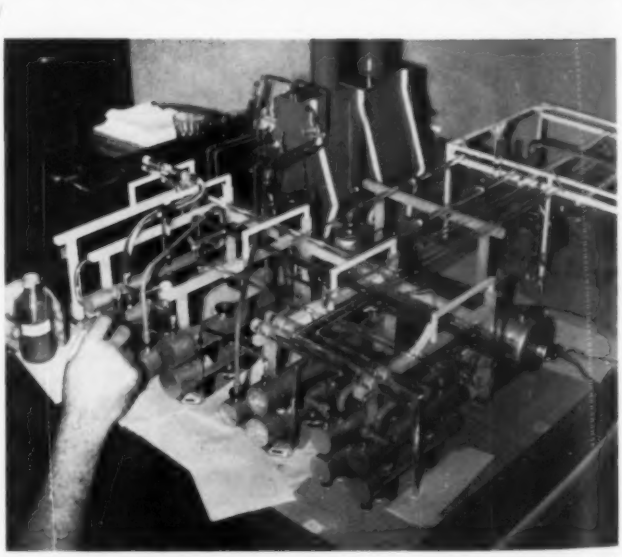


A construction designer built this model of a hydroformer unit of an oil refinery instead of developing the design in terms of engineering drawings. Approximately 26 in. by 36 in. and 2 ft. in height, model serves construction crews by being photographed and turned into photoplans. System, called PDQ, developed by the Parco Co., is discussed on the next two pages.

Working tool for some construction designers is not the finished model but the model component. Replacing the usual drafting and drawing equipment is a model kit consisting of an array of scale components. The system eliminates the time spent to work out design on paper, and creates a direct, visual language whose message is at once exact and unique for each engineering construction and design expression.



In construction design, the New York design consultant firm, the PARCO CO., has pioneered a new system which has turned out to be a significant short-cut to plant start-up. The system, called the PDQ Technique, has in some cases resulted in a 30% cut in engineering time, a 40% reduction in design cost. Used in the engineering design of petroleum refineries, petrochemical and chemical plants, PDQ consists of an 'erector set' type of model kit made up of a set of standard model components. Used by Parco staff to develop and fix the exact location of all necessary piping, boiler and machine installations, PDQ is not merely a step toward obtaining construction plans: the developed model is so detailed and accurate that it is itself the final plan. Use is



Construction design engineer developing model by PDQ method, adds a section of a drum (top) to make it larger, and injects chemical fluid into tubing (above) to hold parts together.

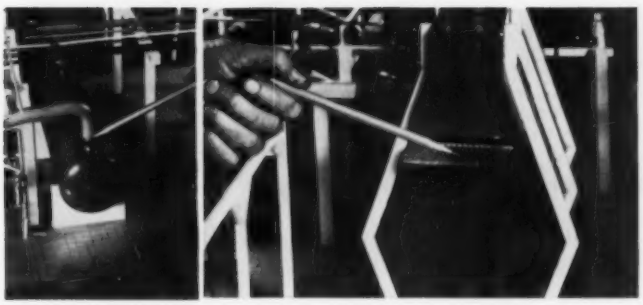
made of a photo process patented by Parco to obtain plans directly from the finished model.

What prompted Parco to work out a design short-cut was one major factor: time—competition forces company management to be greatly concerned with having new plants built and operating in the shortest possible time. For that reason, the construction design firm is relied upon to furnish the client quickly with accurate forecasts of material and equipment to be ordered. But this cannot be done until the design is finalized and approved. In common practice, the design engineer transmits his ideas on paper, draws up detailed drawings, and turns these over to a modelmaker whenever a model is needed for a final check of spacing and other critical dimensions. But preparing model drawings constituted a serious time drain which had to be overcome in order to speed design information to the client. This Parco engineers were able to do by incorporating design information directly within the model.

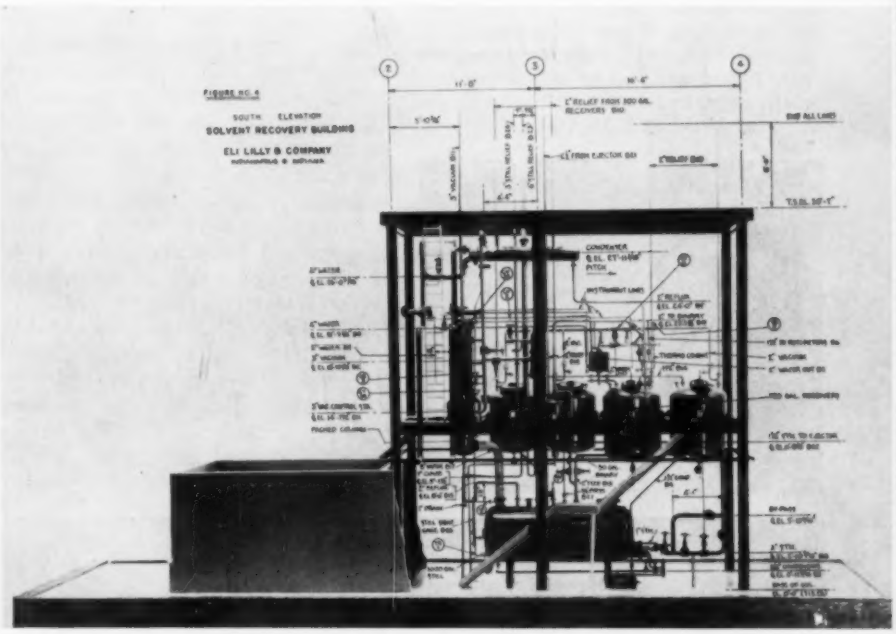
The design engineer who is constructing the PDQ plant model starts with the model kit prepared for him in Parco's modelshop (specially maintained to fabricate PDQ components in a variety of materials) from the client's specification sheets that indicate the requirements for a given job. The kit consists of such scaled components as piping, bends, fittings, valves, vessels, manholes, etc. but special parts are also prepared in Parco's shop when requested. A metal-covered plywood base, available in various sizes, serves as the model base and is supplied with grid marks to indicate the scale of the model. Equipment foundation supports, made of a magnetized metal, hold on to the metallic surface of the base, which can be pulled apart so that sectional views can be taken when the finished model is photographed. Dimensions are added to the master photos and photoplans are ready for field use.

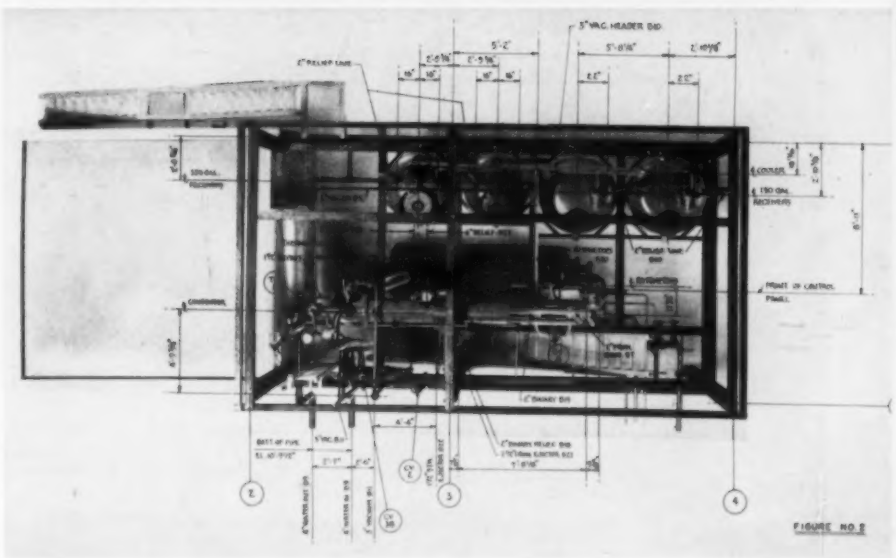
Some old-time designers at Parco did not welcome the model design system at the start. They resented the thought of working with an 'erector set.' "We're engineers, "they said, "not kids." Yet, after Parco president Jack Parker assured them that the system would be dropped if they did not approve, and urged them merely to give it a try, they found that they were fascinated to watch their designs "grow up" before them, and have since become PDQ's most ardent proponents.

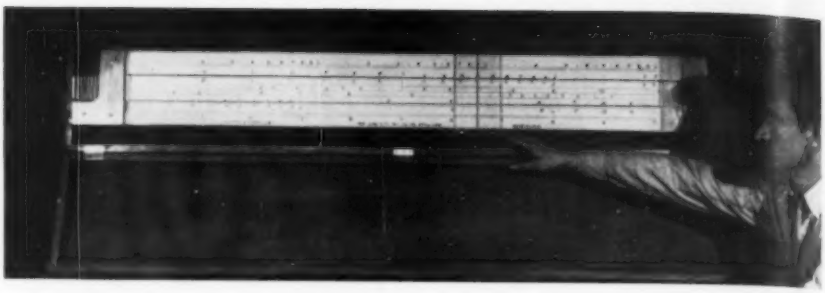
Parco Co. is offering licenses for PDQ to other engineering firms.



Engineer points to nozzle (left) and working platform (right) which can be removed and relocated quickly on PDQ model during design changes. Support around furnace (white lines in right picture) is made of steel in actual plant, of colored Lucite in model. Below are two views of photo-plans made from finished model for construction crews, and used instead of the usual blueprints.







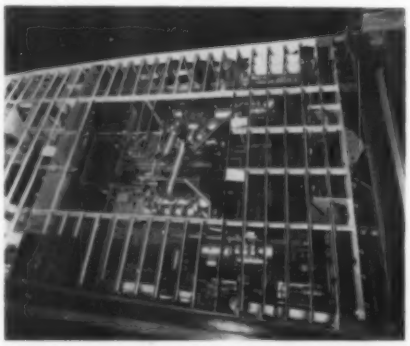
Model of slide rule, many times actual size, is an aid to both instructor and students in conveying manipulation of this popular engineering tool with maximum impact. Model was built by Sidney Smith Design, Van Nuys, Cal.

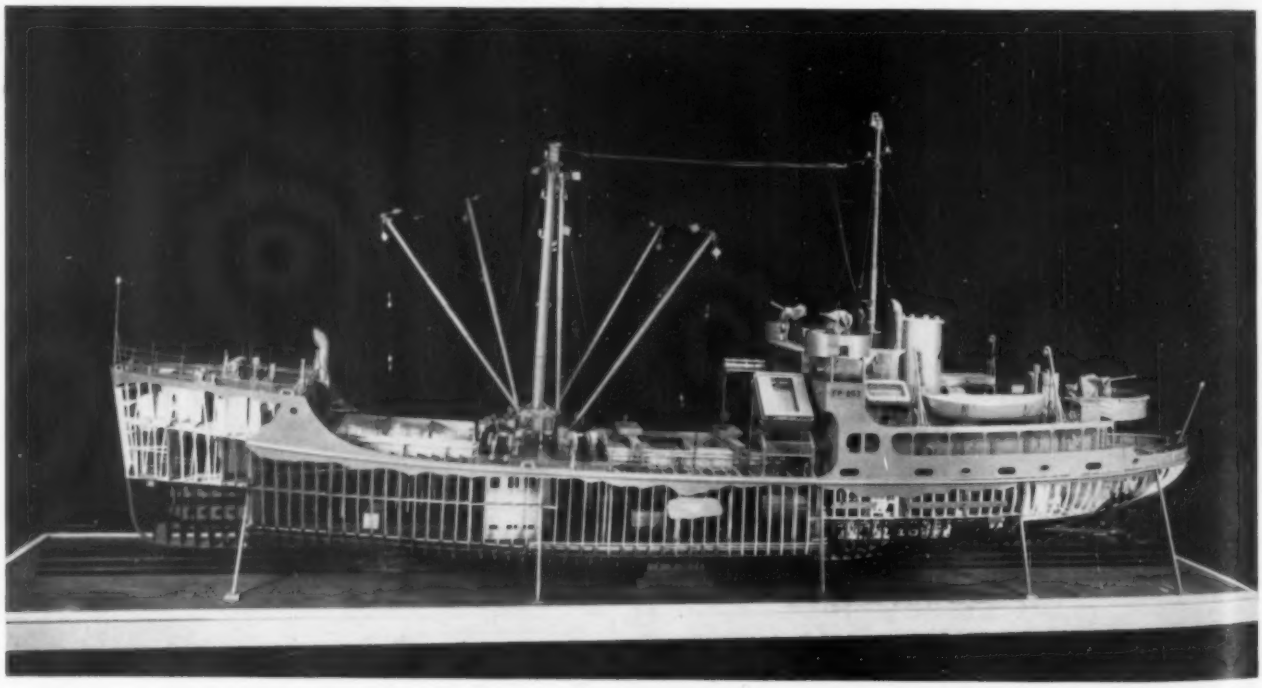
Models as tools for instruction

Training aids, better than any other type of model, point up the advantages of a pictorial explanation over a purely verbal one. Used generally to demonstrate the construction and operation of a mechanism, they are a short-cut to "seeing" the inner life of a product, and offer insurance against the usual communication pitfalls. They are used widely where failure to understand a product's operation can be particularly hazardous: in nuclear propulsion and nuclear reactor operation, with intricate mechanisms of ship and aircraft engines and other military and industrial equipment. The immediacy and impact of this method of instruction for maintenance and operation personnel can hardly be duplicated. To the modelmaker, training devices present a very special challenge: Plans of a mechanism whose action is to be shown in animation, are of course provided for him by the clients, but the way the model must be constructed in order to perform the desired action, is often left to the modelmaker to solve.

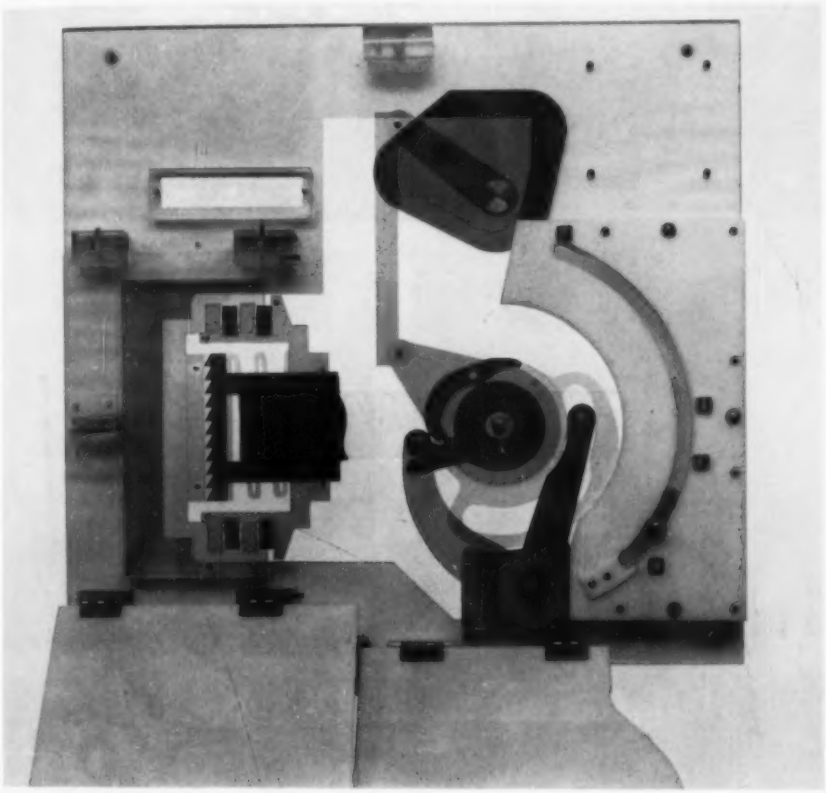
To ATKINS & MERRILL, Sudbury, Mass., and New York, (see June ID), developing systems for working out intricate models is second nature. Long adept in the construction of ship and aircraft models, they were asked some years ago to construct a cargo ship model to be used for a variety of purposes. The shipyard that commissioned it was for the first time employing a welded steel ship hull and needed a scale model with which to point out to its personnel the construction differences between this type of vessel and its traditional wooden vessels. It took Atkins & Merrill many months to construct the 14½ ft. long 1" scale model (1" equals 1') for which they themselves fabricated every single part. Made of a variety of materials (plastic, wood, brass), the working model was able to perform some of the ship's main actions: anchor winch operation, cargo rigging. The model proved a great aid to the co-ordination of the ship's construction, and was later used as a training device for the ship's crew.

Intricate make-up of cargo ship model (bottom) is emphasized by view of ship section (below). Every single part of the actual ship had to be duplicated to scale in order to use model as an aid during ship construction, and as a training device for the crew. Model built by Atkins & Merrill.



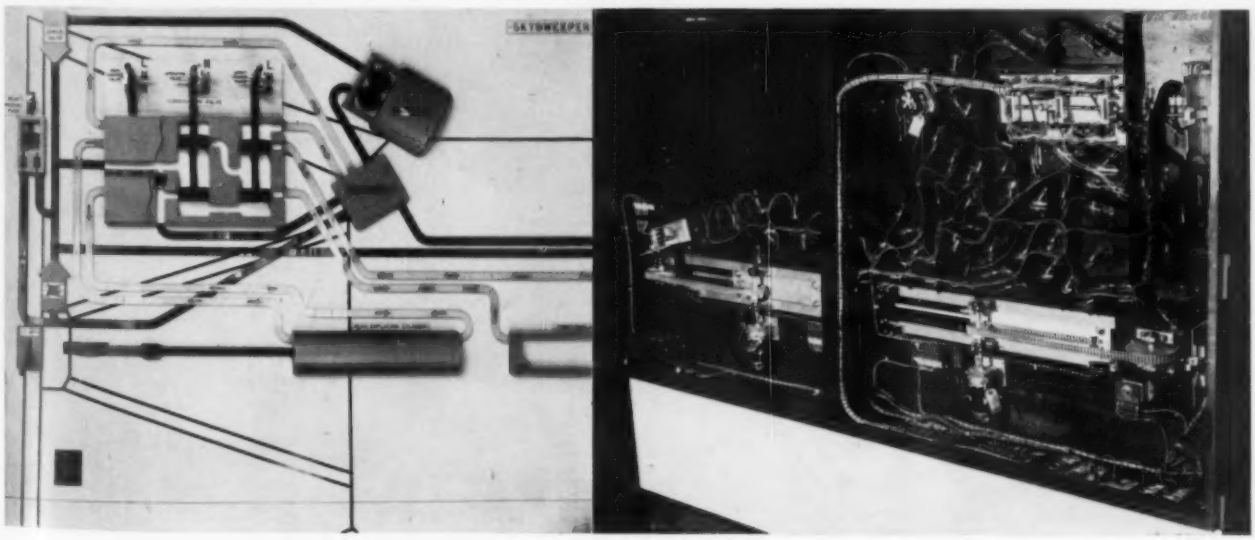


Animated transparency illustrating a section of a helicopter servo unit assembly (below) used with visual aid projectors enables instructor to explain the servo action as he himself manipulates the controls of the training devices mounted on projector base (right).



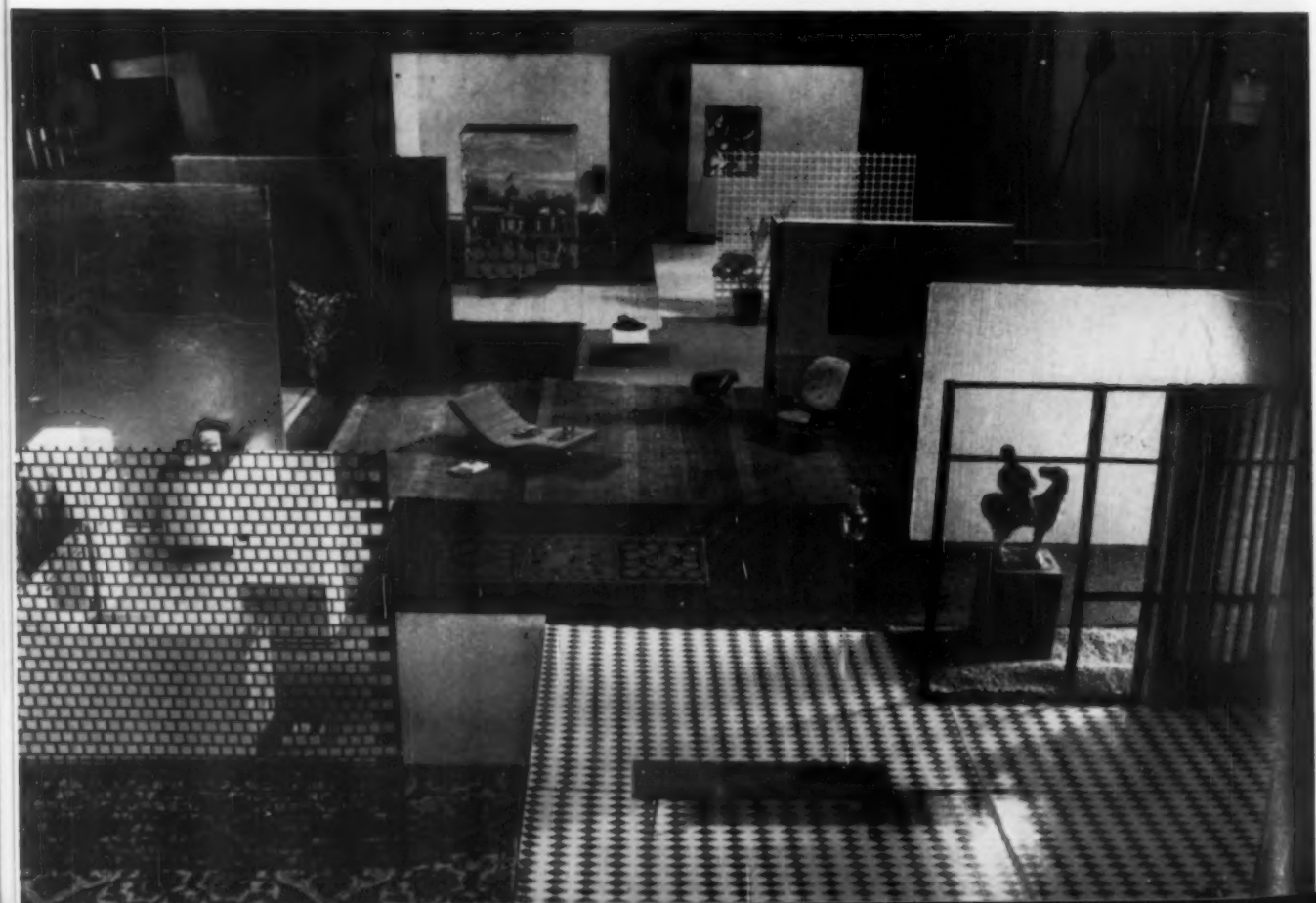
Front and rear view of training device demonstrating the valve action of the hydraulic lift mechanism for the "Skysweeper" gun, built by Scientific Engineering Co. for U.S. Naval Training Device Center, Port Washington, N. Y. Push-button device runs by electro mechanical means. (Rear view at right shows circuit complexity).

Animated transparencies are a system of exposing the inner life of a mechanism in applications where verbal instruction and visual impression are equally important. Developed for the U.S. Naval Training Device Center, the system has been used widely to take training pilots and aircraft mechanics "inside" various types of engines and their parts. The devices are made of machined pieces of transparent Plexiglas in various colors assembled on a base plate, such as the plate at left, which represents the main rotor auxiliary servo unit for the H-34 (Sikorsky) helicopter. Put on a projector, it enables the instructor by manipulating the controls of the device, to demonstrate the action he wants to explain. The main advantage here lies in the fact that in order to answer specific questions, the instructor is able to stop the sequences of operation, and reverse or repeat them at any point. The training devices shown on this page were engineered and fabricated by SCIENTIFIC ENGINEERING CO., a New York firm that specializes in engineering developmental work. Not all the training aids they build are of the type described above. The pictures below show the front and rear view of one of their many panels operated electromechanically.



Models in interiors study: parts seen in terms of the whole

Complete sets of interiors, made up of 1" scale models, are arranged by designers of George Nelson & Company, and photographed directly on workbench in design workshop (right above). At right, a miniature interior of furniture designed for the Herman Miller Co. Components (below) kept in stock, enable designers to work in 3-d. Model of Marini sculpture was built by Nelson designer Phoebe Murray, shown with George Nelson (extreme right), photographing new design in design workshop.



In interior design, the design group of George Nelson & Company, finds that with appliances, whole interiors or architectural ideas, the full effect of the final design can only be judged in context — a setting with all the equipment that will influence the appearance seen from many angles. The client likewise finds it easier to understand new ideas expressed in this fashion. Models of full-scale room settings are, of course, out of the question because of cost. Elaborate renderings, the standard method of visualizing, cannot give a true three-dimensional impression, and cannot be judged from many angles. But the Nelson group has found that 1" scale models of room settings, not viewed first hand (angle of view would not be realistic because of smallness of models) but photographed and projected in color, give a new kind of realistic visualization. The group has developed a unique system for quickly and economically building these miniature sets.

Over the years, the group has collected quite a lot of miniature components: artificial flowers, rugs and hangings used in doll rooms, strips of silks and damask, pieces of unreal jade, glassware, bamboo mats, postcards of a Correggio, a Rubens, a Picasso. These the designers literally "dug up" from obscure corners in a variety of shops—dime stores, remnant shops, millinery supply stores, etc. Catalogued and stored in rows and rows of metal bins along the walls of Nelson's design workshop, these components actually make up the designers' "tool stock." Set up on a workbench, the parts permit the designer to see a new idea in a variety of ways and to try out various structural relationships of interior sections: living room and kitchen in one area; the total effect of a new room-divider; the light patterns caused by glass panels in the ceilings of a country house. If a new chair, desk, or couch design is to be tried within total context, different components are easily arranged around it and changed as often as desired to express the new design in a variety of possibilities. Each set is photographed.

The Nelson office is equipped with a projection room (right) built specifically for the purpose of client design presentation. Behind the racks in the projection room where the slides to be shown are held ready, a brightly lit panel enables the designer to pick and demonstrate the slides in the sequence in which he wants to present them. And what the client sees is not a model in miniature, but a reproduction of what looks like a full scale room setting, whose color, accuracy and detail give it a quality of striking realism.

Nelson group developed kitchen interiors to show new GE equipment (below, at right) in a variety of surroundings. Color slides of 1" scale sets appear like full-size rooms on screen of projection room (bottom).

In architecture standard components of trees, people, cars, benches, etc. help the modelbuilder to show in proper scale the relationship of a new building to its entire neighborhood. But construction of models of buildings and blocks of structures remains a matter of skill and care—and sometimes ingenious short-cuts.

In office building model developments accurate duplication of the surrounding area is often a more intricate job than fabricating the model of the building. Not long ago, THEODORE CONRAD ARCHITECTURAL & ENGINEERING MODELS, Jersey City, N.J., acknowledged experts in architectural modelmaking, undertook the model project for Chase Manhattan Bank's new building to be converted on an entire block in the lower Manhattan area. Conrad first had to supply the architects, Skidmore, Owings & Merrill, with a site model for preliminary study purposes (left). Built to a 1/32" scale, this model included 20 blocks of the surrounding area; it was made from sketches and consisted of wood except for the actual Chase building, for which opaque, white plastic was used to distinguish it from the others at a glance. Since the intention here was to study only the mass relationships in the area, the models were made of blocks of material and detail was omitted. The Chase building model was removable from the model complex, and 20 studies were made of it for this first site model. From these studies, basic design decisions were made and the model that followed was a ¼" scale model of the lower section of the Chase building to study column and fenestration details. By the time these were finalized, four such models had been built of Plexiglas and machined aluminum parts.

Next, complete modelmaking drawings for the entire building were drawn up by Skidmore architects, based on

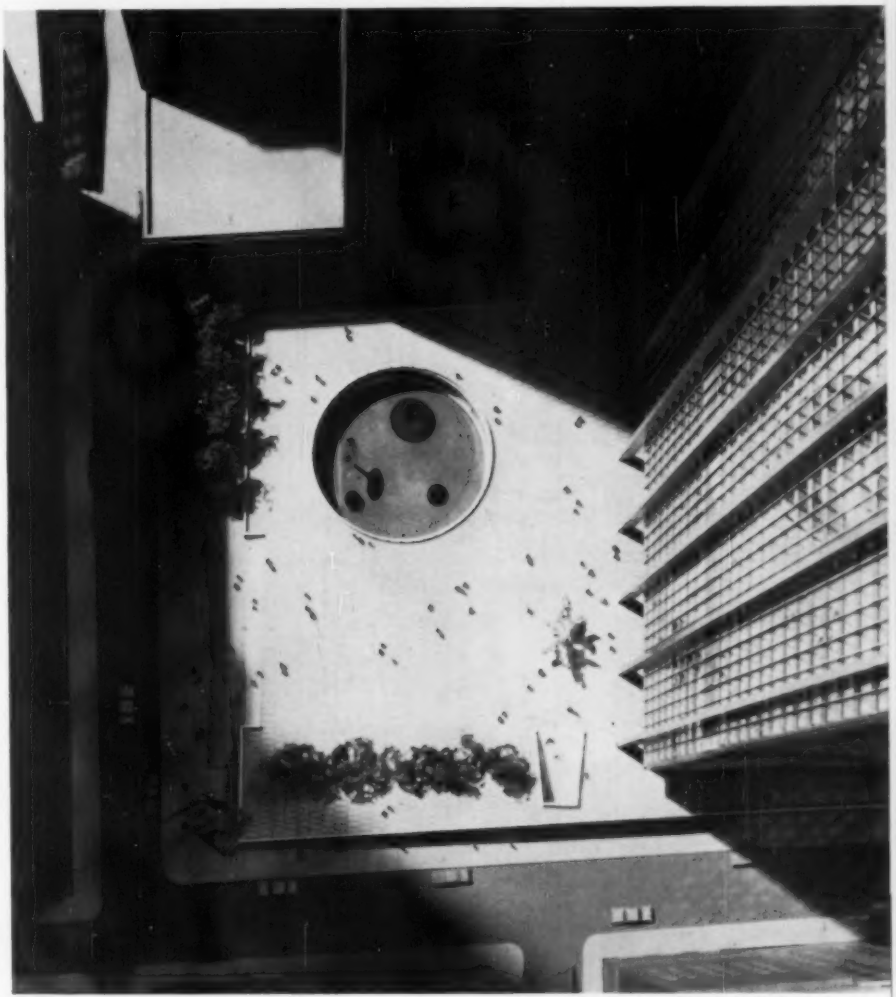
First model expression of new Chase Manhattan Bank building (white block above) and surrounding downtown Manhattan area, was followed by sectional model of base and lower floors (right) to determine fenestration and other details. Ted Conrad (in center, right above) carried through project in Jersey City shop.

Standard components of trees, people, cars (extreme left) made of zinc alloy by die-casting process, help give finished model (left) its quality of realism. Final model followed a series of earlier models from which design decisions and drawings for final model were made by architects.

the sectional studies. But more involved than constructing the final model of the Chase building (made to a scale of 1/16", it stood about 4 feet when finished) were the models of the 22 irregular and often complex surrounding buildings which had to be shown in detail. The entire assembly had to be made as realistic as possible to permit its use as a display piece.

There was no doubt that Conrad and his men (he employs 16) would themselves construct the Chase building (they made it of machined Plexiglas with aluminum inlays and aluminum columns) but Conrad tried to subcontract the surrounding buildings to other modelmakers. When he found that the cost would far exceed the budget allowed him for not only this part of the job but for the entire project, he had to find a way of building the 22 models cheaply and quickly by himself. This is what he did to avoid the time-consuming construction of windowed facades: He made the walls of each building of clear Plexiglas, painted the inner surface a dark bluish-grey; he then cut scotch tape the size of windows (to scale, of course) and pasted them on the outside in places where windows should be. He applied cornices and moldings where required, then sprayed the entire surface of each model the color of the actual building. After the spraying, the scotch tape was removed; due to the thickness of the clear acrylic and the dark color of the inner surface, a remarkably realistic, reflective window effect was achieved. What remained to be done was to fill in other details: Isamu Noguchi supplied the model of the sculpture he had designed for the building's plaza; Conrad supplied the cars, trees, and people. Many of these he keeps in stock; others are die-cast for him in zinc by an outside shop.

The aspect of model application discussed in this installment will continue in October with an intricate product model development; in November the series will conclude with a discussion of SPECIAL SERVICES and a cross-country GUIDE TO MODELMAKERS AND OTHER SERVICES.



Top view of plaza (above) in front of model of new Chase Manhattan Bank building, and front view of finished model (below). Structure in circular section of plaza was designed by Isamu Noguchi, who also supplied model for final assembly of the complex.

Design Review: Atlantic City Housewares Show, 1957

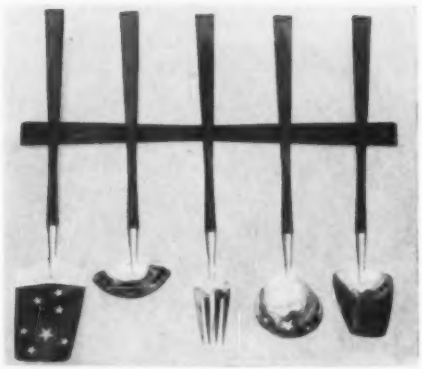
Stainless steel makes handsome cookware, but is not a good conductor of heat. Copper and aluminum bottoms have been popular ways to overcome this; now a new low-price line uses carbon-iron heat core which conducts through sides as well as bottoms. Anodized aluminum, used primarily to simulate copper, begins to offer color: black and turquoise. Square pans, logical for grilling meats, have more space.

← **Patriot Ware,** first new cooking utensil line introduced by Revere since famous copper-clad ware of 1939, is made of three-ply 18-8 stainless—a layer of carbon steel sandwiched between two of stainless. First nine items have all-welded construction, beaded covers, Bakelite handles. Prices range from $3.95 for open skillet to $12.95 for 6 quart Dutch oven.

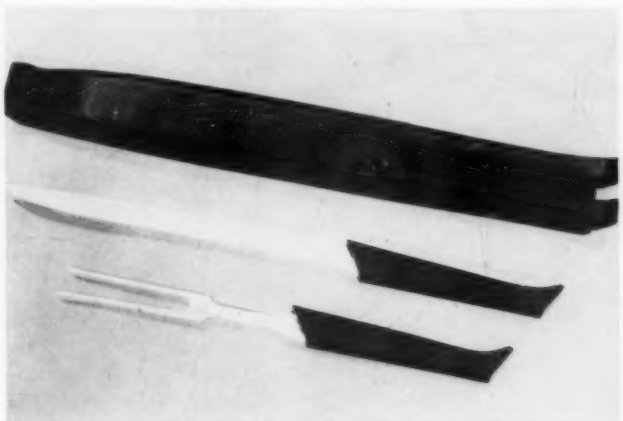
↓ **Greater capacity (20%)** than comparable round pans is claimed for covered square fry pan by Wear-Ever. Bacon grid permits frying on both sides of bacon without turning, prevents curling and allows fat to be poured off without disturbing bacon. Grid is $.95; pan $7.95.

↑ **"Black Magic"** is exotic designation for Wear-Ever waterless cookware with jet black anodized aluminum covers. Bakelite handle, designed by Lamb, is kept cool by steel ring separating it from pot, has new hanging ring. Knobs on lids were also redesigned. Ten available pieces include sauce pans, fry pans, tea kettle and casserole.

← **Oversize** griddle by Bridgeport Brass Co. doubles as serving tray. Made of stainless steel with copper core for even heat conductivity. Cut out slots on tray dissipate heat for cooler handles. $14.95.

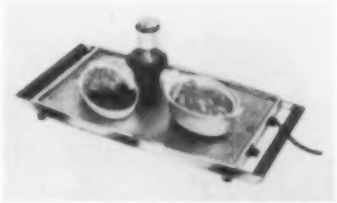


↑ **Long-stemmed** kitchen tools have handles of black densified ShurWood which is said to be impervious to heat and acids. Six-piece set includes holder, ladle, fork, spoon and star-perforated spoon and turner. $14.95.



↑ **Linear-scored** handles of Gourmet Carvers are also made of black densified ShurWood. Knife is sharpened each time it is replaced in case. Designed by Jerry Moberg for Robeson Cutlery in two-piece set with 11" ham and beef slicer, a two-tine English prong fork ($27.50), or in three pieces ($35).

↑ **Danube,** a new stainless imported from Germany by Reed & Barton, has graceful, tapered lines, is satin-finished. Two knife styles, solid or hollow handle, are available. $29.95 for 16-piece set with h.h. knives.

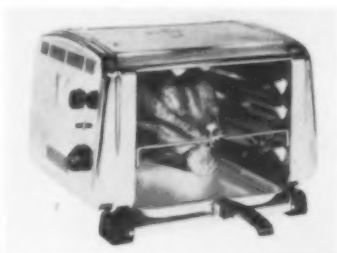


↑ **Walnut handles** span full width of Salton HoTrays designed by Peter Quay Yang. Frame is aluminum, satin-silver finished; four plastic feet for heat protection. In four sizes, from $10.95 to $34.95.

↑ **Combination** hot plate and open broiler from Meynell Mfg. Co. runs on bottled, natural or manufactured gas. Finished in white porcelain enamel with cast iron burners. It is 20½" wide, 14½" deep, 8" high. $47.25.

↑ **"Peek-in" cover** on Universal electric fry pans lets the chef see what's cooking. Sturdy plastic handle on cover is shaped for sure gripping. $16.95 for medium size; $19.95 for large.

↓ **Sloping top** leads grease to channel in back of new electric griddle by West Bend. Made of cast aluminum with cast-in cooking element, it has 200 square inches of cooking surface. Heat control plug is detachable. $27.95.



↑ **More compact** rotisserie—16" x 10½" x 14½"—is possible with spit thrust from front to back. Spit and support pull out with tray for neater basting. There is no splatter shield. Made by Marlun Mfg. Co. $59.95.

Electricity brings new power to hand kitchen tools as other appliances become standard. The blender, having proved its value in bar and kitchen, is more powerful, better integrated, serves as base for coffee mills and ice crushers. The newest electrified gadget—the can opener—is luxury-priced (almost $30 in most cases); it has a housing around the works, giving a new boxed look to a kitchen perennial.

→ **Coffee mill** attachment extends function of Waring Blendor. Of enamel-finished die cast zinc with glass container, it makes 16 different grinds. Mill and 12-oz. plastic measuring cup were designed by Gerald Stahl Associates. $17.95.

↓ **Controls** and beater ejector are at thumb's reach in new Sunbeam portable mixer. Angular body style is new, as is heel rest. Handle has deep groove for surer grip. $19.95.

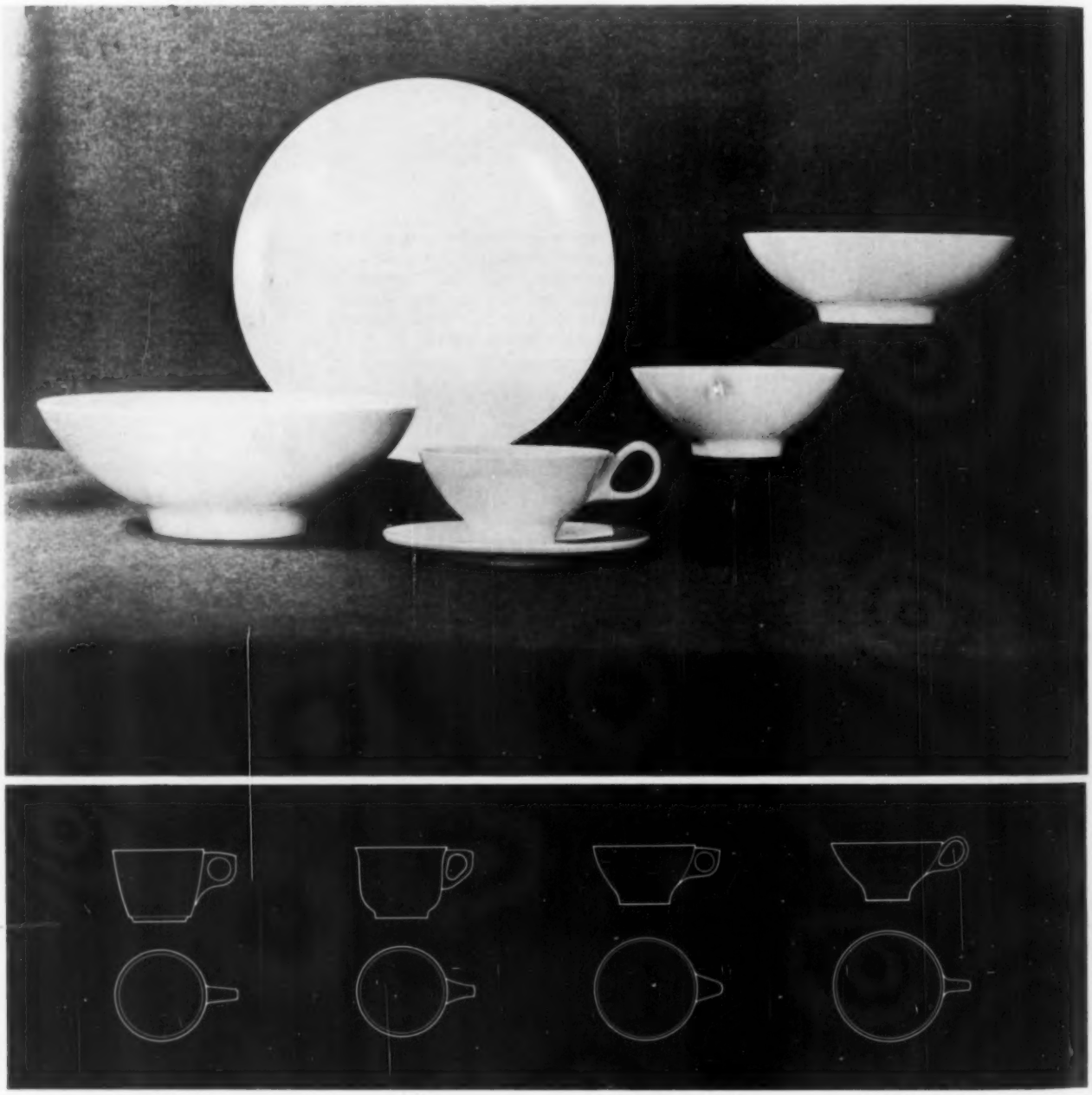
↓ **Two-speed** blender that will mix heavy batters, grind vegetables is new from Silex Co. Container is glass, lid polyethylene. Rounded base housing is new silhouette among blenders. $29.95.

← **Knife assembly** of Blendal is specially designed, says National Blenders, for faster cutting and grinding which reduces aeration and heating, thus minimizing ice and electricity required. Container and top are made of Styrex. Designed by H. A. Dewenter. $29.95.

↑ **Lightweight,** chrome-finished mixer from Knapp-Monarch has controls on body of machine yet in easy reach. Governor-controlled switch, says K-M, supplies full power at every speed. $22.95.

→ **Electric can opener** by Cory cuts container open in one revolution, stops automatically, holds on to can until it is released. Lid is held back by magnet when can is removed. Opener will not cut until can is locked in position. $29.95.

"Patrician" melamine ware manufactured by Boonton Molding Co. introduces the popular coupe shape to plastic dinnerware. It is the third line designed for Bponton by Belle Kogan Associates, who, working closely with Boonton engineers since 1951, were in a position to take advantage of improved molding techniques which free design from the limits of rigid geometric shapes. (Compare cup handles below.) Flowing lines, says the designer, are more expressive of the material and method of manufacture (compression molding). Delicately tapered lines and thin edges were desirable, yet from the manufacturer's standpoint, each item needed to have enough weight to convey quality. The designers resolved these demands by weighting the plate rims on the underside, putting a wide bevel on the inner side of bowls and cups, but keeping the sheer lines. In addition to solid colors four delicately simple decorative patterns were developed. A 16-piece set is $16.95 in solid colors, $19.95 with pattern.



original cup 1951 1953 *Boonton Belle* 1957 *Patrician*

Plastics: Melamine dinnerware is looking more refined each year, with greater number of applied decorations, more delicate shaping; and three china manufacturers are adding it to their lines. Polyethylene is being used for ever larger items as raw material prices are lowered: this year it's laundry hampers. High-impact polyethylene is available now, but supply and fabrication questions not yet answered have kept it from making an impact on this year's market.

↓ **Fostoria Melamine** dinnerware is first plastic ware to be distributed under that label. Designed by Latham, Tyler & Jensen, dinnerware comes in four colors, several decorations. Chicago Molded Products Corp. produces the ware. Price has not yet been set.

↑ **Rectangular** Rubbermaid laundry basket is logical shape for folded clothes. Lattice pattern keeps weight to a minimum. Designed by Wooster Rubber Company's product development department under J. Clyde Breneman. $3.98.

↓ **Polyethylene** clothes hamper is good size—20" wide, 13¼" deep, 22½" high—sturdy enough to sit on, yet lightweight (7 lbs.). Made by Loma Plastics. $15.95 for hamper, $1.95 for matching waste basket.

↑ **Wide, pouring lips** of Rubbermaid mixing bowls also make easy-to-grip handles. Separate suction cup anchors bowl to table for vigorous beating. Designed by Smith, Scherr & McDermott with product development department of Wooster Rubber Co. $3.98 the set.

↑ **Sanitary** dishpan is made of polyethylene impregnated with Corobex — chemical compound which kills bacteria that come in contact with its surface. Designed by Paul Gunn in shape suited to usual kitchen sink, for Loma Plastics. $2.95.

↓ **Double duty** Bakelite polyethylene food container can be used as bowl with cover or inverted to make covered cake platter. Made by Plastray Corp., with snap-in-place metal handle. $2.39.

Vacuum cleaners, already available in many strange shapes, are getting new contours as tool carriers are incorporated into the vacuum body. For multiple uses, some have two-speed motors, and top-price Hoover has automatic shift. GE offers its first floor polisher, a competitive entry in a fast crowding field.

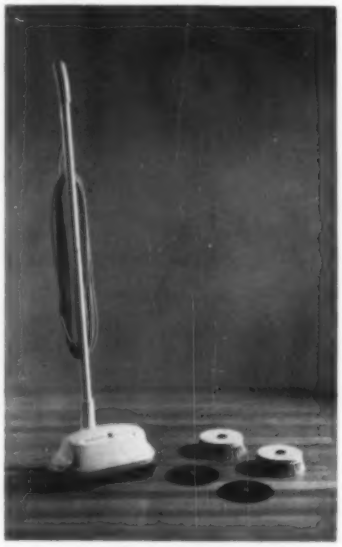
↑ **Caddy vacuum** from Westinghouse is reshaped to carry tools—floor and rug tool, drapery nozzle, dusting brush—with it as it cleans and to accommodate big wheels. $69.95.

↓ **Automatic shift** on Hoover vacuum changes motor to second, higher speed when converter to cleaning tools is attached. Tools are connected at rear of vacuum. $109.95.

← **Half the size** of regular sweepers, Bissell-ette is useful for cleaning small spaces; also as a fireplace accessory. Designed by Harley Earl in antique brass and black. Sweeper stores flat with handle in three pieces. $7.95.

↓ Twin-brush broom—one brush of Palmyra bristles, one of a horsehair blend—makes clean sweep outdoors and in. Two-part handle has multi-position swivel action. $6.95 by Osrow Products Co.

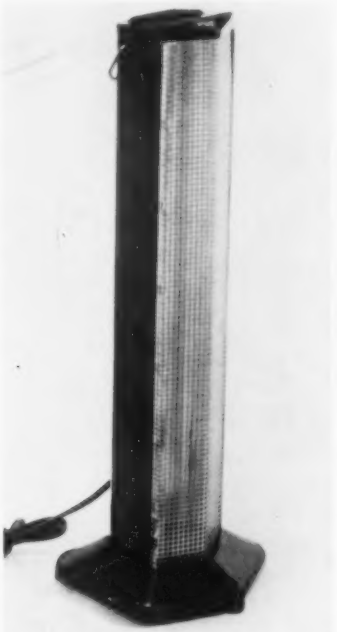
↓ **First** electric floor polisher from GE has standard merits: vinyl bumper, control switch in handle grip; comes with buffing pads, polishing and scrubbing brushes, a 22 ft. electric cord. $49.95.



← **Lower-priced** floor polisher, second model to come from Westinghouse this year, is powered by 350 watt motor. 6" brushes of natural fiber and felt buffing pads come with polisher. Handle operates at any angle, incorporates switch. $49.95.

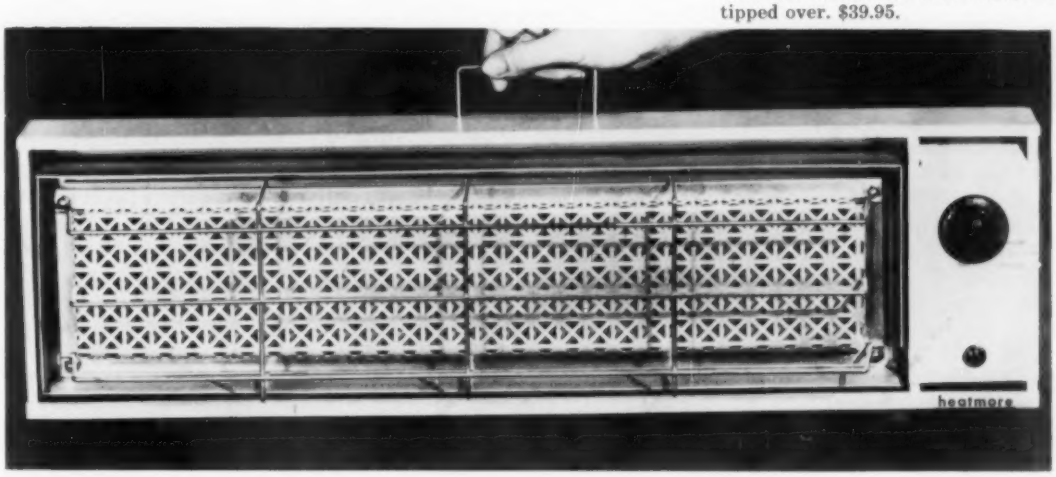
Room heaters continue to flood the market, answering a need in summer houses and winter lodges as more Americans acquire vacation homes. But modern heaters are a far cry from the early circular reflector-coil types. Along with greater efficiency and safety, they're neater looking, made to fit special places and purposes.

↑ **Radiant heat screen** by Arvin Industries is new in concept and technology. Heat is produced by passing electricity through printed heating element, and radiated through black quilted vinyl. Mylar film insulation board keeps heat from escaping through back. Three panel screen—64" wide, 55" high—folds to one panel three inches thick. Thermostat keeps temperature to 150° and it is possible to touch surface without being burned. If panels should fall, electricity is turned off automatically. Controls are at top of center panel. $79.95.

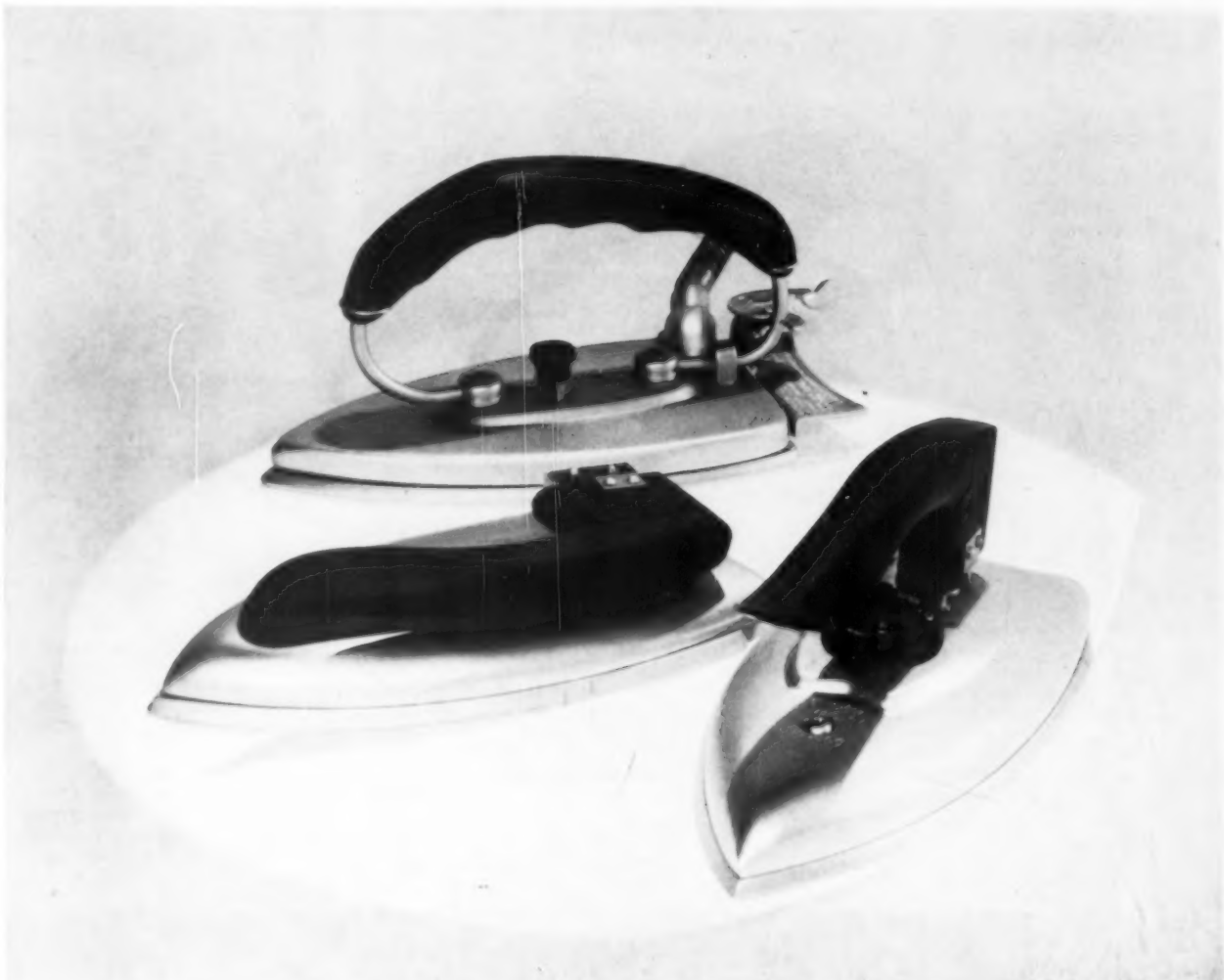


↑ **Tall, slim** Thermador heater fits into a corner, takes up less than 9 square inches of floor space. Twenty-eight inches tall, it weighs 5 lbs.; has aluminum grille. $12.95.

↓ **Long, low** Heatmore heater—8½" high, 28" long—produces heat by electrically heated ceramic panel. Features: adjustable thermostat, signal light and mercury switch that cuts off current when heater is tipped over. $39.95.



Durabilt traveling iron: reduction in parts, weight, size—and price

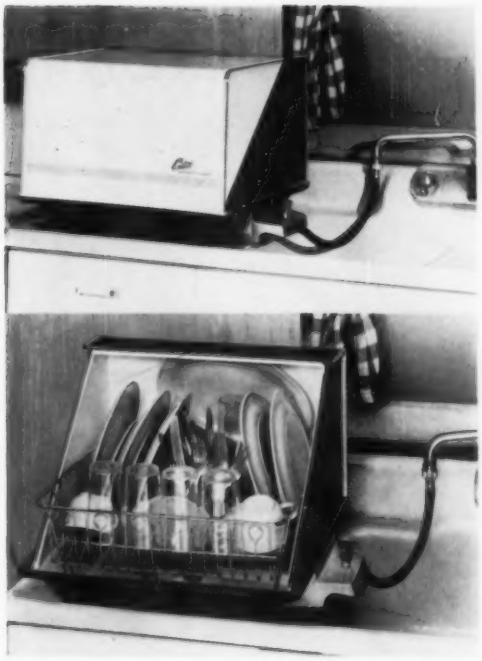


In the photo above, the old Durabilt portable sits behind a new one which has been revamped in every way—it's lighter, more compact, has fewer parts, looks neater and is cheaper. Gerald Stahl Associates were responsible for design and structural engineering (except for electrical work) of the new iron. Starting point for redesign was the handle: it was a two-part job to open or close it and the bulky lock which held handle upright was a clumsy, extra part. A quick decision was made to use cantilever suspension and anchor the handle at one end only. New locking device is a spring-loaded button built into the iron under the handle base. Spring is strong enough to hold handle up, but hand pressure can overcome its action to unlock handle. Lock was only one of nineteen parts eliminated in structure and housing. Four inches were whittled from the width of the iron body and $\frac{3}{8}$" from its height when handle is depressed. Sole plate is die-cast aluminum rather than steel, with total weight reduction of almost one pound. In contrast to former model, which looked like half an iron or a flimsy gadget, this is integrated, reliable looking worker. It is made in two models: one with automatic heat control for $12.95; one with heat indicator for $6.95.

More housewares news

↓ **Acrylic housing** is mounted on steel for "Classic" scale which will register up to 300 lbs. Designers are Palma-Knapp Associates; manufacturer is Brearley Co. About $20.

↑ **Plush platform** of Borg scale pampers tired feet and typifies the trend to elegance in the bathroom. Plush, made of 67% Orlon, 33% nylon, is washable. Convenience note is triple-plated chrome case to prevent rust. Dial is magnified. In pink, blue, gray or white. $19.95.

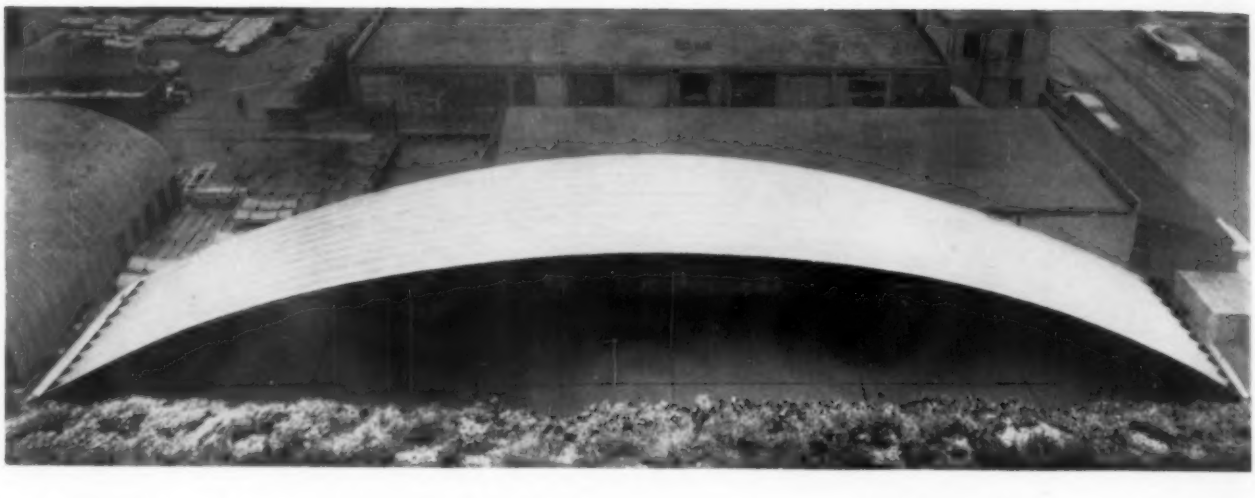


↑ **Portable dishwasher** by Chico needs no electricity; water force propels patented compound rotary washer-spinner under dish rack. The washer sits on a standard drainboard, requires no installation: hose attachment adjusts to any faucet, outlet drains water into sink. Will wash dishes for a family of five (36 dishes, 30 pieces of silver) in five to eight minutes. Liquid detergent is automatically fed during washing cycle from detergent cup built into water intake system. Washer weighs 11 pounds, is 19¼" long, 18½" wide, 14⅜" high. Designers are Channing Wallace Gilson and Donald W. Brundage of C. W. G. Price is $59.95.

↓ **Left-handed** ironers were considered in design of Steam King made by Knapp-Monarch. Thumb rests are provided on both sides of handle, and cord can be plugged in on either side. Handles in pink, blue or yellow in addition to black. $16.95 for color; $15.95 for black.

↓ **Spray-steam-and-dry** iron from GE sprinkles as it presses, eliminating predampening of linens and starched fabrics. For this iron, GE recommends distilled or deionized water. New function has not changed basic outline of iron but has complicated handle. $19.95.

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



Self-supporting steel roof is world's widest

A 150 foot self-supporting steel roof—claimed to be the widest in the world—has been erected in Chicago by Wonder Building Corporation of America. Known as "Truss-Skin," the new structure consists of 14-gauge steel panels, two feet wide and ten feet long, that are put together by simple nut and bolt fasteners to form self-supporting arches that need no trusses, pillars, posts, or other supports. A manufacturer of low-cost steel buildings and long-span roof systems, Wonder Building Corp. is producing custom engineered Truss-Skin roofs in widths ranging from 80 to 150 feet, and in any length, for gymnasiums, hangars, arenas, and other buildings where large unobstructed areas are an advantage. It is anticipated that the simplicity of the assembly operation will reduce erection time as much as 35 per cent over conventional structures, and reduce costs by one third. Recent tests with the full-size prototype showed that the roof is capable of withstanding winds exceeding 120 miles an hour and will support loads up to 32 pounds a square foot.

Manufacturer: Wonder Building Corporation of America, 30 North LaSalle Street, Chicago, Illinois

Plastic furniture legs

The introduction of molded plastic legs has brought to furniture manufacture a type of leg that is available in a variety of shapes, sizes and colors, and also provides many qualities of wooden and metal legs. A molding method specially developed produces these new legs in several finishes: "wood" grains, solid colors, transparents, all in either a glossy or velvet finish; effects can also be "tailor-made" to designer's specifications. Styrex 767, a styrene-acrylonitrile thermoplastic developed by Dow Chemical, is the new plastic used to mold the furniture legs. It has a high resistance to chemicals and many solvents, is heat resistant, and light in weight. The new legs are available in lengths up to 28 inches, in diameters up to 3 inches, and in round, oval, square or special shapes. They are adaptable to various types of mounting plates or may be used with their own flush mounting.

Manufacturer: Stylar Division of the Plastic Mold and Engineering Company, Providence, Rhode Island

New polyester wall covering

General American Transportation Company has developed a new polyester wall covering in its thermoplastic research laboratory and is currently subjecting it to final testing. The most unusual feature of the wall covering is that it can be manufactured with a soft, dull finish in practically any pattern desired. For example, it can resemble any wood finish (including costly pecky cypress, pine, birch), or it can have the currently popular leather effect.

The finish consists of a microscopically thin sheet of polyester, containing the pattern, which is laminated to a plastic sheet. It will be available in various lengths and widths and should find application in homes, stores, offices, and restaurants. A patented interlock, whose workings have not been disclosed by the company, is said to provide very simple installation.

Manufacturer: General American Transportation Company, Tribune Tower, Chicago 11, Illinois

Classified Advertisements

15c A WORD PER INSERTION, $5.00 MINIMUM, PAYABLE IN ADVANCE. BOX ADDRESS COUNTS FIVE WORDS.

Positions Wanted

INDUSTRIAL DESIGNER—*12-year background in product design, engineering, model making, production; desires permanent responsible position with design office or manufacturer in New York area. Executive, creative, and technical abilities to guide product from idea stage to production. Excellent knowledge of materials and processes, particularly Die Casting. Box ID-138,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

PRODUCT DESIGN ENGINEER *seeks assignment. Mechanical, electrical, plastics, metals, design and development. Can make own models, drawings and mock ups. Thirty years experience including manufacturing, methods and processes. Edward S. Cornell, Jr., Winding Lane, Westport, Connecticut.*

Help Wanted

ARCHITECTURAL AND DESIGN PERSONNEL AGENCY—MURIEL FEDER—*A personalized placement service for top level architects, designers, engineers, draftsmen, interior decorators, and home furnishing personnel. Selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. MU 3-2523.*

HELEN HUTCHINS PERSONNEL AGENCY—*Specialist Professional, Sales, Administrative Personnel for Industrial, Architectural, Interior Designers; Home Furnishings Manufacturers, Distributors, Stores, Publications, etc. Helen Hutchins' long association with a leading industrial design organization insures intelligent screening. 767 Lexington Avenue, New York. TE 8-3070. By appointment.*

PROGRESSIVE MIDWEST DESIGN OFFICE *has openings for experienced product designers capable of account executive and supervisory activities. Excellent working conditions and chances for rapid advancement. All inquiries carefully screened and confidential. Box ID-136,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

JOB OPPORTUNITY BULLETIN. *Assists individuals and industry in job placement. Listings of company specifications and applicant qualifications. Serves industrial firms and designers, artists, architects, design engineers, craftsmen. Annual subscription (ten issues): $3-$7.50. Individual and company advertising rates: $5-$15. Inquire: Editor: J.O.B., Institute of Contemporary Art, 230 The Fenway, Boston 15, Massachusetts.*

Miscellaneous

PRODUCT DESIGN—*Independent industrial designer and consultant wishes to meet manufacturers planning new lines or redesign program. Successful background in product development. Strong on ideas and production experience. Project or retainer basis only. Box ID-137,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

New tube coating gives sharper tv

Sharper tv pictures with greater detail and resolution are promised by the development of a new General Electric picture tube which has an extremely thin transparent layer of phosphor on its face in place of the conventional coating of phosphor powder. The new tube, which will probably be used in specialized military and industrial applications, can show lines two to three times thinner than previously possible. This is because the thin (it is less than one ten-thousandth of an inch thick) phosphor layer keeps each point of light concentrated in one spot, rather than scattering it from particle to particle, as other phosphor powders tend to do.

Variations on the principle of this tube led to a two-color tube called the "penetron," which has transparent layers of different phosphors applied to its face. A change in the operating voltage changes the color by limiting the penetration of the electron beam to the appropriate phosphor layer.

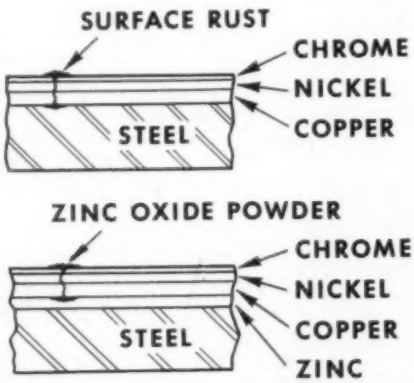
Manufacturer: General Electric Company, Schenectady, New York

Spray-on electric heat

Electric heat conductors can now be uniformly distributed on irregular and flexible shapes and forms by means of a new electrically conductive compound known as Thermflex. By applying printed circuit techniques to electric heating problems, Verrall Moe Electronics Inc. developed a compound of controlled resistance materials that can be applied in liquid form to metals, plastics, glass, ceramics, and other materials by spraying, rolling, dipping, screening, or printing. On an object, Thermflex is as thick as a coat of paint (it can be as thin as .002") and as flexible as the material to which it is applied.

Surface temperatures can be varied to meet application requirements by adjusting the compound's formula and varying voltage and wattage ratings. The heat it radiates is held within one tenth of a degree and can be maintained up to 400 degrees F. Possible applications include appliances, such as coffee-makers, griddles, hot plates, refrigerator defrosters, heated mattresses, dryers, and ironers. In industry it is recommended for the application of precise amounts of heat in exact areas and as a solution to problems involving shapes that are difficult to heat, such as spheres and cylinders.

Manufacturer: Verrall Moe Electronics Inc., 1008 Center Street, Jefferson, Wis.



Rust elimination for chrome

A new plating process, still in the laboratory stage, is said to eliminate the problem of rust forming on the chrome-plated steel surfaces of such items as automotive trim and household appliances. Field tests of the new plating process are now being carried out by an independent research organization. Basically, the developers say, the new method involves the use of a zinc base-plate in the copper-nickel-chrome plating sequence. It makes use of the zinc base-plate principle: Zinc oxidizes easier than steel and is "sacrificed" for the sake of preserving the steel. The oxidized zinc appears as a harmless white powder on the surface of the metal lamination and can be wiped clean with a rag cloth. The principle has been common knowledge throughout industry for many years but has never been successfully applied to the copper-nickel-chrome sequence because of the affinity between copper and zinc, which blend molecularly, creating a gap between the surface of the part and the plating metals. The result of this gap shows in surface peeling and cracking.

The new plating process prohibits the blending of the zinc and copper plating layers, preventing the formation of any sub-surface gap and the surface cracks and peeling caused by such gaps.

Manufacturer: Wagner Brothers, Incorporated, 685 Pallister Ave., Detroit, Mich.

Magnetic protection for engines

An Alnico permanent magnet fitted into a screw and installed in place of a standard drain plug in an automobile oil pan, removes loose metallic particles that normally cause pitting and abrasion as the oil recirculates through the engine. The magnet is a new addition to an anti-corrosion device known as Magna-Power and made by Johns Manufacturing Company. The device has a magnesium bar that acts as a sacrificial metal to reduce corrosion in the engine by galvanic action. The units are produced in a variety of sizes for use with any engine that has a re-circulating oil system. This includes cars, trucks, motorcycles, airplanes, diesels, tractors, and ships. The manufacturer states that while, ordinarily, engine oil should be drained every 1,500 to 2,000 miles, Magna-Power-equipped engines require drainage every 4,000 to 6,000 miles.

Manufacturer: Johns Manufacturing Company, Middlesex, New Jersey

Index to Advertisers

For Your Calendar

September 9-13. The Instrument Society of America will convene for its 12th Annual Instrument Automation Conference and Exhibit at the Cleveland Auditorium. About 500 exhibits and some 100 papers are scheduled.

September 12-22. The National Furniture and Home Furnishings Show will be held at the Coliseum, New York.

September 17-18. "Plastic Materials for Roof Construction" will be the topic for the fourth meeting of the Plastics Study Group of the Building Research Institute, the technical society of the building industry. The place is Washington University, St. Louis, Missouri.

September 18-24. An International Design Congress will be held in Dermstadt, Germany, under the sponsorship of the Frankfurt Industrial Design Organization. The theme of the Congress will be "The Creation of Good Design and its Acceptance by the Public."

October 2-4. American Management Association, Inc. will hold a special conference on "Planning Ahead for Profits." Discussions will include common factors beneath corporate growth, forecasts of the nation's economic future, methods of financing growth. Place: Roosevelt Hotel, New York.

October 4-5. Art Directors Society of Pittsburgh will hold a symposium entitled "Where To?" at the Penn-Sheraton Hotel, Pittsburgh. Speakers will include Bert Stern, Paul McCobb, Walter Margulies, Judson S. Sayre.

October 5. Southern New England Chapter of Industrial Designers' Institute will hold its Fourth Annual Symposium at Silvermine Guild, Silvermine, Conn. The theme, "Ultimate: The Consumer," will be discussed in morning and afternoon sessions.

October 14-18. The National Hardware Show will be held at the Coliseum, New York.

October 16-20. The American Society of Industrial Designers will hold their National Meeting at the Ojai Valley Inn, Ojai, California.

October 24-25. The Aircraft Electrical Society will stage its annual display of the latest aviation electrical products in the Pacific Auditorium, Los Angeles, California.

October 28-31. The Third Trade Fair of the Atomic Industry will be held at the Coliseum, New York.

October 28-November 1. The National Business Show will be held at the Coliseum, New York.

November 1-4. Third Creativity Conference, sponsored by the Boston Institute of Contemporary Art, will be held at Arden House, Harriman, New York.

November 4-8. 39th National Metal Exposition & Congress will be held at the International Amphitheatre, Chicago.

November 18-21. Air Conditioning & Refrigeration Exposition will feature commercial and industrial systems at the International Amphitheatre, Chicago, Illinois.

December 1-6. There will be a design engineering conference held in conjunction with the annual meeting of the American Society of Mechanical Engineers at the Palmer House, Chicago, Illinois.

December 9-13. Eastern Joint Computer Conference & Exhibit will be staged at the Sheraton Park Hotel, in Washington, D.C.

FASCINATING RHYTHM

from metal mouldings by John Lees

The finishing touches for any finished product require flow or rhythm. Such a desired effect can best be achieved with John Lees Stainless Steel or Anodized Aluminum Rolled Mouldings. Regardless of the impression desired, John Lees can deliver the fascinating and impressionable appearance needed for a sure-selling design and finished product. You design it . . . John Lees will keep you in trim!

WRITE for your free
John Lees Catalog today.

division of THE SERRICK CORP.

Muncie, Indiana

Designed with PLEXIGLAS in mind

From side to side and top to bottom, the handsome control panel of this automatic washer is a single unit, molded of transparent PLEXIGLAS® acrylic plastic. The panel is lighted by concealed fluorescent lamps. Metallic effects, colors, letters and dial markings are achieved by decorating the back surface of the crystal-clear molding.

The use of PLEXIGLAS resulted in these advantages:

- Distinctive product identification, illumination, and control dials are combined in one transparent material.
- The water-white clarity of the molding gives depth and sparkle to the decorative treatment.
- The smooth, integral surface of the panel is easy to keep clean and gleaming.
- The durability of PLEXIGLAS and its resistance to discoloration maintain the quality appearance of the panel throughout the life of the machine.
- Manufacturing costs and parts inventory are reduced because there are fewer parts to be assembled.

Our design staff and technical representatives will be glad to tell you what PLEXIGLAS *molding powder can do for your product.*

Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay East, Toronto, Ontario, Canada*

Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries