INDUSTRIAL DESIGN

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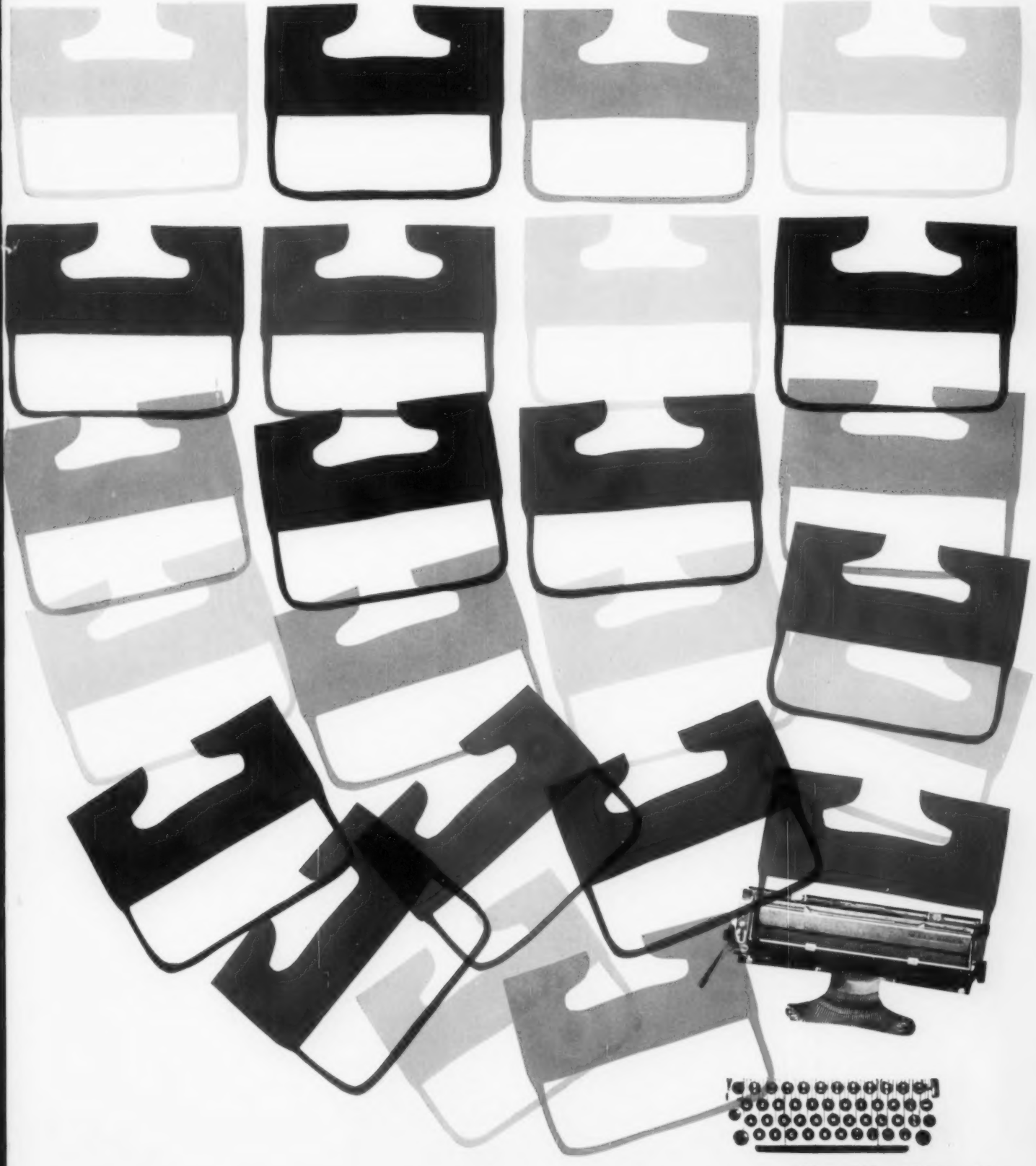

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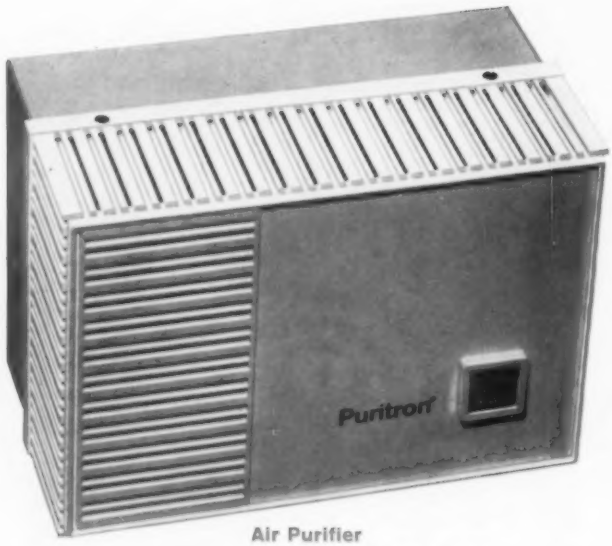

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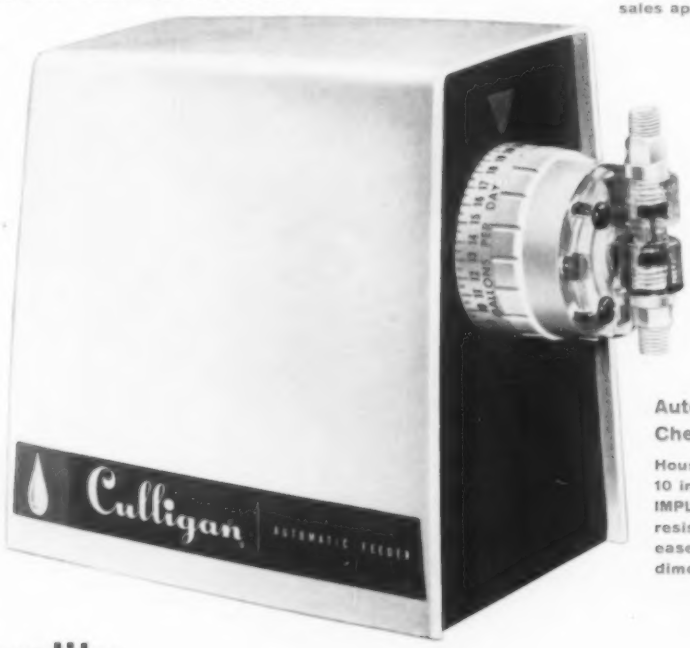

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NOVEMBER, 1961 VOLUME 8, NUMBER 11

INDUSTRIAL DESIGN

Published for active industrial designers and the executives throughout industry who are concerned with product planning, design development, and marketing

CONTENTS

COMING

IN DECEMBER—*8th Annual Design Review*

IN JANUARY—*Exhibits; Technical Packaging Consultants*

COVER: Art director Peter Bradford symbolizes a designer's view of Olivetti (see page 50) with a multi-colored multiple exposure of the Lettera 22's case, plus a single black-and-white photograph of its works.

FRONTISPIECE: A forcola, the oar-lock of a Venetian gondola, was the theme object and favorite take-home sculpture of the ICSID conference (page 80). Photograph by Paolo Monti, Studio 22.

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COMING IN THE DECEMBER 1961 ISSUE OF INDUSTRIAL DESIGN.

8th ANNUAL DESIGN REVIEW

An informative review of the year's production, and a valuable permanent reference, it will feature products in such categories as:

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The Annual Design Review, to be published in December, is a portfolio of the year's major design achievements in consumer products, packaging, professional and industrial equipment, materials, architectural components, and programs and devices for selling and corporate identity.

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The accompanying list of our advertisers in 1961 is perhaps food for thought to firms planning advertising programs for 1962.

Many of these firms have advertised with us for years -- some of these are new advertisers this year.

The point, however, is that all of these firms are well aware of the buying influence of industrial designers in connection with their products or services.

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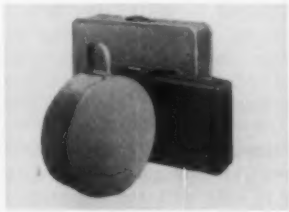


IN THIS ISSUE

Moss

Mrs. Miller

Richard Moss, formerly an associate editor on INDUSTRIAL DESIGN, has just come up from Ivrea where he completed his investigation of design and everything else at Olivetti (page 50). Although Moss graduated from Princeton the year after tailback Richard Kazmaier did, the two have never met. After taking an advanced degree at the University of Massachusetts, Moss came to New York to "make more money than I could in the academic game." Failing at that, he set out to live *la vie boheme* in Chinatown, Ridgewood, New Jersey, and (at present) Paris, where he is painting, racing (see cut), and writing a book about castles in the south of France.

List

Polly Miller accompanied her husband, Leon Gordon Miller, president of IDI, to Venice in September for the ICSID meeting and supplied notes for the report on page 80. This is the latest assignment in an intermittent journalistic career that began on the old *Brooklyn Eagle*. The Millers live in Cleveland but travel widely on design business, which has led Mrs. Miller to a series of quick courses in French, Spanish, Swedish, and Italian, which she has blended together into a kind of personal Esperanto. Her hobbies include photography and collecting primitive jewelry, the present favorites being stones and bones from some of the ancient Andean cultures.

Preiss

Daniel List, who reviews the 1962 cars on page 98, says he once ran a thriving repair and service station for imported cars in New York's Greenwich Village, ultimately gave up the station but stayed in the Village to write a column on auto affairs for the Greenwich Village weekly, the *Village Voice*. List, whose interest in cars dates back to his father's Stutz Bearcat, Cord, Moon, and Auburn, now drives a '55 Hillman station wagon and a 1922 Dodge dogcatcher's wagon.

Farr

Frederick W. Priess, manager of the product and package design department at Montgomery Ward (page 89), is on his second tour of duty with the company. He was a member of the design staff from 1942 to 1950, when he left to manage product design at Hallicrafter, returning in 1955 to his present position. Both Priess and his wife drive harness buggies, and he owns a harness horse, Investigator, whose collection of blue ribbons is constantly growing.

William Farr, manager of package design at Montgomery Ward (page 89), began his career with the mail-order house as a product designer almost 10 years ago. He is an experimental sculptor, working with lead and wire, and for the past 15 years has been making collages, a pursuit that has become fashionable again (see page 12).

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GRACE PLASTICS

LETTERS

Boxed-in consumer

Sirs:

Re: Packaging Engineering, in the September issue. Here in California the consumer is becoming aware that fancy packaging costs too much. State Consumer Counsel Helen E. Nelson recently stated that in packaging today we get more color, more size, especially more height, more waste, less clear designation of contents, and great confusion.

It is estimated that the average buyer is paying as much as 10 per cent for packaging alone, and packing costs on food for the average family amount to about $190 per year. Hence, there is an increasing tendency on the part of the buyer to avoid items in fancy packages. In too many instances retailers are being compelled to remove from sale fancy-packaged items because of short weight.

Emil H. Himanka
Long Beach, California

Ambiguous modifier

Sirs:

Your article in the September issue entitled "On Company Time," concerning IBM's Industrial Design Department in Poughkeepsie, contains an ambiguous statement that should be clarified. It is not clear whether the statement "only one member of this group has any formal engineering training (and only one is a graduate industrial designer)" refers to the entire Industrial Design Department or only to the Department's Industrial Design Engineering Group responsible for the reduction to hardware function. To further clarify this I should like to point out that nine members of the Department are graduate Industrial Designers including one Master's Degree in Industrial Design from Syracuse University. In addition, two members of the Department hold Engineering Degrees and another has a Master's Degree from the University of Pittsburgh.

C. F. Graser
Industrial Design Manager
IBM Data Systems
Poughkeepsie, N. Y.

Design down under

Sirs:

May I say how much I have appreciated the varied and high standard of articles contained in your magazine. Industrial design in our country is very much in its infancy and it is taking much time for managerial personnel to realize the value of the industrial designer. This is encouraged by the fact that many companies are modifying designs brought out in the United States or Europe the previous year. Still it seems that recognition of the industrial designer is not always forthcoming in your country either, so best we continue to scrape the plaster and wear the pencils away.

I was most interested in your article "Design for Limited Editions," January, 1961. These methods have a wide application in this country, for our production figures never reach the extent of the larger overseas markets. Hence, prices are higher than they are overseas.

Our young country has made a most impressive advance in fields such as architecture and electronics. Yet there still remains the need for a coordinator between management, the laboratory, and the man in the street. We trust he may soon be found to possess the name of "industrial designer."

T. Tresider, Industrial Designer
Stromberg-Carlson (Australasia)
Sydney, Australia

Who remembers the Blickensderfer?

Sirs:

The notion behind the IBM Selectric's changeable type element is not really all that new. Has everybody forgotten the Blickensderfer? Of course, the Blick had a carriage, and its rotor raised one or two notches instead of inclining, but the snap-changeover was there and it was a happy little mill, free of ac powerlines (probably would write under water per early ball-pen hoopla).

Temple Nieter
Evanston, Ill.

Structures without stress

Sirs:

I do not wish to detract from the good work of Mr. Leo Brandenburger ("Esthetics And Design Through Structure," ID, September), but if we are to have structure then one must occasionally stand for things.

His statement "as soon as the student starts playing with structural shapes for the sake of shape or form, or to be different, he is doomed" is not only dangerous but dumbfounding. We must distill every bit of difference from our students in every possible shape or form.

At this moment, materials are in the making whose strength will allow any conceivable configuration to be correct. Why then should we strait-jacket ourselves with simple diagrams of stress which lead to self-conscious structure, when it is the unconscious creative sense of structure we are struggling to free?

Remove gravity from your equations and the formula fails, but this in no way influences the pure principles of form which exist beyond the media in which they move.

There are engineers to do this work, just as there are doctors to perform operations. Why remove one's own appendix just to save money? To my way of thinking, it is the engineer who must develop esthetic sensibilities. Nervi and Torroja could probably tell us what it is they know about structure in half an hour, but there is neither world enough nor time for the trained engineering teacher to even begin to explain to us what it is he feels we should know. The most creative engineers have courageously chauffeured us to the very edge of space; but, one foot beyond, their systems no longer serve and they must also stand and wait for more comprehensive sciences, or become involved with art.

William Katavolos
New York, New York

September issues

Sirs:

I thought your September issue admirable and extremely useful. Nothing but good can come from the open discussion of the problem of the industrial designer/engineer relationship.

Professor Misha Black
Royal College of Art
London, England

Sirs:

The introduction to the September issue represented a good collection of the clichés used as arguments in defense of the respective professions. However, the reader found little enlightenment in the exploration of ways in which a working relationship may be "enhanced to the credit of both engineers and designers," and was left to conclude that all industrial designers have a wonderful working relationship with the engineering profession.

John J. Van Acker
Cleveland, Ohio

SILICONE NEWS from Dow Corning

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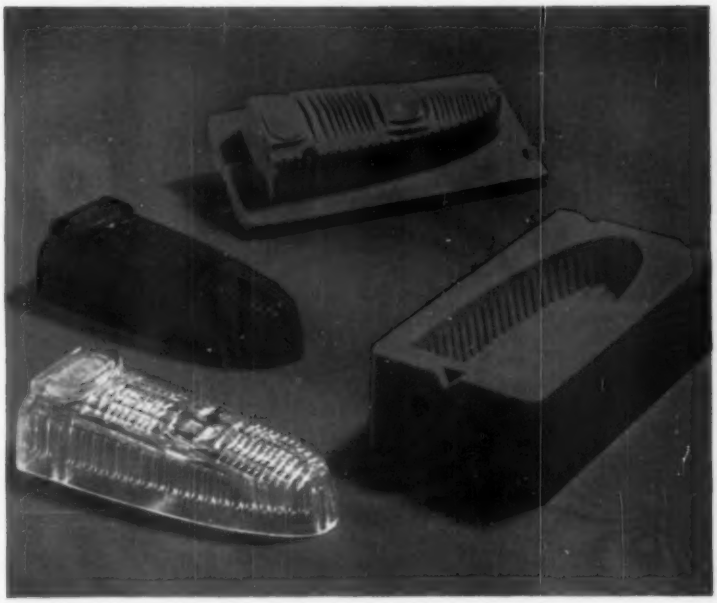

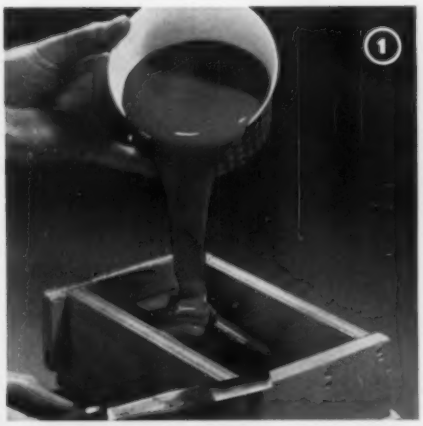

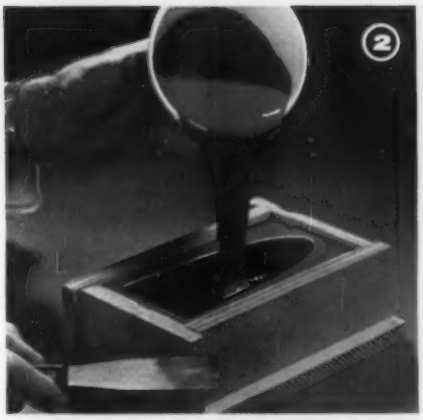

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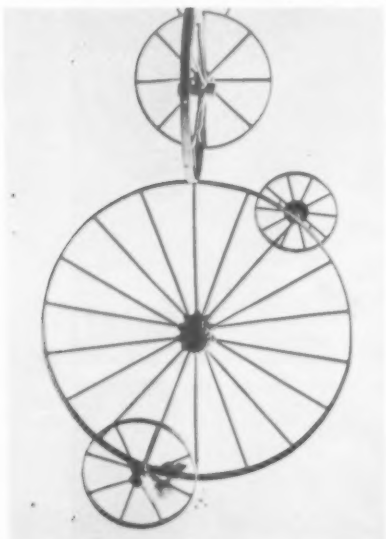
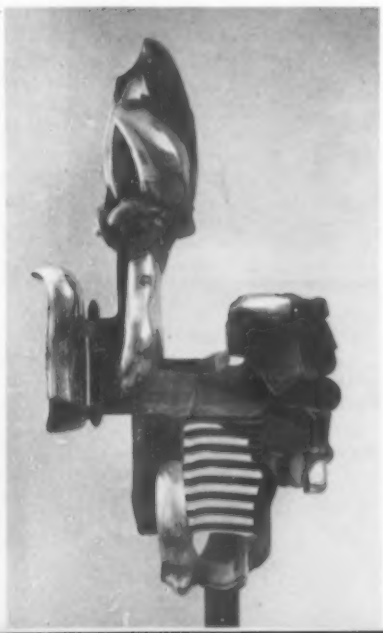
REVIEW: EXHIBITIONS

Assemblage: boilerplate and burlap

What happens to products of modern industry after they hit the junk heap? Last month selected samples of some industrial-age remnants turned up at New York's Museum of Modern Art in an exhibition entitled "The Art of Assemblage." An assemblage, says the show's catalog, is "a work of art made by fastening together cut up or torn pieces of paper, clippings from newspapers, photographs, bits of cloth, fragments of wood, or even objects such as knives and forks, parts of dolls, and automobile fenders." The 250 assemblages in the present show date back to the 19th century and forward to a big, catch-all selection of contemporary examples. The show closed in New York on November 12, but will open in Dallas on January 9 and in San Francisco on March 5.

"Continuity," Ettore Colla (below). "Masculine Presence," Jason Seley (bottom).





"The Art of Assemblage" provides the industrial designer with an intriguing opportunity to see how the materials and techniques of industrial production have been turned into art, and what can happen to a product when an assemblage artist lays hands on it. Some artists, like Ettore Colla (left), preserve the original form of objects. Others, like French sculptor Cesar, disregard it. Cesar's "Yellow Buick," an automobile reduced by compression to its most compact and anonymous form—is simply a cubed hunk of junk. Then there are Marcel Duchamp's old jokes, his "readymades." With these virtually unaltered combs, urinals, and hair dryers, Duchamp irreverently announced that anything could be art if he called it that.

At its best, as when Kurt Schwitters juxtaposes the candy wrappers and bus tickets of the Hanover streets, assemblage gives the spectator a significant—even moving—set of new associations within a meticulously wrought design. If this best is not always reached in the present show, the industrial designer will not be bored with most of it. Indeed, he won't be bored with any of it until he has checked each piece to make sure that none of his own old designs make a chance appearance.—*A. F.*

International packaging show

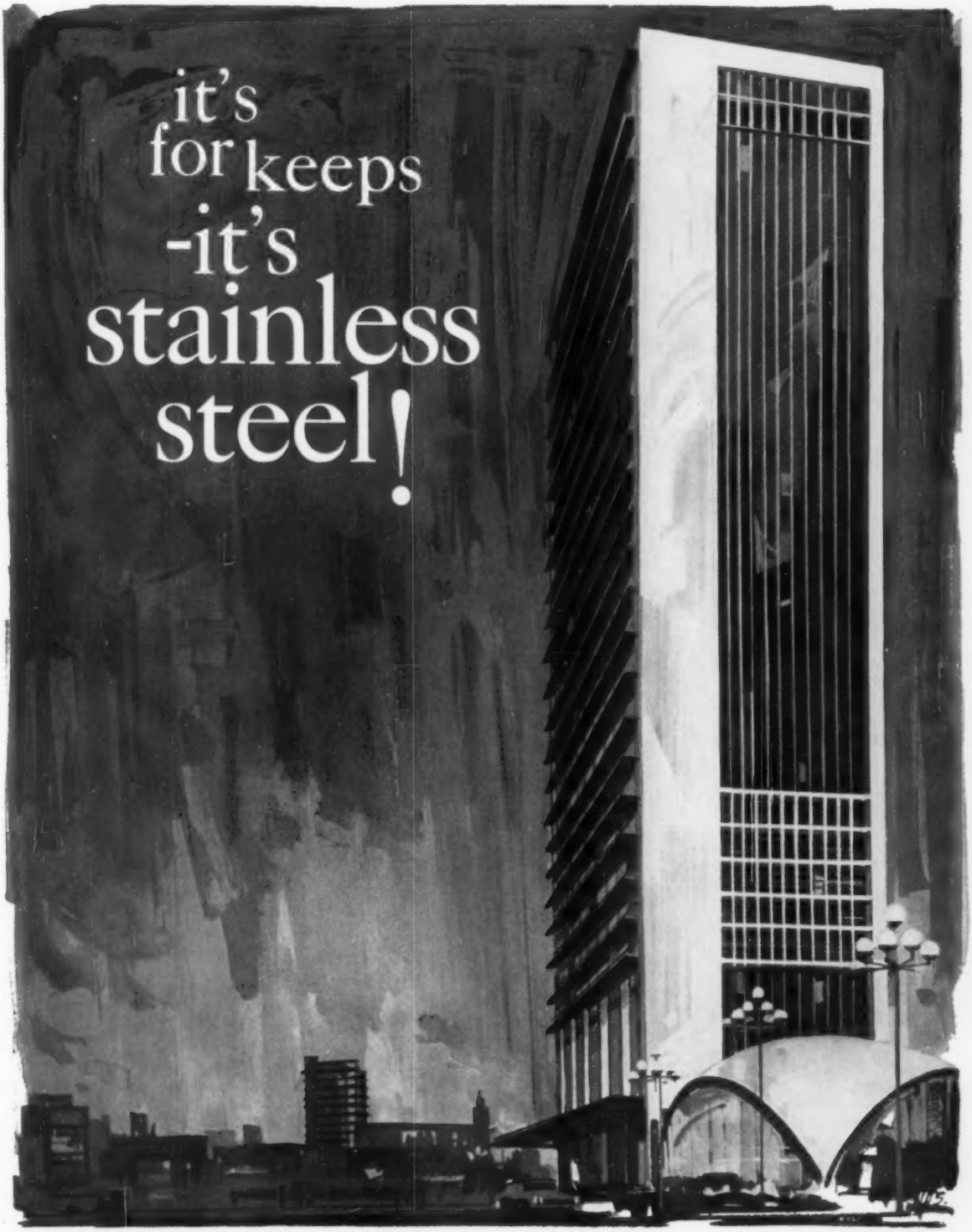
Europe's growing interest in package design was pointed up last month by the big Seventh International Packaging Exhibition at Olympia, London, September 5 to 15. Since the first exhibition in Manchester, England, in 1949, the show has quadrupled in size, this year eating up 300,000 feet of exhibition space. Although the majority of the 400 exhibitors were from the United Kingdom, 70 foreign firms came from France, Western Germany, Italy, Holland, Belgium, Sweden, Denmark and the United States. Canada, exhibiting for the first time, showed paperboard packaging from 35 firms.

The exhibition was of particular importance to the British firms who now want to compete in the Common Market and in North American markets. In response to this interest, the exhibition included a series of discussion meetings

Vermouth bottles, Frank Gianninoto (top). Liqueur bottle, Gelge Refu (above).

"to tell British businessmen the best ways to make the packaging of consumer goods acceptable to overseas customers." The American viewpoint was represented by Thomas B. Humphrey of General Mills, Ltd.; Joseph P. Kasper of the Merchandising Corporation of New York, and W. G. Ohme of Beecham Products, Inc.

Winners in the European Packaging Federation's Eurostar competition for outstanding graphic and structural package design were also announced at the exhibition. British package designer William de Majo drew attention to the difficulties of selecting winners by withdrawing from the panel of judges. De Majo said he felt judging standards should be higher than those of former Eurostar contests. He also thought judging might be simplified by giving separate awards for surface and structural design. In spite of the flurry over de Majo's resignation, 18 attractive winners (two shown above) were selected from the 84 entries of Austria, Belgium, Denmark, France, Finland, Holland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and Great Britain. Although the United States did not participate, an American designer managed to slip in among the winners anyway. New York designer Frank Gianninoto, retained by the Italian liquor firm, Stablinenti Americano Marenco, won a Eurostar for his vermouth bottle designs (above).—*A. F.*



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NEWS

Buildings for New York World's Fair

Things to come

In the past few months five buildings for the New York World's Fair have reached the rendering stage, so it is now possible for designers to form some opinion of what Flushing Meadows may actually look like in the spring of 1964. The prognosis is not especially heartening. Two of the buildings are designed for rental space, the other three are for single tenants. Of the group, at least three are undistinguished in design, and even allowing, as one designer does, for "a certain amount of junk in every fair," this is not a very good average.

The worst offender is the entry from the Port of New York Authority. It is a $2,400,000 heliport (center, left) designed by the Port Authority staff, and carrying Robert Moses' powerful blessings in the form of a prediction that it will be "one of the most exciting and popular features at the Fair." Even more disturbing, it may also be a permanent structure.

Permanent or not, it is certainly a unique piece of architecture. Rising 120 feet in the air on four tapered legs approximately 20 by 30 feet, it resembles nothing so much as a giant trivet minus its chafing dish. The roof slab, besides being a landing field for a helicopter shuttle service from Manhattan, will also house a 1000-person restaurant, and beneath this will be slung a circular observation deck. At the base, in the position normally occupied by the Sterno can, will be a Port Authority exhibit.

The designs for two multiple-tenant buildings have also been released. For developer Edward Burdick's Better Living building ("combining the main phases of American Living"—which means that everyone with something to sell is welcome), John LoPinto & Associates have designed a hexagonal wrapper in a style recognizable as "Shopping Center Modern" (bottom, left) to enclose 240,000 square feet of rentable space, more than half of which is already taken.

The other rental-space building is Robert Elton's Pavilion of American Interiors for lessees in the home furnishings industry. Designed by John Vassos and T. H. Yardley, it is composed of three interlocking circular units, two small and one large (top, right). The entrance building is glazed all around; the other two buildings will be finished in a colored cement asbestos and glass foam sandwich panel, although the choice of color has not yet been determined. About one-third of the space is now rented.

The remaining two buildings are the exhibits of public utilities. Walter Dorwin Teague Associate's series of angular lilypads (top, left) shelter a three-part pavilion for the gas industry. On the ground floor will be a restaurant with a visible all-gas kitchen, and an exhibit area toured by a moving circular ramp. A flying-bridge mezzanine will contain offices and facilities for entertaining VIPs. The pavilion's feature attractions will be "invisible" glass or plastic walls on the upper levels, air-walls on three sides of the restaurant, and an extensive use of interior landscaping. A moat, also angular, surrounds the building.

The electric industry's building (bottom, right), designed by V-E-K Associates and devoted to the peaceful uses of the light bulb, is a circular structure that mainly serves as a mounting for 60 "light cannons" which will nightly bombard the heavens with a shaft of light 30 billion candlepower high. Through it will twine "a haze of atoms, emerging from the physical structure, ever-changing in design and color." Counting its emanations, this will be the higest building at the Fair.

US at Yugoslavian trade fair

"Productivity—The Key to Abundance" was the theme of the United States Pavilion for the International Trade Fair

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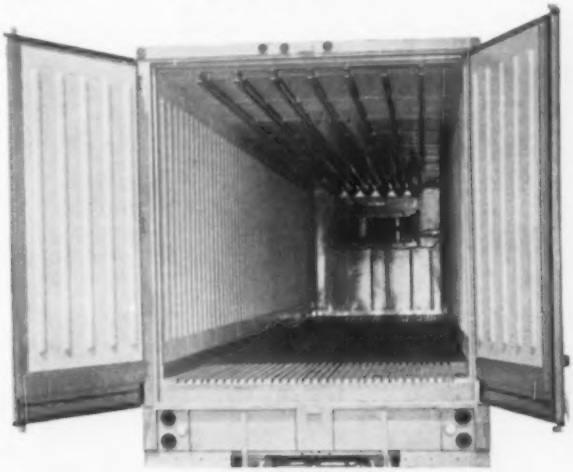

Reefer liner panels

Corvette sports car body

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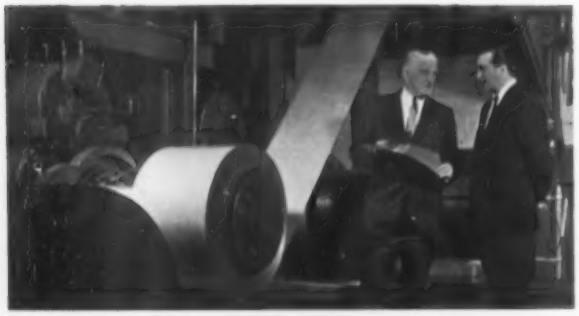

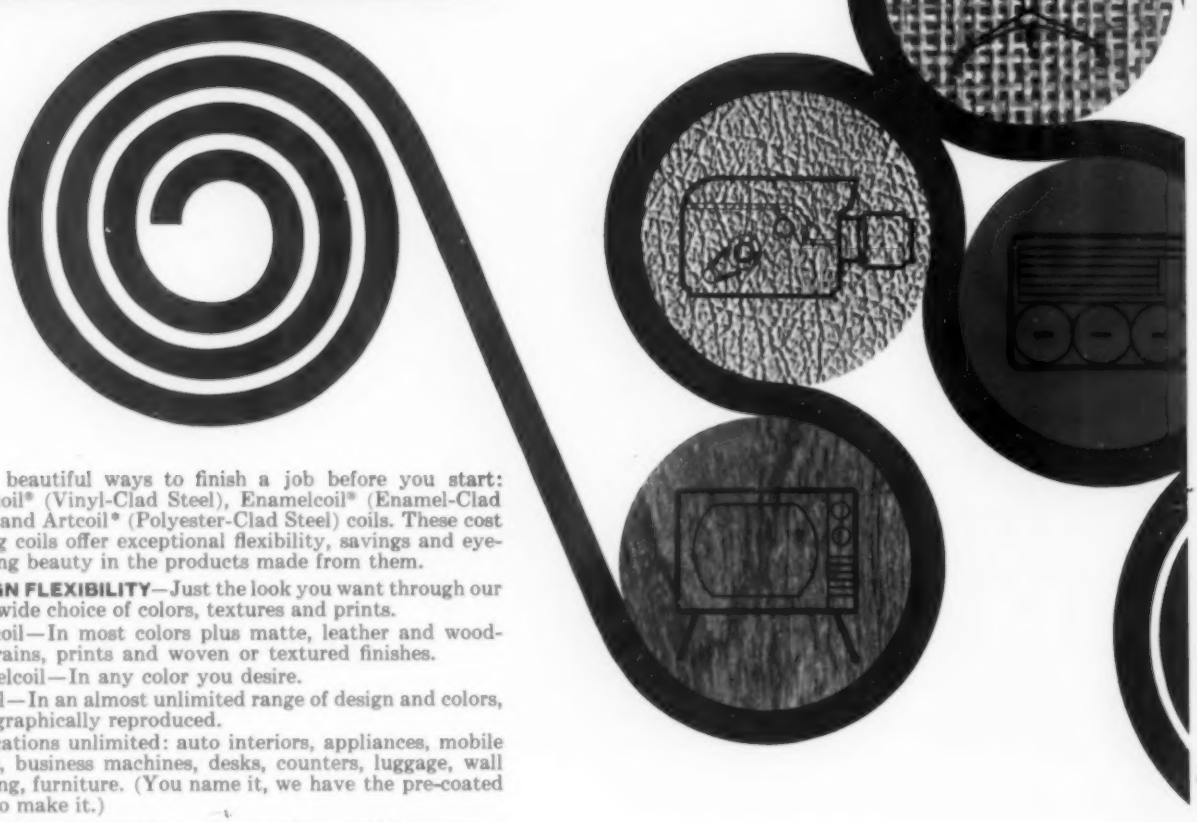

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Enamelcoil—In any color you desire.

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*Trademark

ENAMELSTRIP ALLENTOWN PENNSYLVANIA

ENAMELSTRIP IS A DIVISION OF **NATIONAL STEEL CORPORATION**

held at Zagreb, Yugoslavia last month. Donald Deskey Associates, New York, designed the exhibit, which was presented by the Office of International Trade Fairs of the U.S. Department of Commerce. The exhibit covered some 75,000 square feet and was comprised of 22 separate display areas. Among the special features included in the exhibit were an electronically-controlled industrial medical center, an automated factory laundry, and a wheel-less automobile, the "aeromobile," which hovers about a foot off the ground and can travel 60 miles per hour.

More than 120 American firms contributed their products and in some cases their personnel, to the effort.

SPE regional conference

Screw injection molding will be the subject of a regional technical conference of the Society of Plastics Engineers at the Sheraton-Cleveland Hotel in Cleveland, Ohio, on December 1st. The program, sponsored by the Cleveland section of SPE, will be international in scope and will feature speakers from West Germany, Great Britain, and the United States. Eight papers will be presented and will include views and experiences of European molding machine manufacturers, and a discussion of problems encountered by the molder.

Portable bank

The "Satellite Banking Facility," designed by Henry Dreyfuss, is a portable bank which can serve as a temporary branch office at fairs and exhibitions, or

Portable bank

while new permanent branches are being built, or in case of some disaster that damages the permanent banking facilities. Just completed by United California Bank, Los Angeles, the unit can be delivered and set up in a short amount of time, can offer all regular banking services by three tellers. It is an L-shaped structure, 30 by 30 feet, and can be transported from place to place in trucks.

Design awards established

An annual design awards program has been established by the Design Division of the Institute of Contemporary Art, Boston, in order to "recognize design achievements in New England commerce and industry, to encourage a more effective use of industrial designers, and to foster among the public an increased interest and understanding of the use of design by today's commercial and industrial leaders." The first award in the series will go to one or more New England companies in recognition of the use of good design, over the past five years. Winners will be announced at a special dinner on November 15th. Additional information and nominating blanks may be obtained from the Design Awards Program, Institute of Contemporary Art, Boston 34, Massachusetts.

Breuer exhibit to open

"Marcel Breuer: The Buildings of St. John's Abbey, Collegeville, Minnesota," an exhibition which will include photographs, slides, models, and actual samples of material, opens on Sunday, November 26, at the Walker Art Center in Minneapolis. The exhibit was designed by Breuer and his associates in cooperation with the Walker staff, and will travel to various parts of the country when it finishes its run in January. In conjunction with the exhibition, the Walker Art Center's magazine will devote a complete issue to the St. John's buildings.

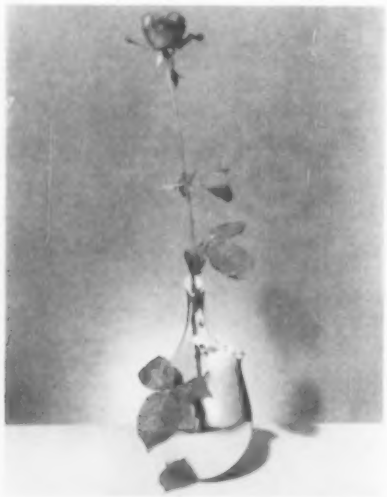
Agency offers awards

Two awards, one to a company and one to an individual, are being offered by the designer-placement firm of Theodore S. Jones & Co., for the best suggestions of methods for improving the effectiveness of the agency's services. The award to the company will be in the form of free services rendered by TSJ for one year. The winning individual will receive a three-year subscription to INDUSTRIAL DESIGN magazine plus three-year subscriptions to two other professional magazines of the winner's choice—to a total value of about $100. Further information and entry forms can be obtained from Theodore S. Jones & Co., 60 Adams Street, Milton, Massachusetts.

Students design in silver

Two students at Pratt Institute and one from the Cleveland Institute of Art won the three top prizes in the 1961 "Sterling Today" student design competition sponsored by the Sterling Silversmiths Guild of America. First prize of $500 was awarded to Pratt student C. Robert Helm for his spherical candle holder with oval cutout motif (left). John G. Schum, also a Pratt student, took second place

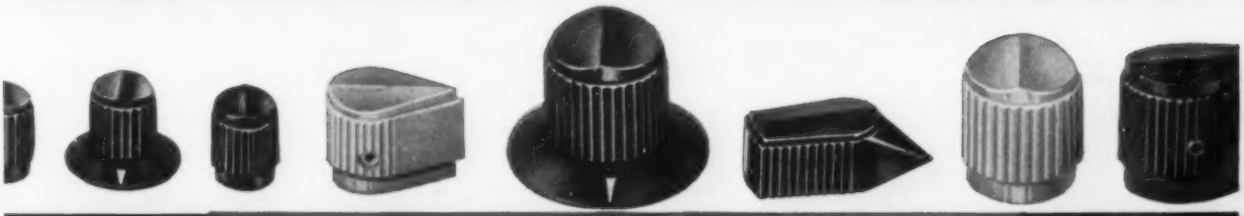
Helm's candle holder



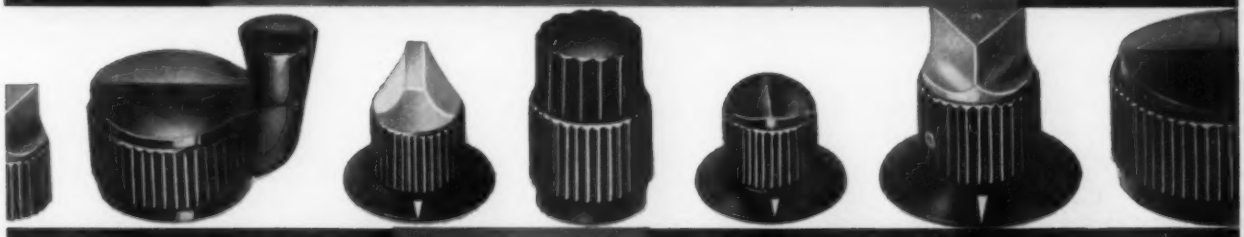
Schum's vase

Ribar's teapot

TO GIVE YOUR INSTRUMENTS



THE PRECISION-ENGINEERED LOOK



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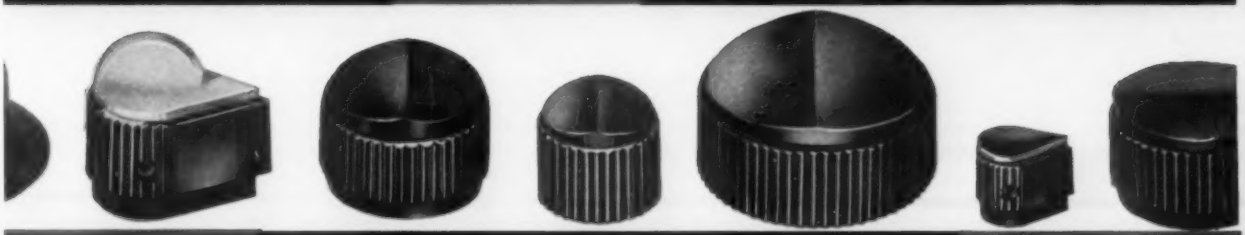

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NEWS *continued*

with his sculptured vase (page 18), and Michael P. Ribar, of the Cleveland Institute of Art, won third prize for his teapot (page 18). The contest is held annually.

Professional art school opens

The Chicago School of Professional Art opened this fall with a staff composed completely of professional artists and offering a two-course curriculum, admittedly experimental in nature: one course on illustration, the other on layout and design. Courses are scheduled in three 16-week terms a year. Instructors, provisionally named for the illustration course, include Andrew Aldridge, William Baker, John Langston, Carl Kock, Arthur Magee, Phoebe Moore, William Gregg, and Fred Steffen. Layout-design instructors are Richard Weiner, Charles MacMurray, Walter Lecat, Arthur Meltzer, Samuel Hageman and Ralph Finch.

Copper and brass competition

Entries are being accepted now through March 31, 1962, for the 1962 Copper and Brass Achievement Awards competition. Sponsored by the Copper and Brass Research Association, this fourth annual event's purpose is to "honor outstanding new developments in the use or application of the copper metals in the United States." Two first prize awards of $500, in addition to bronze trophies, will be given for the best entries submitted in industrial and architectural work. The industrial category will include new industrial or consumer products, redesigned products, original designs or concepts for established applications, marketing or promotion programs, production or manufacturing processes, or contributions to science and research that significantly involve use of the copper metals. The architectural award will be given for the best design of a commercial, residential, or other structure, or another creative use of the metals in building design or construction. Entry forms and complete details can be obtained from the Copper & Brass Research Association, 420 Lexington Avenue, New York 17, N. Y.

Circular towers rise in Chicago

Two 64-story circular apartment towers, 588 feet high and surrounded completely by curved balconies, are rising now as part of Marina City, a $36,000,000 multiple-use project in downtown Chicago. When completed, the towers, which are designed for middle-income dwelling, will be the tallest apartment structures in the world and the second tallest building complex on the Chicago skyline. They are constructed around concrete cores which contain all the heating, plumbing, elevators, and other necessary operating equipment. The photograph, above left,

World's tallest apartment building

shows the core during construction; on the right is the architect's drawing of what the project will look like eventually. Corridors will circle the core and every room will have a terrace. Residential apartments will not begin until the 21st floor—the first 19 stories will be helical parking ramps and the 20th floor will contain laundry and similar facilities. The project will include a restaurant, skating rink, marina with room for 700 small craft, a health club with a swimming pool, bowling alley, shops, and health clinic. There will also be a one-acre park and a large commercial building in addition to the towers. The entire project was designed by Bertrand Goldberg Associates, Chicago architects-engineers, for the Building Service Employees International Union and Marina City Building Corporation.

1

2

3

New graphics

1. Silvercup's Bellwether Specialty loaf uses elliptical shapes in purple and pink meant to suggest the orbits of satellites; raisin designation is purple, "i" is dotted in pink. *Design: Egmont Arens.*

2. Package for Puritron's special bathroom model air purifier emphasizes geometric lines, is latest to use arrows to symbolize air flow; arrows are blue and white. *Design: Don Blauweiss.*

3. Lewis-Howe's Tums bottle has new shape, polyethylene snap-cap which opens by pressure from thumb. Graphics are both light and dark green on white; stylized mint leaf, the new Tums symbol to be used on all packages, is also in green. *Design: Royal Dadmun & Associates, Inc.*

FROSTWOOD

. . . made from Pelaspan®

An exciting new dimension of *texture* is captured in *Frostwood** molded articles produced by injection molding Pelaspan expandable polystyrene beads. *Frostwood* molded articles have a uniquely swirled surface texture reminiscent of rich, fine wood grain. The appearance is compelling . . . its feel is friendly. And because the wood grain pattern never repeats itself exactly, every article becomes an original. For full details on the technique for producing *Frostwood* molded articles, drop us a line in Midland. Write Plastics Sales Department 1701BR11. TRADEMARK

THE DOW CHEMICAL COMPANY DOW Midland, Michigan

NEWS *continued*

People

APPOINTED: **Mort L. Rothenberg** (below, right) as an associate of Scherr & McDermott, Inc., Akron, Ohio. Rothenberg is manager of S & M's New York office. . . . **John A. Zeigler**, previously packaging and promotion art director for Procter & Gamble, as project director at Stephan Lion, Inc., New York. . . . **Gene Garfinkle**, as director of design, research division, with Development Coordinators, Fullerton, California. . . . **David G. Moore** (previously on the industrial design staff at IBM) and **John E. Thomson** to the staff at Peter Muller-Munk Associates, Pittsburgh, Pennsylvania. . . . **Richard H. Flack**, formerly art director at Graphic House, Inc., as art director of Graphics Institute, New York. . . . **James E. Edgell**, previously with Pulos Design Associates, to the staff at Flannery & Associates, Inc., Pittsburgh. . . . **Jack Courtney** to the client service group at Elgin Davis Studios, Inc., Los Angeles. . . . **Professor Pierre A. Kleykamp**, head of the industrial design department at Rhode Island School of Design, as chairman of the Eastern Chapter of the Industrial Design Education Association, and as a member of the National Screening Committee of the Institute of International Education. . . . **Charles W. Harris** as Associate Professor of Landscape Architecture at the Harvard Graduate School of Design.

AWARDED: To Charles-Edouard Jeanneret, better known as **Le Corbusier**, the Frank P. Brown Medal of the Franklin Institute "for a lifetime of creative leadership in the teaching and the practice of architecture as exemplified by his modular concept of human scale, free plan, pillar foundations, glass walls, sun breaks and roof terraces; his city planning as exemplified by the Vertical City concept and for his outstanding contributions as a sculptor and painter."

INVITED: **Gerald Thurston** (right), head of Lightolier's design department, by the Japanese government to serve as counsel to the members of their Smaller Enterprise Organization. Thurston will advise on designs slated for the American market.

RESIGNED: **Mrs. E. Betty Berry** as executive secretary of the Industrial Designers Institute. She will be replaced by Anne Davis, formerly with literary agent Harold Ober.

ELECTED: **Eliot Noyes** to the Board of Directors of the American Society of Industrial Designers, with a term running until 1964. All other major officers

Chapman *Yamasaki* *Goldsmith*

and members of the Board of Directors were re-elected.

DIED: **Mr. Essington Lewis**, founder and chairman of the Industrial Design Council of Australia, from a heart attack.

Company News

RETAINED: **Painter, Teague & Petertil**, Chicago, by the E. F. Johnson Company, manufacturers of transceivers, amateur radio equipment, and electronic components. . . . **Lewis & Tweedie**, Pasadena, California, by the American Food Service Specialties Corporation. . . . **Harper Landell & Associates**, Philadelphia, as design consultants by Fisher & Ludlow Ltd., Division of British Motors Corporation (England), and by American Electronic Laboratories. . . . **Scherr & McDermott**, Akron, Ohio, by the National Electric Sign Association, for a program of research and development; by Weber Dental Manufacturing Company, for an equipment redesign program; by Locke Manufacturing Company, for building products; by the McKay Machine Company, for a corporate identification program for the parent company and divisions; and by Minnesota Paints, Inc., for a total label redesign program. . . . **Vitro Engineering Company**, New York, by the Atomic Energy Commission and the National Aeronautics and Space Administration to design and engineer the nation's first nuclear rocket engine maintenance and disassembly building, to be the first component of the National Nuclear Rocket Development Center. . . . **Stowe Myers**, Evanston, Illinois, by the Office of International Trade Fairs, to design the U. S. pavilion for the Tripoli International Trade Fair, which will open in February, 1962. . . . **Howard Ketcham**, New York, by Walgreen Drug Company, to design a new store prototype; by Alden's, Inc. for store color planning and for development of a new logotype for catalog stores; and by Virginia Metals Products Company for development of new line of colors and preparation of color merchandising plans.

ESTABLISHED: **Frank Sack Associates**, at 900 Summit, Minneapolis 5, Minnesota, by Frank Sack. . . . **Kerr's Design Studios**, at 698 3rd Street, Beaver, Pennsylvania, by Charles E. Kerr and Robert Shaffer Kerr. . . . **Gollin, Bright & Zolotow, Inc.**, by Norman Gollin, Keith Bright, and Milton Zolotow, at 717 North La Cienega Boulevard, Los Angeles 46, California. . . . **Institute for New Products, Inc.**, Ardsley-on-the-Hudson, New York, a firm which uses IBM electronic computer equipment to bring together new inventions and prospective backing. . . . **Matrix Industrial Design**, 100 Ross Street, Pittsburgh 19, Pennsylvania, by Dana C. Thayer, Ivan M. Lacher, Donald L. Tripp (all formerly with Gardner Associates) and Richard C. Schneider (formerly with the Applied Research Laboratory of United States Steel).

RENAMED: Dave Chapman, Inc., Industrial Design, Chicago, to **Dave Chapman, Goldsmith & Yamasaki, Inc., Industrial Design**, with the addition of the names

Rothenberg *Thurston*

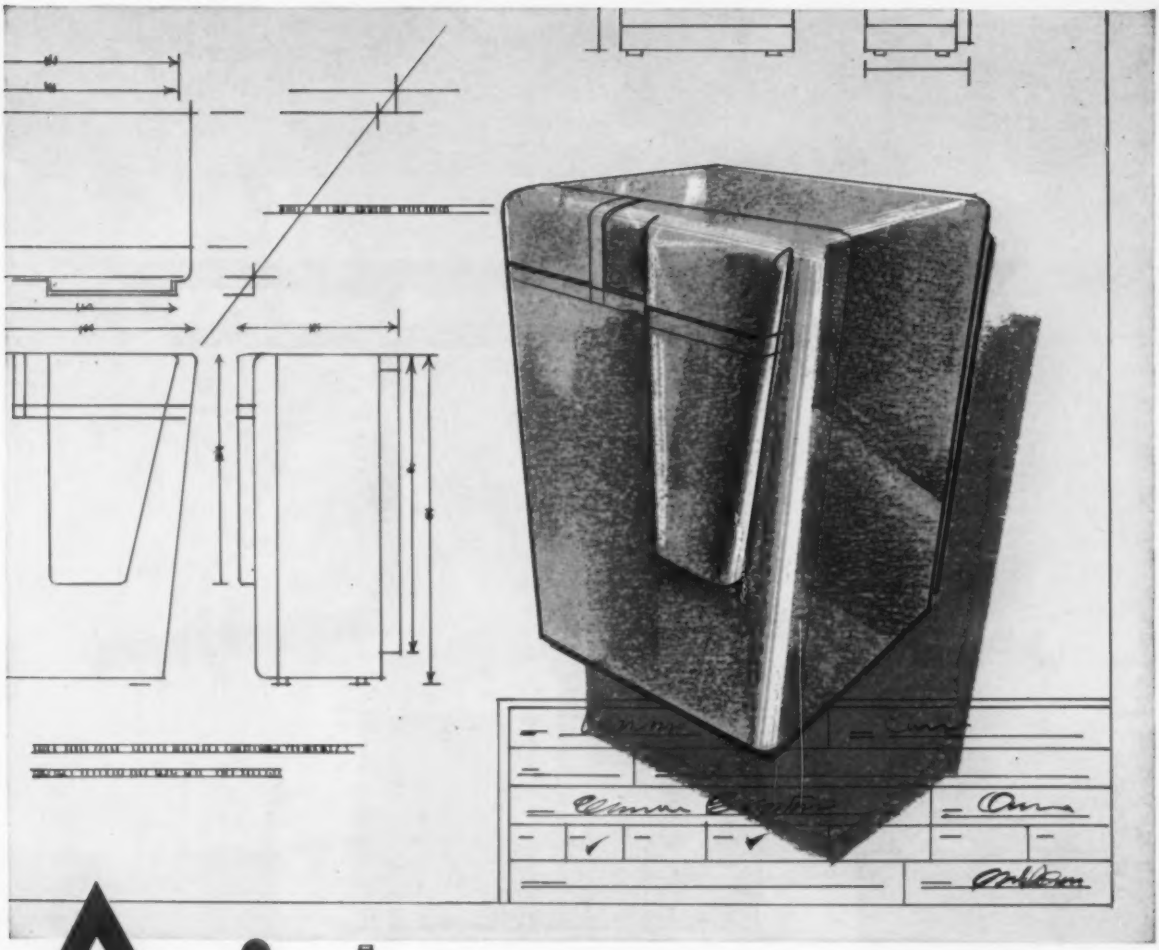
of partners William M. Goldsmith and Kim Yamasaki to the corporate name. Both hold the office of executive vice presidents. The three principals of the firm are shown at left, above.

EXPANDING: **George Nelson & Company, Inc.**, New York, with the establishment of a branch office at Hahnenstrasse 16, Cologne, Germany. Eckhart Trenkle will head the new office.

GOING PLACES: **Geron Associates, Ltd.**, Toronto office to 63 Howden Road, Scarboro; and the Montreal office to 5064 Western Avenue, Montreal 28.

NEW SERVICES: Offered to customers by **Associated Designers, Inc.**, Maplewood, New Jersey, a complete client service program to include planning, design, engineering, marketing, and merchandising. Architects Kordys & Oldziey, of Wayne, New Jersey, will be affiliated with ADI as consultants.

CLOSING: Tattoo designer **Henry d'Annesa** (ID, August, 1960), in accordance with a New York City Board of Health law prohibiting the non-medical tattooing of human beings.



Arvinyl... the metal laminate with the extra dimension that brings your design to life!

You imagine it in . . . you plan it in . . . you draw it in. But, unless it can be *manufactured in*, your design is handicapped from the start!

Arvinyl, the preferred metal laminate, is kind to design ideas. *It includes a full depth of services* for solving the manufacturing as well as the material problems.

Today every designer is well aware of the handsome durability of vinyl-on-metal and how it can improve product life and looks. But did you know that only Arvin lets you take the fullest advantage of these qualities?

A pioneer in the field, Arvin has the experience, research, engineering and manufacturing facilities to take your design and produce it exactly as you want it, or show your clients how to do it.

For example, six new welding techniques that leave the vinyl unmarred, or hide the damaged area, are Arvin exclusives. Aluma-Lok, a new method for joining panels to eliminate need for deep draws, is an Arvin development. And, Arvin knows the proper sequence of fabrication steps that assures best results for your product.

These are but a few of many Arvin research benefits that give you more design freedom to create products with the exact looks you want. Challenge us with the design problem you now have! There's no obligation.

Arvin offers free consultation service as well as plastic tooling and model shops for prototypes.

A few of the many top name manufacturers who specify Arvinyl include:

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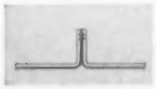

Exterior surface of vinyl unmarred by weld. Vinyl doesn't have to be ground away before welding.

An excellent weld when assembly of trim or other component parts hide the point of welding.

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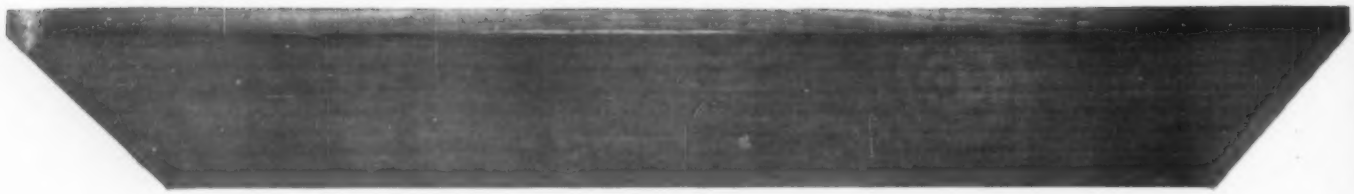
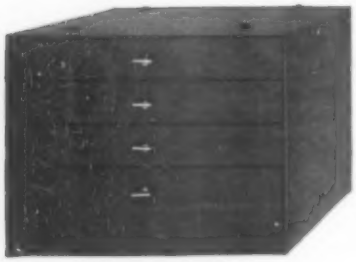
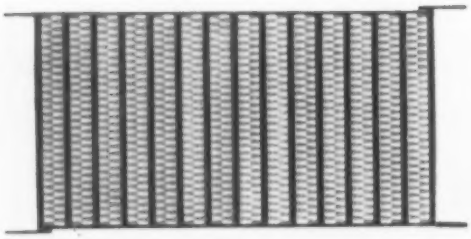
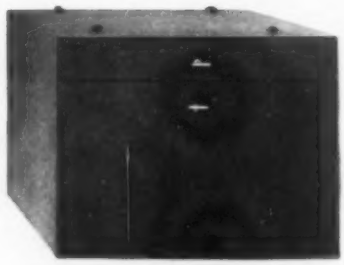






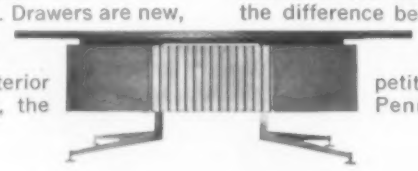


Base for a Beautiful Design– Stainless Steel

Start with Stainless Steel. Strong, scratch-resistant, scuff-resistant and corrosion-resistant Stainless stays bright and attractive. Then take a new idea—the "V" leg, which utilizes the principles of tension, cantilever and compression to make the most of the strength of Stainless. Since it is welded together under tension, the "V" leg is far lighter and stronger than it would be if it were conventionally formed or bent.

Add connecting members. The load-bearing frame is poised lightly and gracefully on four contact points.

Hang drawer unit boxes from the frame. Drawers are new, too. They are a box within a box—25% *lighter*—rigid and quiet because they are separated by urethane foam. The interior box is made of light-gage steel sheet, the exterior vinyl-coated steel sheet available in any color.



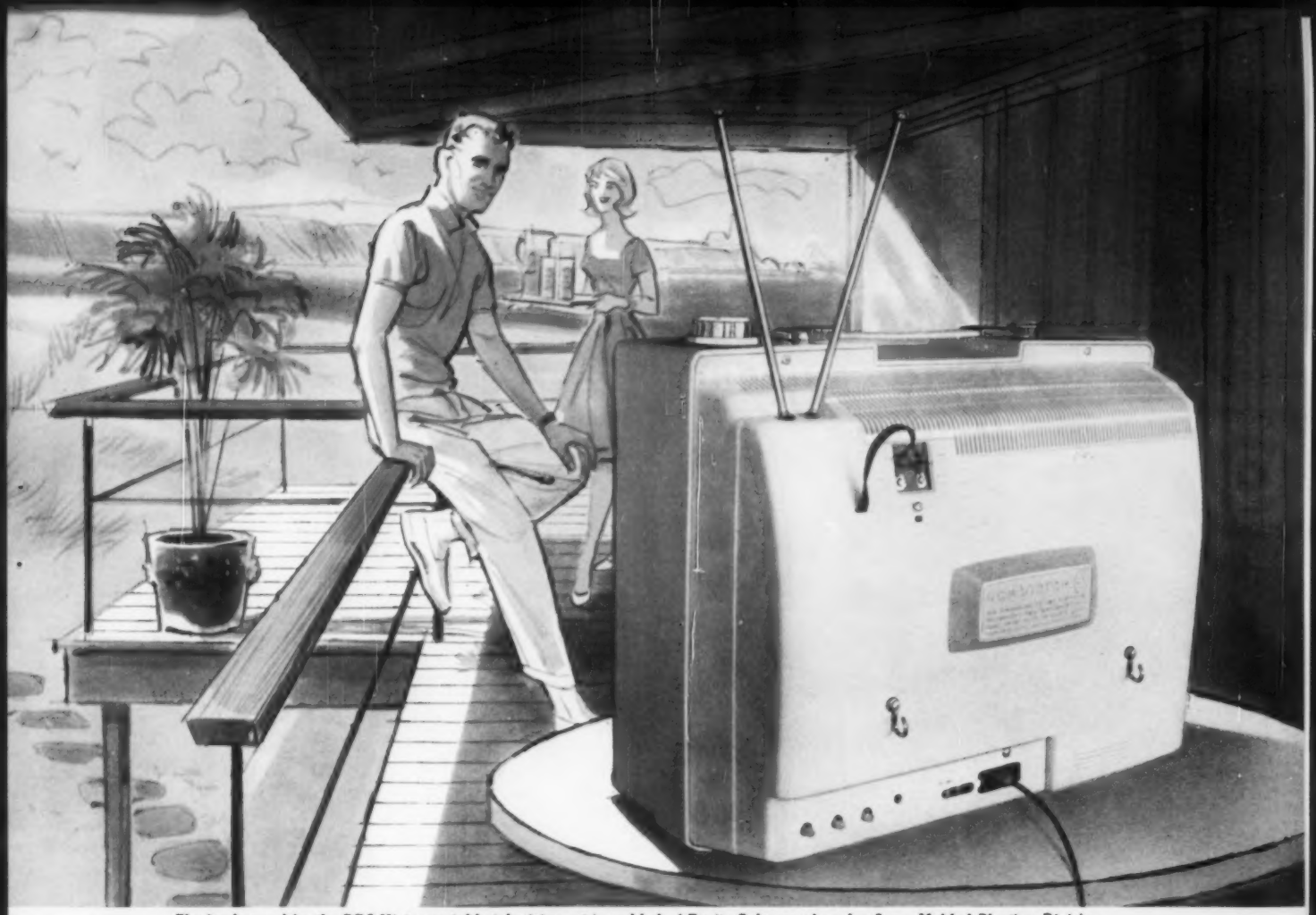
Add a handsome, decorative panel made of gleaming, textured Stainless Steel for permanent good looks.

The top completes the desk. For a traditional appearance, you may select wood laminated to steel. It won't warp.

This Stainless Steel leg design is the solid foundation for a whole family of modular furniture—tables, chests, chairs, hassocks, cabinets or couches. Write for "Study in Steel" that tells the full story. You'll see how Stainless makes the difference because of its strength and lasting beauty. Stainless Steel is the designer's metal. Use it often; it gives your product a competitive edge. United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

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

United States Steel USS TRADEMARK



The back panel for the RCA Victor portable television set is molded of Tenite Polypropylene by Amos Molded Plastics, Division of Amos-Thompson Corp., Edinburg, Indiana.

A great show by a plastic—
TENITE POLYPROPYLENE

Long-run performance and a handsome appearance—two design essentials—are featured in the back panel of the RCA Victor portable TV set. The material that made them possible is Tenite Polypropylene.

Tough, durable Tenite Polypropylene takes the knocks and jolts, protecting the delicate internal components of the set. It withstands elevated temperatures—articles made from it can even be sterilized. Yet the flow properties of Tenite Polypropylene result in such injection-molded details as a leather-grained texture, clean ventilating slots, and sharp, three-dimensional lettering. And having the lightest weight of any solid plastic is its special contribution to portability.

This las' property can often mean more finished pieces per pound—one of many economies found in Tenite Polypropylene. For example, its "built-in hinge" property (one sample flexed a million times without cracking) permits two-part articles to be molded as one piece, without need for conventional hinging. Another important saving results from the unusual strength of Tenite Polypropylene—products can have thinner walls.

Tenite Polypropylene may also be extruded into a wide variety of things—clear, printable, heat-sealable film...weather-resistant monofilament...sheet for thermoforming...insulation for wire...pipe for chemicals. And wherever color is important, Eastman offers more than 42,000 colors and color effects, in custom-compounded Tenite Polypropylene or in color concentrates for mixing with the uncolored plastic.

The advantages of Tenite Polypropylene may include several benefits for your product, and Eastman technical representatives and laboratory facilities are ready to help you find out. For details on this exciting new Tenite plastic, write EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

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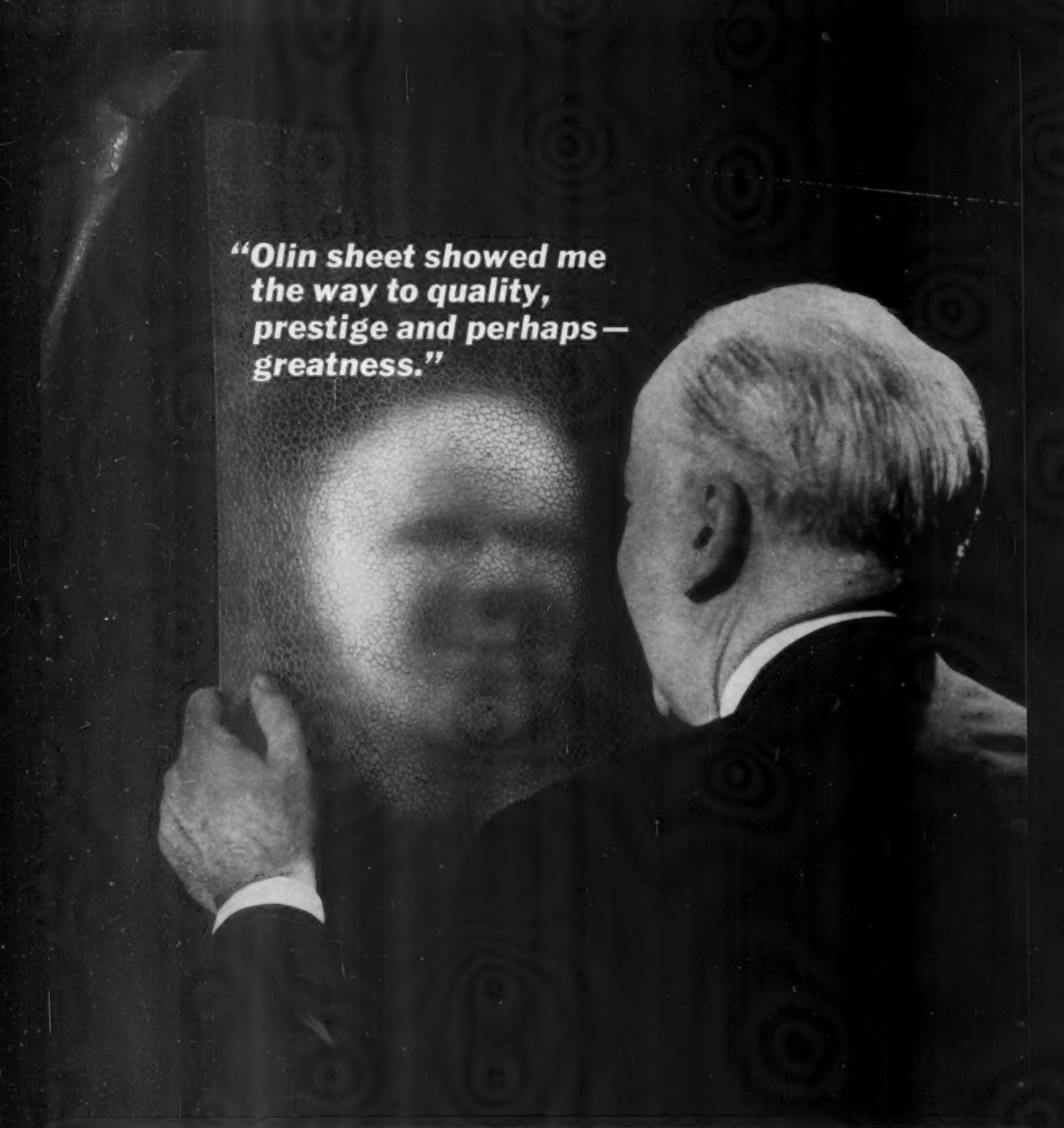
POLYPROPYLENE
an Eastman plastic



"I was proud of my company's product. I liked my aluminum supplier. But I believe in keeping up with the times. When my design engineers praised Olin's creative thinking in special metal applications to make products more saleable, I thought I'd talk to them. Olin recommended a pebble grain sheet—claimed it would give better eye-appeal after painting. Nothing new about pebble grain pattern on aluminum—but something very new about Olin's version—richer, sharper definition, greater three-dimensional effect. Now my product makes my competitors' seem commonplace by comparison. Olin has made me a man apart because they cared." **Nobody thinks in aluminum better than Olin—from alloys to marketing. Want to talk to our consultants? Call your Olin Aluminum Distributor or Sales Office.**

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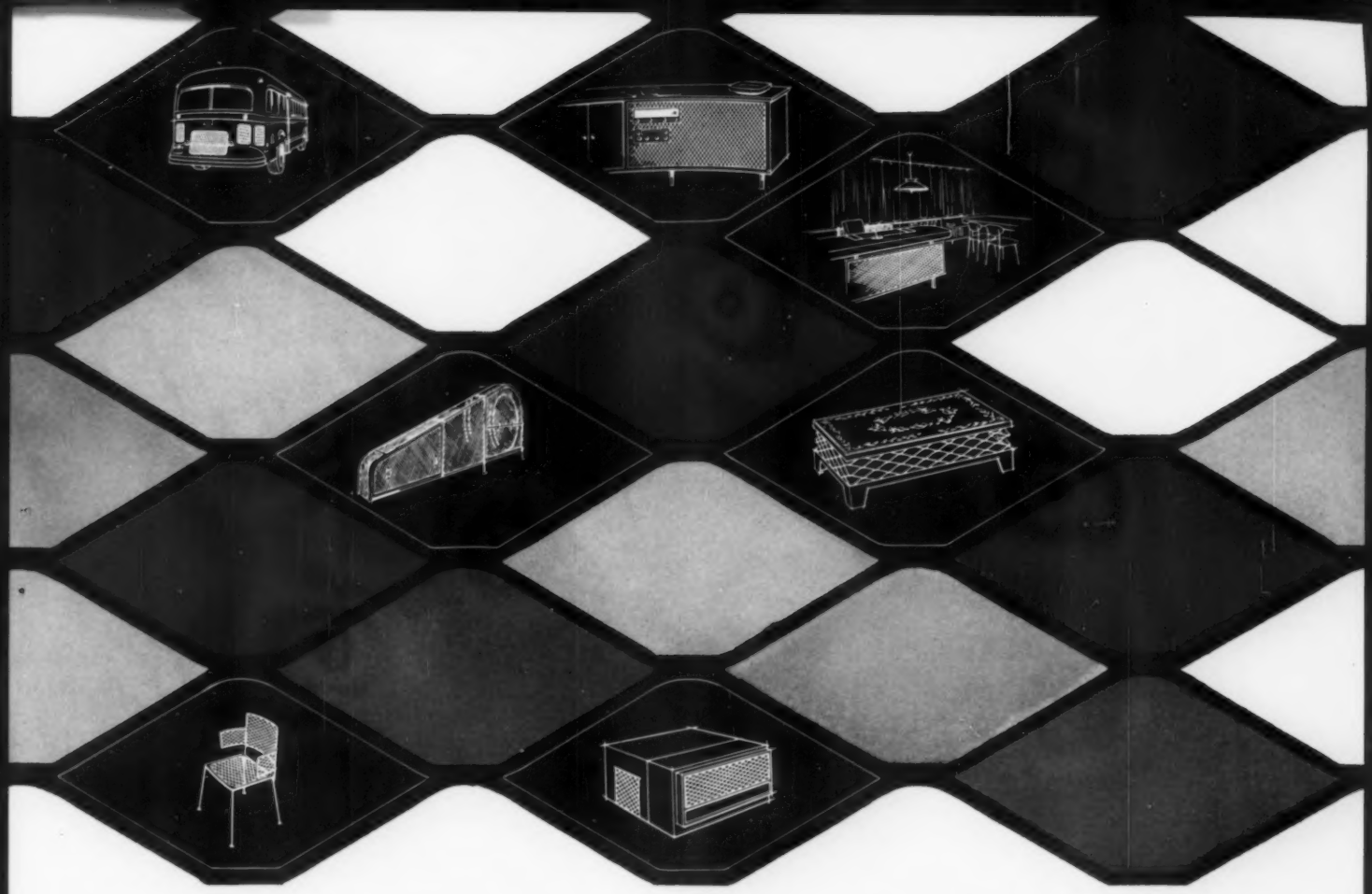
ALUMINUM

Get a new perspective on your product. Do it with steel wire!

Ten years ago, Charles Eames designed the steel wire chair shown here for Herman Miller Inc. In a serious exploration of the use of steel wire, Eames took this good and familiar material and used it in a unique new way for the home. By exploiting the facts that wire performs best in tension and lends itself to multiple welded connections, Eames developed this design in his continuing search for "minimum structure" for a chair. Today, after a decade of continuous production, the chair remains a design example for its exceptionally high weight-strength ratio as well as its comfort. ■ Wire is cold drawn through dies, and this cold reduction gives wire its great strength and smooth surface. It is available in a vast range of sizes, in hundreds of steel chemistries, just about any surface finish, and in strengths that range up to over 600,000 psi. Wire can be fabricated in high speed automatic wire forming machines to form complex products to high performance standards at very low cost. At American Steel and Wire, we draw round, square or hexagon wire, and can ship it in 1,000 pound coils that do not contain a single weld if you desire. ■ Our wire is manufactured to your specific end use product requirements, and is warranted to meet your specifications. ■ When you consider the usefulness of steel wire, is it any wonder that so many designers are looking at their products from a new angle in the hope that they can make a stunning design breakthrough with steel wire? After all, Charles Eames did it. American Steel and Wire, Rockefeller Building, Cleveland 13, Ohio. ***Innovators in Wire***



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The angular cut of some patterns provides a unique directional property that screens off any view, yet lets sound or air come through—a quality that makes them ideal for use in air-conditioner and hi-fi grilles, and in many other types of screening or shielding.

See the exciting possibilities of these versatile patterns—in the new booklet, "USG EXPANDED METALS: VERSATILE MATERIALS FOR INDUSTRIAL DESIGN, MAINTENANCE, SAFETY." Tell your U.S.G. representative you would like a copy, or write to Dept. ID-11, 300 W. Adams St., Chicago 6, Ill.

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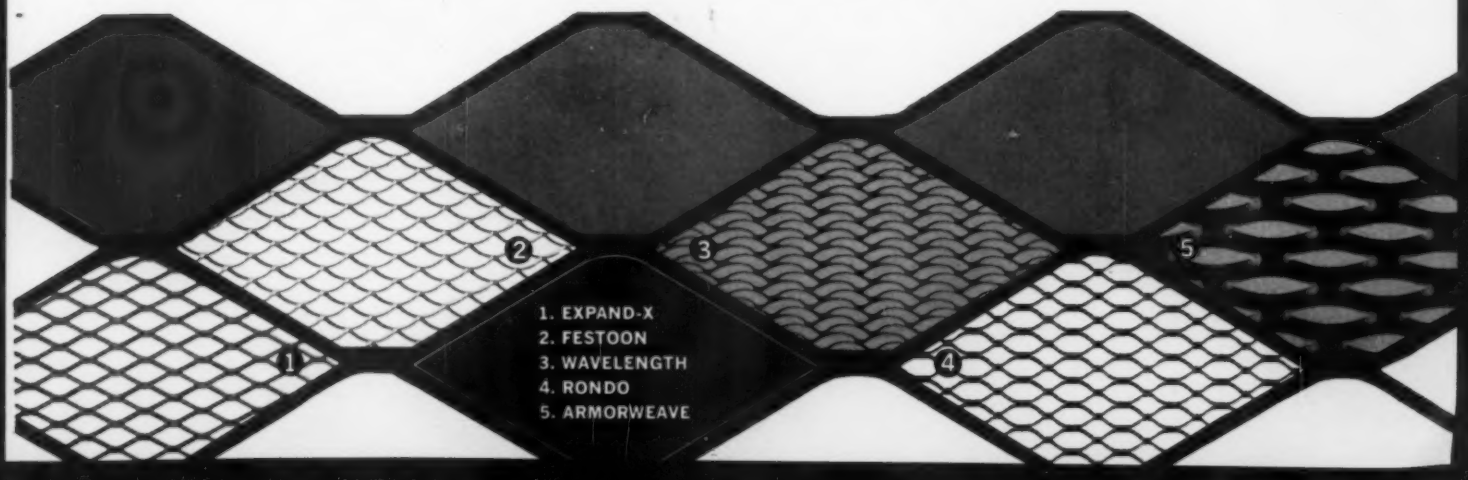

Motor Scooter by Lambretta

When the brightness lasts, you know it's Nickel-Chrome Plating

On cars, bikes... yes, even motor scooters, when the plated parts stay bright-looking despite the worst kind of wear—Nickel-Chrome Plating is the reason why. The stylish scooter shown above—which everybody seems to be buzzing around town on—has more than 30 parts coated with this quality finish for lasting protection against rain, dust, scrapes and bumps.

Plan to use Nickel-Chrome Plating for high-styled beauty that lasts and lasts. Almost any basis metal or fabricating method can be used. For more information on this durable, attractive, corrosion-resistant finish, write for your copy of *The Contribution of Nickel and Chromium to the Durability of Decorative Plating.*

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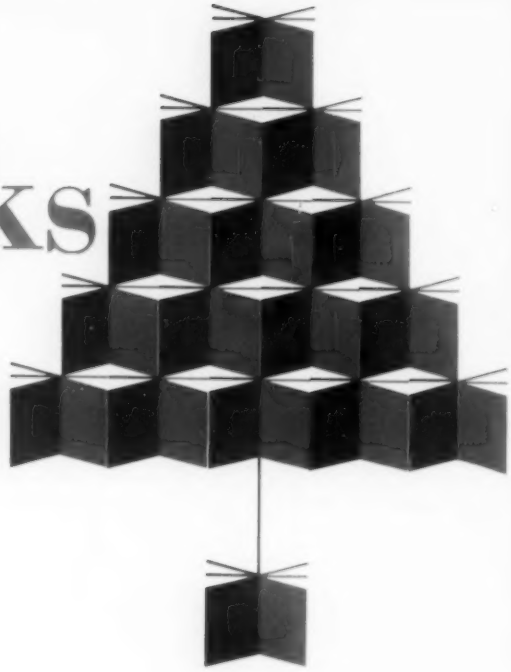
Whitney Books



THE PERSONAL HOUSE The ideal Christmas gift, *by Betty Alswang and Ambur Hiken*, at $13.50, will be welcomed by professional and layman. A large (12″x15½″) beautifully printed book with over 100 illustrations, The Personal House shows homes of artists, writers, an actor and actress, photographers, and others in the arts, each of whose houses are in one of six art colonies surrounding New York City. There are seventeen houses altogether, and each one is shown in exhibition size photographs made possible by the unusually large format of the book. The text describes what kind of people these artists are and shows how their houses reflect their personal needs. Most of the houses shown in The Personal House are ordinary-looking from the outside — often, in fact, they are the typical uninspired builder houses such as are found all over the country — it is what their owners have done to their houses that is fascinating to study. The two houses in the book that were built by the owners show, even better, what houses can be like when they are designed to satisfy the everyday living requirements of their owners without regard for fashion.

INTERIORS BOOK OF RESTAURANTS *by William Wilson Atkin and Joan Adler*. 224 pages, 9 x 12, 400 illustrations. $15.00. Leading magazines have high praise for this first book on restaurant design. Food Service Magazine says: "Here at last is a book that is more than a book; it's a genuine work of art for proud display." Restaurateurs and architects, as well as common everyday gourmets, are advised by Architectural Forum to read this book. *Interiors Book of Restaurants* embraces both the basic considerations and procedures of opening and running a restaurant, and the design data and decisions to be dealt within planning it. Subjects covered in the text include: economic factors, types of restaurants, locations — urban, suburban and highway — design program, lighting, color, graphics, materials and equipment, and the like.

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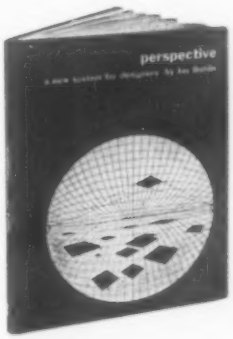
INTERIORS BOOK OF OFFICES. 163 pages, 300 illus. $12.50. A collection of the best office designs of the past ten years by leading designers with an essay on the current trends of office design in this country, and descriptions of materials, furnishings, and finishes in use. From reception areas right through to presidential suites, here are methods of achieving maximum utility and beauty for every size and type of office interior. Thousands of architects and designers have already bought this useful volume, and the professional press has had high praise for the work. Besides illustrating the most imaginative recent office designs, *Interiors Book of Offices* has a chapter on partitioning systems, an essay on design by Gerald Luss of Designs for Business, and picture essays of two complete complexes, one in the country and one in the city.

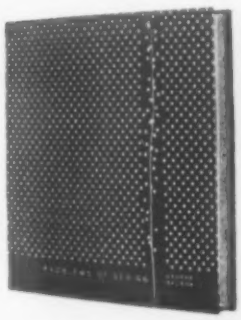
PERSPECTIVE—A NEW SYSTEM FOR DESIGNERS *by Jay Doblin.* $6.50. Here is a unique development — a new system of perspective drawing which obviates the need for the traditional complex drawings. This is a simplified method of visualizing and reproducing a 3-dimensional object quickly and accurately. Anyone who has ever struggled with this vexing problem will profit from this simpler method for probing its mysteries.



DISPLAY, *edited by George Nelson.* 190 pages, 312 illus. $12.50. Shops, showrooms, displays, and exhibitions by 125 designers and architects of international repute with a lively interpretation of their design objectives and values by George Nelson, himself a designer of considerable note. The purpose of display is to capture the attention and interest of a transient audience. This books tells how to accomplish this task.

LIVING SPACES, *edited by George Nelson.* 146 large pages, 232 illustrations. $7.50. Every present or future homeowner will find here substance which will clarify and enlarge his views on how the home should be and can be designed. Every interior designer will find the book a source of creative and imaginative ideas for his own work. Here are beautifully reproduced designs for home interiors by eighty-one of the world's leading designers.

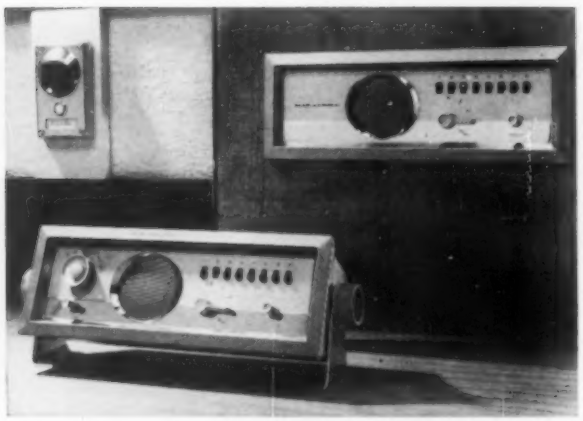
PROBLEMS OF DESIGN, *by George Nelson.* 206 pages. 116 illus. $10.00. George Nelson's approach in this work is as profound as his range is wide. He does not pretend to hand out easy solutions, where he does not believe they exist. The depth and sincerity of the discussions help towards a better understanding of design in the modern world —in architecture, the arts, and general application.



PACKAGE DESIGN, *by Ladislav Sutnar.* 128 pages, 545 illus. $9.75. "The Force of Visual Selling," the subtitle of this book, is a good summary of its thesis. The author, himself an internationally renowned designer, has chosen 500 package designs from world-wide markets. Why they are successful is the theme of this book, which leads to a fresh definition of packaging, its aims, and requirements.

THE MEASURE OF MAN *by Henry Dreyfuss.* $4.95. A new portfolio of human measurements with 16 loose-leaf diagrams, 2 life-size charts, and a 16-page booklet of written information. Basic data based on small, medium and large human frames with details of hands, feet and head; various work positions; and sizes and growth patterns of children. This portfolio is the summation of data collected over many years.

dave chapman:
the consumer comes first



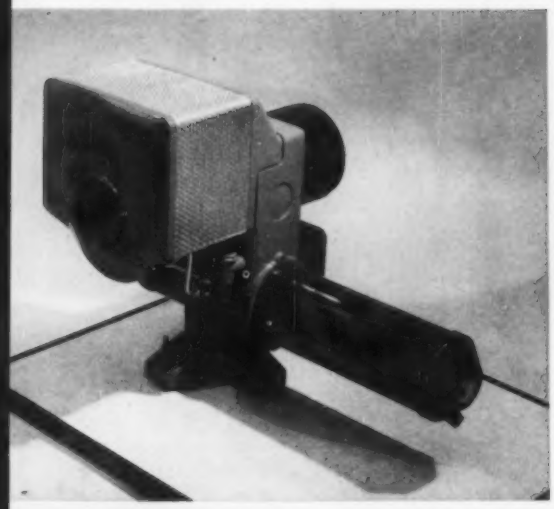
chapman talks design

Dave Chapman has been a successful industrial designer for over 25 years because he has succeeded in designing products for people. Not every manufacturer does. Says Chapman, "Too much of marketing has been a kind of seduction. We have to deal in real values. We have to make things so they'll be rewarding to people. In our basic approach to any design problem, the consumer is always our primary point of reference."

Chapman has maintained this outlook about people since his first venture into design in 1933. He was one year out of Armour Institute and working in Montgomery Ward's architectural department designing branch stores when Sewell Avery, one of the Depression years' most creative merchants, asked him to build a newly formed product design department. Under his direction 18 designers, in one of America's first product design organizations, applied the famous concept "Form follows function" to retail marketing. Says Chapman of Avery, "His was a clear voice out of the confusion of visual and economic chaos, insisting that goods well-manufactured and well-designed, from good materials, would sell."

And sell they did. Dave Chapman left Montgomery Ward in 1936 with new horizons in view. But unlike other early practitioners of change, who gravitated to New York, Chapman opened up shop in Chicago. It was the heart of industrial America. And Chapman today can look back on an unbroken string of design successes, awards and honors including a stint in 1950 as the youngest man ever to hold the presidency of the American Society of Industrial Designers.

What has been the biggest change in industrial design since those early years? The selling process. The sale used to be made by the retailer in his shop. "Now the sale is designed at the conference table of the manufacturer. The sale is made in a designer's office, on television, or in the pages of a mass magazine. The designer, therefore, has changed from a stylist to a liaison between engineering and the consumer." Therein lies the designer's severest problem. Assuming he starts with satisfying people in product design, his job isn't done until he can convince a manufacturer to think of design and markets in long-range terms. "Too many manufacturers

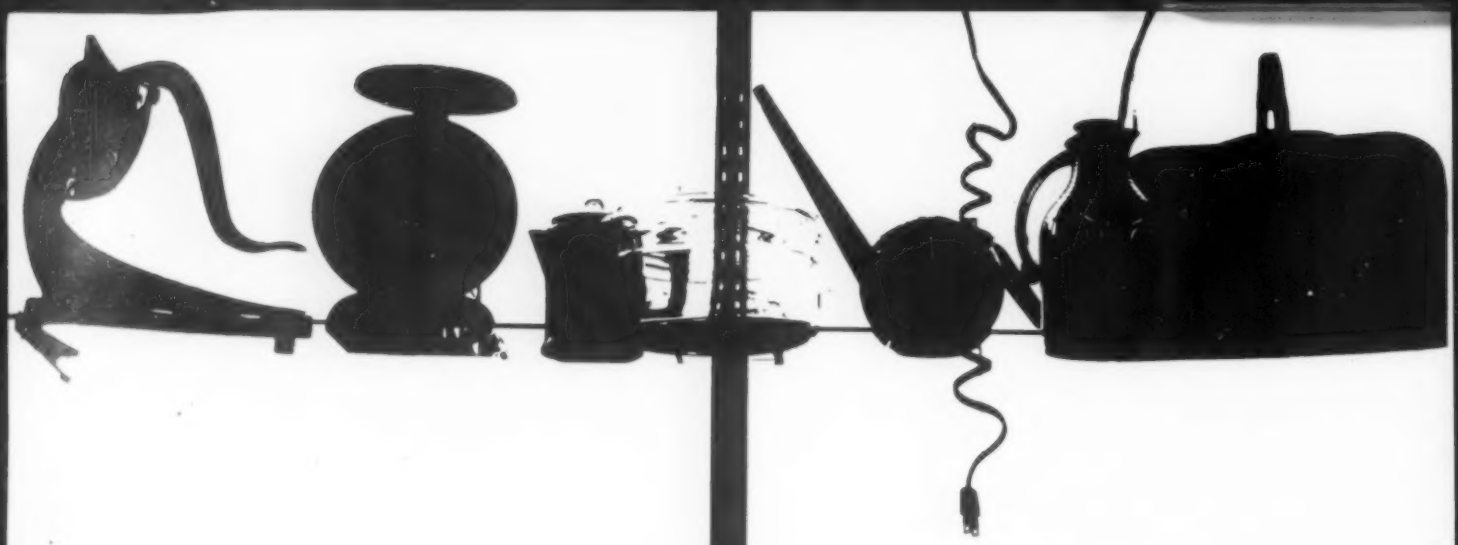


look at design merely as a crash-rush-got-to-have-it-ready-for-the-June-market problem. First, they should make design a major marketing force in their future planning; second, once they have a good design they should refrain from seeking out all the reasons why it *can't* be produced."

Here is the Chapman formula: "The surest route to increased sales: working closely with our clients for design solutions that meet consumer demands for improved function, reduction in cost to the consumer, and/or more pleasing or gratifying appearance. When you achieve these, the consumer will have a real reason to buy, a salesman will have a product of real value to sell, the manufacturer a product of real integrity to produce."

Also in the formula: picking the right material for the job. Chapman decries the lack of research that is being done in industrial design. He wants to know more about what can and cannot be done with materials, so that when he or one of his 35 designers sits down to design an item, their considerations of the mechanical possibilities and limitations are unlimited.

Considering his preference for known possibilities, it is hardly surprising that so many Chapman design projects use one of the most versatile of all design materials: steel. A few examples are shown above. Cold-rolled steel gives durability and handsome form to the "hatbox" vacuum cleaner. The one-piece stamped steel faceplate on the home intercommunication system is treated with *three* different finishes (vinyl-clad steel is used on a more deluxe office unit). Stamped steel is used throughout the oil furnace burner for durability, and welded steel tube does double duty in the fuel nozzle where it must withstand both heat and pressure. For a hard, smooth, wearable surface, chrome plated steel is used on all the major work surfaces of automatic mail openers and addressing machines. Both formed steel and steel weldments are used to give durability and pleasing appearance to the combine harvester-thresher. The supermarket refrigeration case depends entirely on steel to stand up under rugged, daily wear, and to give it consumer-attracting style. The moral: no other material can match steel's ability to offer the designer the freedom of designing both functionally and aesthetically.



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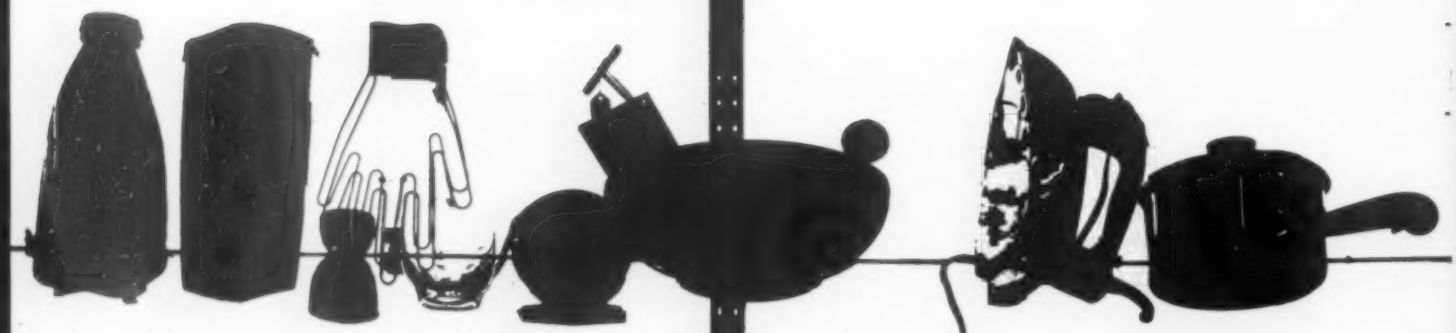

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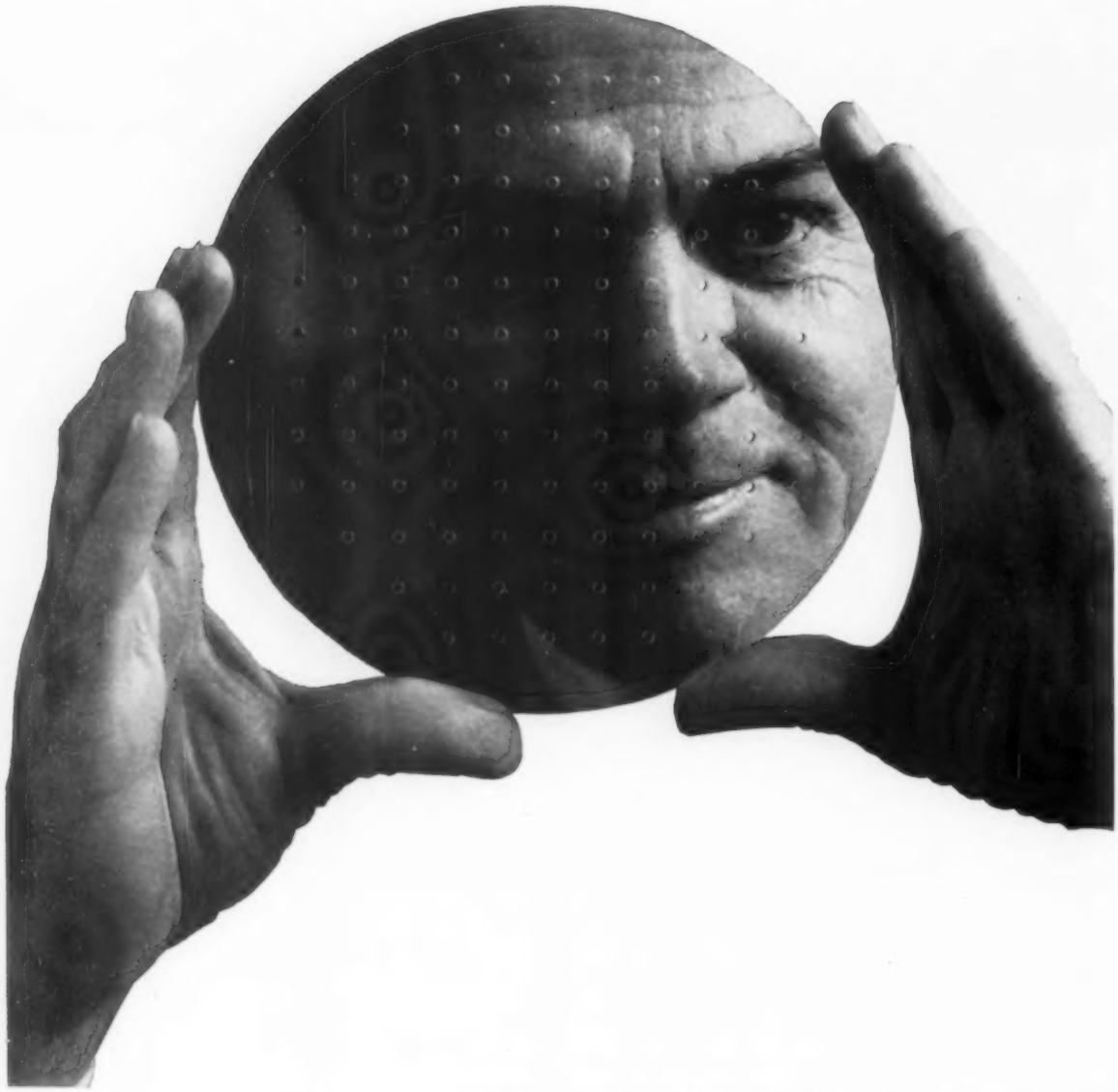

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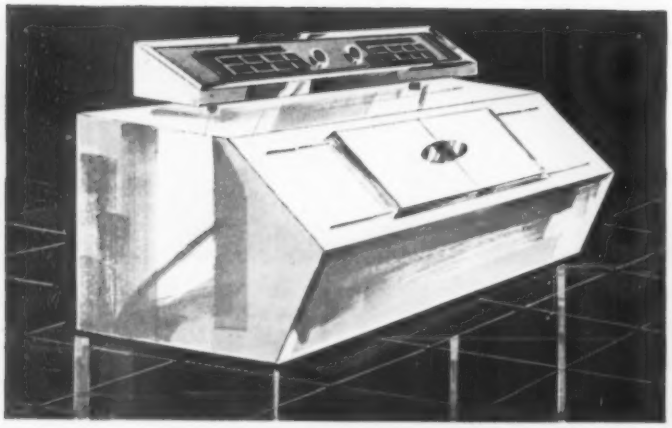

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Armco ALUMINIZED STEEL Type 1 and Type 2 not only combine the surface characteristics of aluminum with the strength of steel but have unique properties possessed by neither steel nor aluminum alone. Consequently, they offer opportunities to improve performance and reduce the cost of many products.

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more efficient design

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THE 50-MEGATON UMBRELLA

IN SUBURBAN CIVIL DEFENSE OUR MOTTO IS: IF YOU CAN'T GET YOURSELF A RUSSIAN, SETTLE FOR AN AMERICAN.

An inescapable criterion for judging any design is its effect on people who use it. In many cases this is minimal, but there is a sense in which some products may be said to redesign the user. Tuxedos and canoes do it elegantly; chewing gum, obnoxiously; umbrellas, anti-socially.

The umbrella has survived the years in almost its pristine state, virtually unimproved by safety engineering. Take a perfectly decent person, expose him to the threat of a little rain, and he arms himself with an assembly of prongs and spikes that would make a Marine Corps raider olive drab with envy. Kindly old ladies who eat at Schrafft's are transformed into mobile booby traps, poking their barbed way along the sidewalks, utterly oblivious to how splendidly equipped they are to put out the eyes of everyone around them.

Is it the umbrella's form that invites rudeness? Probably not, for the form can be pleasing. Doormen wield it with rhythmic dignity; for theatrical effect — in W. C. Fields comedies or the funeral scene in "Our Town" — it is an unrivalled prop; and the parasol is traditionally employed by Oriental beauties not as a weapon but as an instrument of grace. The trouble is not form, but motive: rain (perhaps because we remember our origins) causes panic, panic causes rudeness.

Too bad. But we have bigger fish to fry us. Why worry about accidental assaults resulting from petty panics when we can worry about the proposed intentional assaults resulting from monumental panics? Consider the effect of that architectural womb of our time, the fallout shelter. No sooner have the design aims been formulated than the product gives rise to the attitude of the civil defense officer (see cut) so sharply and disturbingly created by Jules Feiffer. Apparently the question is not how to protect yourself from radioactive debris, but how to protect yourself from party-crashing neighbors who want to breathe your uncontaminated air. The obvious answer is to shoot them. That solution has already been given clerical sanction, but it is not uniformly pleasing to everyone. Anyway, it raises its own problems. Columnist John Crosby, for example, asks for an etiquette ruling on what to do if the bomb hits while you are having guests to dinner. He admits the efficiency of shooting them right there at the table, but rejects this as bad form.

Hematophobes, pacifists, and other poor marksmen plan to avoid that discourtesy by not letting their neighbors know they have shelters. They intend to camouflage them as rumpus rooms, wine cellars, herb gardens, and storage vaults. *The Wall Street Journal* reports one enterprising cave merchant who advertises delivery in plain brown trucks by workers pledged to pose as tv repairmen.

Although physicists have not agreed about the efficacy of any fallout shelter, hardly a day goes by without a psychiatrist, interior decorator, or political candidate's describing what the well-designed fallout shelter will be like. Well, if just *planning* a shelter causes us to entertain the prospect of machine-gunning the kids next door, we know what it will be like. It will be like hell.—*R. C.*

THE ANATOMY OF AN IMAGE The love affair that everyone has with Olivetti's fabulous corporate facade is serious enough to raise the question: will it last? The answer, of course, lies somewhere behind the facade. BY RICHARD MOSS

Although Olivetti has never hired a designer to give it a "corporate image program," the dashing figure that the firm cuts in the world is one of the best known and certainly the most talked about in industry. The name Olivetti evokes images of showrooms that look like art galleries, of the Lettera 22 portable dominating the design collection of New York's Museum of Modern Art, of advertising and public relations offices manned by writers and poets, of designer-management relations that seem to be any designer's dream, of an advertising strategy that, for the sake of esthetics, seems almost to avoid the inelegant business of selling office machines, of Adriano Olivetti, whose nonconformist business policies are supposed to have broken all the rules for business success while Olivetti went along registering increasingly gigantic profits, and of a workers' welfare program so highly evolved that one

Opposite: poster by Mil Dudovich, 1928.


Olivetti
Olivetti

Lexikon 80 standard (top), 1948, and Lettera 22 portable, 1950, designed by Marcello Nizzoli.

English visitor to the Olivetti welfare installations in Ivrea is said to have asked his guide if it wasn't just "a coincidence" that Olivetti also produced office machines.

It is not a coincidence, any more than it is Olivetti's main objective in life to place typewriters in museums. But subtracting the romantic elements from Olivetti's exotic personality, we can ask just what goes into making one of the most successful corporate faces in the business.

There are two rules. The first rule is to be modern, and the second is to begin early. The new symbol and logotype which Underwood Corporation introduced in 1958 (see "The U in Underwood," ID, May 1958) was one of several emergency operations intended to modernize a company that was a generation or more behind the times. But the veil of modern graphics did little to help, and not much more to conceal the technical and managerial backwardness of a company whose typewriters were issuing from its main plant, a grim vestige of 19th century New England factory architecture, in fewer and fewer numbers. Underwood is the classic example of arriving too late with too little. And as such it is Olivetti's direct opposite. Ironically, it was Olivetti who finally saved Underwood from financial demise by buying a third of Underwood's stock in 1959. Last year, it raised its holding to 70 per cent and fused its U.S. affiliate, Olivetti Corporation of America, with the older firm.

Olivetti's graphics, like everything else the firm puts its hands to, have been modern for decades. In the 1920's, when art nouveau was not yet quite dead and commercial artists were still cramming advertisements with all sorts of product information, and then wrapping it all up in splendid flourish of French curves, Olivetti was beginning to pare down to the bone. One poster from that period (page 51) consists of four objects in four blocks of color: a solid red background, the name Olivetti writ large across the top in yellow, a young lady in an undecorated white dress admiring her new typewriter, and the new machine. This poster, executed in 1928, was the forerunner of Adriano Olivetti's effort in the following few years to put Olivetti's approach to design on a solid modern footing, beginning with graphics.

A young man in his late twenties, Adriano had taken his engineering degree at Turin's Polytechnic Institute, served a short apprenticeship as an unskilled hand in the Olivetti factory, and then gone off to the United States in 1925 to study production and organization techniques. He returned to Italy the following year and hired Turin's best engineers to execute a program for overhauling Olivetti's industrial organization (e.g., changing from a piece-work system to modern analytic production lines). It quickly bore astonishing results. While Olivetti's labor force re-

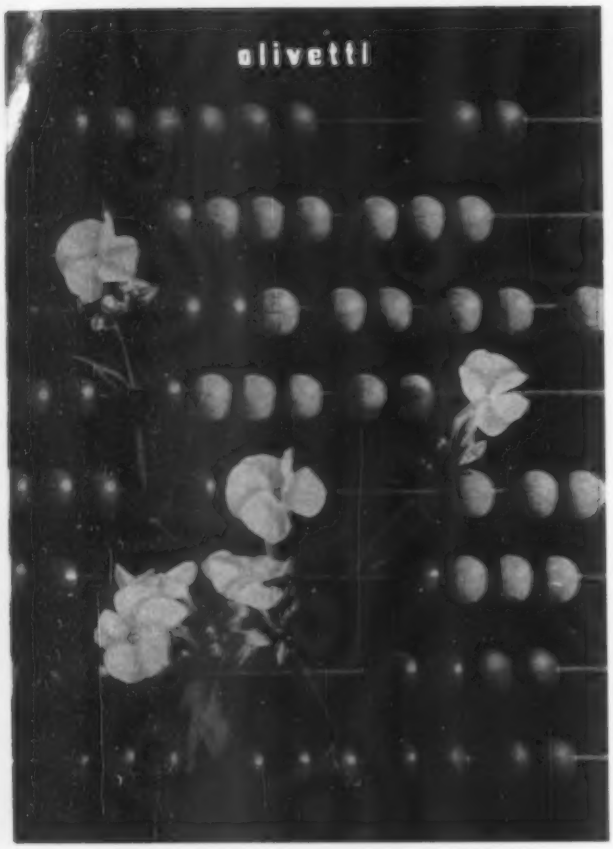
mained almost unchanged between 1926 and 1929, production rose 63 per cent. It was the first step in a corporate development that was to go galloping after the war. Today, Olivetti is Europe's number one producer of office equipment. From the production of 13,000 units of a single typewriter in 1929, Olivetti now makes over a million units a year of a line of typewriters (portable, semi-standard, standard, and electric), a line of adding and calculating machines (from the simple Summa Prima 20 adding machine to the sophisticated electro-mechanical Tetractys calculating machine), a group of accounting systems, electronic data processing equipment, teleprinters, office furniture, and machine tools. Production over the past ten years has quadrupled.

Olivetti's productive efficiency in 1929 not only permitted the company to grow during the depression that forced others to retrench or close shop, it also provided the base for the experiments Adriano was about to undertake in graphic design, and, a little later, in industrial design and architecture.

The general result of these experiments is Olivetti's fame today. They grew out of Adriano's very un-Italian desire to throw out the past. An admirer of Bauhaus rationalism, he got his graphic design during the formative decade 1929-39 from a group of artists and designers, all of whom were exponents of the new ideas coming down over the Alps from Weimar. They included Alexander Schavinsky, a former student of Moholy Nagy and Herbert Bayer at the Bauhaus; Giovanni Pintori, a young graduate of the short-lived Italian design school at Monza; the sculptor Constantino Nivola, and Leonardo Sinisgalli, an engineer and poet who headed Olivetti's Office of Publicity Techniques until the war. Nivola later emigrated to the U.S., where he executed the bas-relief that lines the south wall of Olivetti's glittering New York showroom. Pintori remained in Milan, where today he heads up one of the four Olivetti graphic design divisions and creates the biggest part of Olivetti's printed publicity.

These men hastened to throw out the cluttered realism and graphic clichés of the advertising of their time, substituting new "functionalist" techniques that gave Olivetti advertising the sophisticated simplicity that is still its main feature today. They made broad and imaginative uses of photography and typography, broke down the elements of an advertisement (background, pictures, slogan, text) and gathered them up again in unexpected compositions. Later on in the decade, Pintori began using original abstract designs in place of photographic effects. It is still his chief technique. In essence, this was the application of fine arts techniques to a wholly industrial problem. And as such it was just what Adriano Olivetti—who knew what he liked in art as well as what he did not like in

Tetractys printing calculator (below), 1956, and Summa Prima 20 adding machine, 1959; Nizzoli.



industry—wanted, and proceeded to encourage.

His next project was to bring the arts to product design. Here, however, he had a precedent. His father, Camillo Olivetti, had founded the firm in 1908 after visiting the United States (where he met people like Edison and Steinmetz, observed American production techniques, and taught engineering at Stanford). By the time he was ready to build the first Italian typewriter he was already thinking modern design while his fellow captains of industry were hurrying their new inventions to market in no particularly describable form (automobiles) or in forms surviving from those dubious applications of neo-gothic to the inventions of the 19th century (sewing machines, telephones) which strangely owed so much, and yet paid so little, to thinkers like Ruskin and Morris. In 1912, a year after bringing out his first machine at the Turin world's fair, Camillo Olivetti, who had designed the typewriter himself, wrote that "the esthetic side of the machine's design also received particular attention." He went on to declare that a typewriter should not be "ornate and in questionable taste. It should have an appearance that is serious and elegant at the same time." Olivetti people today are fond of quoting this remark, which they do on every possible occasion. They have reason. As an industrial manager's principle of design it is anywhere from ten to 50 years ahead of its time, and it is still, figuratively speaking, the main clause in any contract between Olivetti and its designers.

But it was not until Adriano Olivetti hired the services of Marcello Nizzoli, in 1936, that Olivetti product design began to look like what we know it for today. (And what we know it for today must baffle cynics still clinging to the adolescent notion that sales and "esthetics" don't mix.) At the time Adriano commissioned him to design the jacketing for the first of a new line of calculating machines which Olivetti was about to launch, Nizzoli was already a successful graphic and exhibition designer. Boon companion of Edoardo Persico (editor of the avant-garde architectural magazine *Casabella*, and Italy's chief propagandist for the Bauhaus ideas that Hitler's Germany was now rejecting), Nizzoli had collaborated with Persico in the design of one of the exhibits in the 1934 Italian Aeronautical Exposition. The exhibit consisted of photographic and typographic panels mounted in a variety of different squares and rectangles on free-standing floor-to-ceiling posts. This strictly geometrical formalism was new in Italian exhibit design, and Bruno Zevi, looking back recently, has observed that for Italian design it was the seminal idea of the decade. Obviously, Nizzoli was the man Adriano needed for Olivetti's new products.

During the past 25 years, Nizzoli has designed most

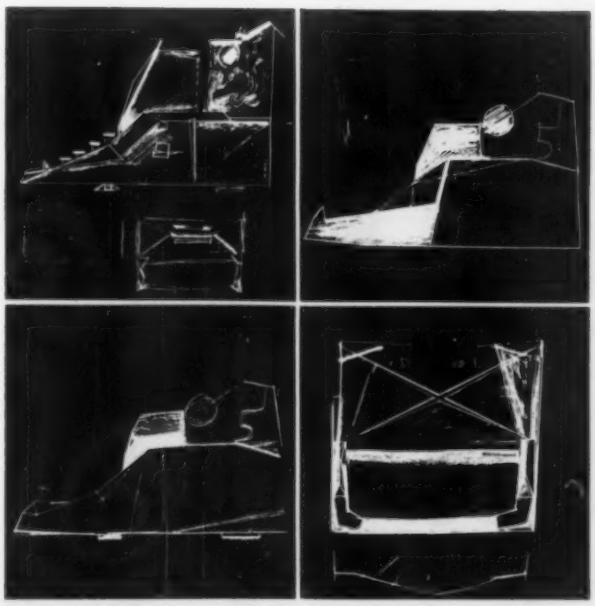
Giovanni Pintori (below), Olivetti's chief graphic designer for publicity, did brochure cover above in 1946, poster opposite in 1953. He has also designed Underwood's new electric typewriter, the Raphael.


olivetti

of the Olivetti products now on the market, as well as some of the company's advertisements. (Just as Pintori, whose bailiwick is Olivetti's advertising, also dabbles in product design. He is responsible for Underwood's new Raphael electric typewriter, marketed last spring. As an exercise in simplicity, one hopes it will be widely copied. Pintori also designed a new type-face to go with the new machine.) Although not an architect by training, Nizzoli has also collaborated on some of Olivetti's workers' housing developments in Ivrea, and he had several hands in the design and decor of Olivetti's sparkling glass headquarters in Milan.

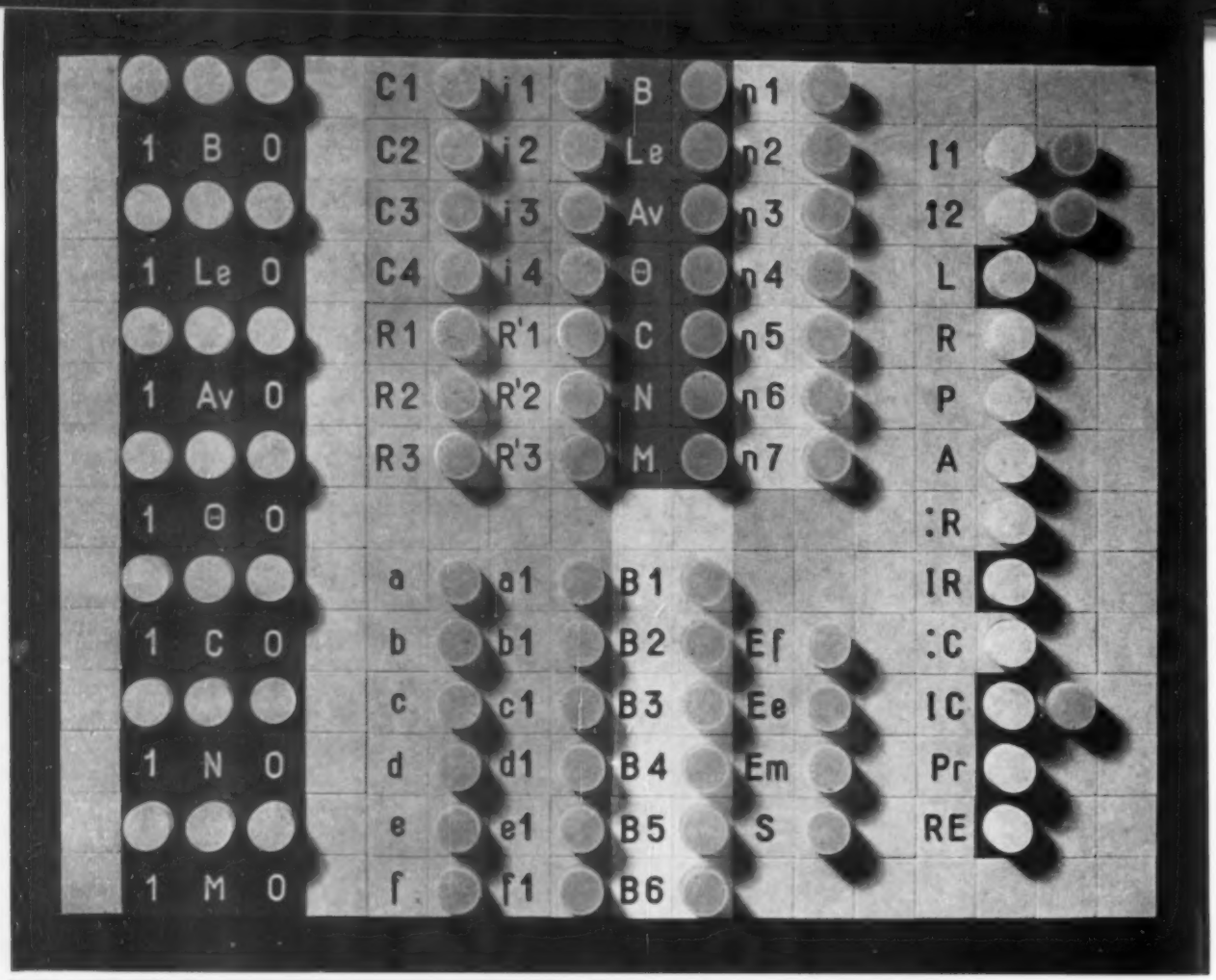
But Nizzoli's major design triumphs for Olivetti were the Lettera 22 portable and the Lexikon 80 standard typewriters. The Lettera 22 appeared in 1950 and has since become a favorite symbol of design excellence. With the Lexikon 80, which appeared earlier, in 1948, Nizzoli introduced two significant innovations. He abandoned the one-piece housing (or the old *attempt* at a one-piece housing) for a case in two neat sections, and instead of trying to hide the seam he boldly made use of it as a design motif. As for the Irish stew of levers, gears, springs, and knobs at either end of the carriage — Nizzoli managed to arrange all that in a continuity of body work. The instrument as a whole had the look of an industrial sculpture. "No company has yet produced a typewriter as handsome as the Lexikon 80," announced the Bulletin of the Museum of Modern Art in New York, on the occasion of the Olivetti exhibit which it mounted in 1952. And the judgment may still be true. (Since 1952, Olivetti products have been shown in a great number of expositions, most recently again last May by Zurich's Kunstgewerbermuseum.)

Sketches (below) for Diaspron standard typewriter (opposite) designed by Marcello Nizzoli (above.)



The Lexikon held the market for over a decade, until replaced in 1959 by the current Diaspron. The mechanism of the Diaspron incorporates a number of technical improvements over its predecessor, but whether or not the new Nizzoli design is an improvement is arguable. Those wide, graceful, sliding angles, contrasting sharply with the rounded solidity of the Lexikon, could be considered either very mannered or very original. It all depends on whether the machine's arbitrarily faceted surfaces remind you of crumpled cellophane, or of a diamond. But if the Diaspron design has earned Nizzoli a good deal of adverse criticism (as well as some ecstatic praise), it did not stop him from applying the same angularity to the Summa Prima 20, Olivetti's new hand-operated adding machine. Nor does it cause much doubt that Nizzoli, the incarnation of an epoch in design that may be coming to an end, is the Grand Old Man of Italian industrial design.

The most recent contributions to Olivetti product design have been made by Ettore Sottsass, Jr. Of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a b c d e f
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B Le Av Θ C N M
B1 B2 B3 B4 B5 B6
n1 n2 n3 n4 n5 n6 n7
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olivetti

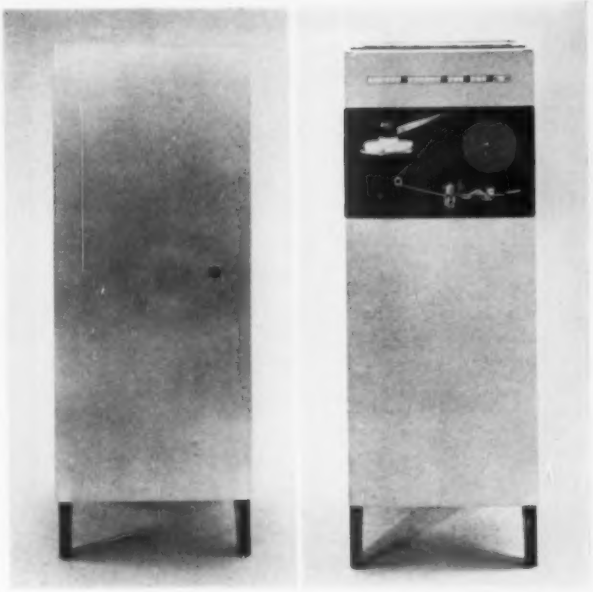
mixed Austrian and Italian parentage, Sottsass is an up-and-coming young man in his early 40's who was knocking around in architecture, interior, and industrial design (including four months in the George Nelson office) until Adriano tapped him in 1956 to design Olivetti's electronic computer, the Elea 9003, just introduced on the market.

At present this computer is of small importance against the backdrop of Olivetti's enormous production of office equipment. By the end of this year only a handful of Eleas will have been installed, while IBM's foreign affiliate, IBM World Trade Corporation, has already placed hundreds of IBM computers in European business offices. But the Elea is the newest and most imposing example of that flair for modernism which is such a big part of Olivetti's stock in trade. If the first IBM computers appeared in 1953, and if there is now a new American computer on the market every week, Olivetti has made up for this delay by bringing out a computer that, as a piece of industrial design, anyway, is already several years ahead of its time.

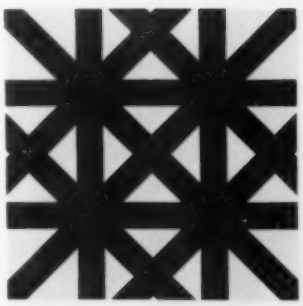
In designing the Elea, Sottsass and his collaborators had to answer two general demands, one having to do with production, the other with their own esthetic theory.

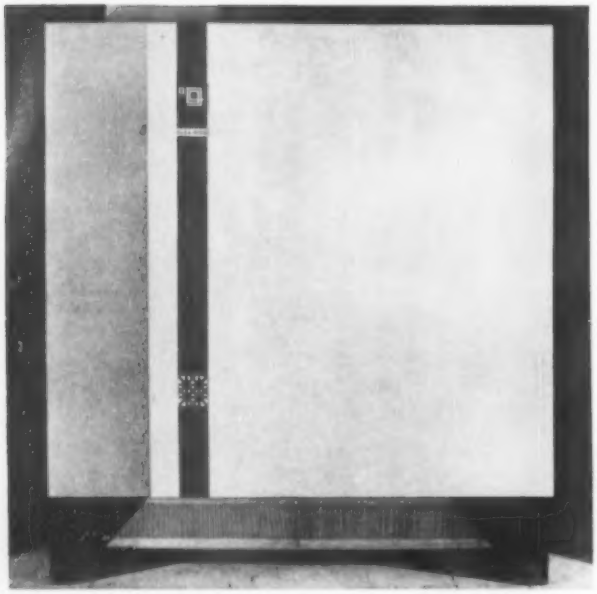
Olivetti's highly decentralized production facilities only tightened one knotty problem common to all computer design: how to standardize the disparate members of an EDP system while minimizing weights and volumes, facilitating the assembly techniques, and remembering that each installation must vary according to the customer's particular requirements and the floor space he has available. Sottsass answered these general requirements by starting out with standard racks to hold the electronic and mechanical components in each of the chief members of the system: the computer, the control console, the tape reading/recording units, and the perforated band-reading units. Although these members differ in a multitude of design details, certain motifs are general. Each rack is a self-supporting, spot-welded metal frame standing on identical footings (vertically adjustable castor-legs housed in machined aluminum castings). The racks are clothed for the most part in standardized panels of silver anodized aluminum. Access to the internal components of each member is provided by swinging doors or removable panels, or both. Finally, the computer is connected to its auxiliary equipment, disposed along the flanks, by an overhead cabling system which permits installation of the Elea (unlike other computers, whose cabling is underground) without tearing up and remaking the customer's flooring.

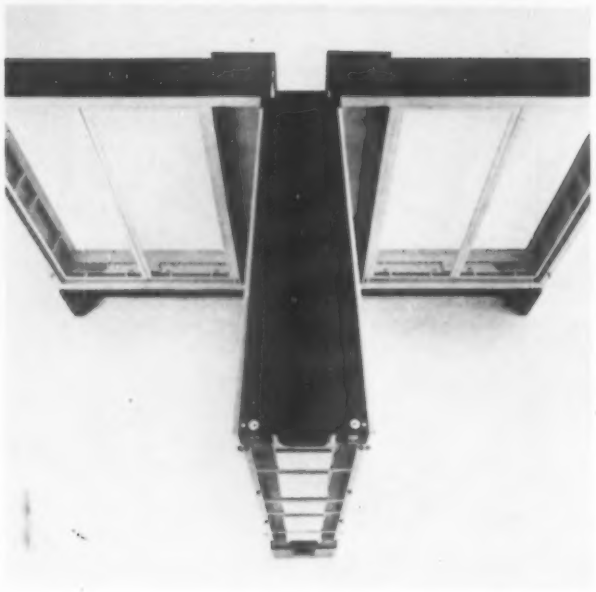
Thus, for example, the main computer member consists of individual racks (called "wings") which



Opposite page: close-up of Elea control panel and general installation viewed from control console. Ternions (one wing of which is open) stand in line behind console. Tape storage is at left, reading/recording units at right. Above: two views of reading/recording units. Below: Elea symbol; designer Ettore Sottsass, Jr.







Top: standard wing racks forming ternion into which main electronics are built. Below: face of one ternion wing clothed in removable aluminum panel.

are hinged together in the wide dimension in groups of threes ("ternions"). The necessary number of ternions, depending on the required computer capacity, are added on in the long dimension. The control console is attached to one end of the line of ternions. The outside wings of each ternion swing open on caster footings to allow access to the electronic components. These two outside wings are faced in aluminum panels which hang on the frame as simply as a coat on a hook, removable for inspection. Each ternion is joined to the next in line by an "extension box" which, at certain points, serves as support and point of entry of the overhead cabling.

As for the esthetic problem, Sottsass has a lot of ideas about what office equipment in general should be, and they all begin with the assertion that design-as-sculpture is at the point of no advance. "Why not let Chadwick do the sculpture?" he says, suggesting that the various forms of personalized design of office equipment can only create—have so far only created —a visual confusion in the office which is inconsistent with technology's progress in rationalizing the work that has to be done there. In designing the Elea, Sottsass tried to get away from personal expression and to replace it with an esthetic based on the simple rationalization of labor.

At first glance the Elea looks austere, but perhaps a better word is "objective." In the overall view and in its details, the Elea is a composition of squares, triangles, and rectangles: design's most primitive (and perhaps its most sophisticated) forms. The designer resisted every temptation to turn a corner, to bevel an edge, or to relieve any of those broad surfaces with more than an identifying stripe. There is no trim, there are no broad fields of color, and none of the surfaces has been tilted out of the strictly horizontal and vertical planes. (The single exception here is the control console keyboard, which necessarily slants down towards the operator.) Finally, the designers seem to have turned the technical restrictions mentioned a moment ago to the advantage of another one of their esthetic ambitions: to bring everything together into a simple architectonic unity. Thus, the use of standard racks to satisfy the need for production efficiency also serves to put the major elements of the system at the same height—just below eye level. The general use of unframed aluminum panels to enclose the racks, another point of standardization, creates a visual theme connecting all the disparate objects of the system. And if the overhead cabling ducts were designed primarily to help facilitate installation (the first Elea was installed in three days), they also accentuate the rectangular motif of the whole design, providing a visual as well as an electrical hook-up of the system.

Between Camillo Olivetti's "serious and elegant,"

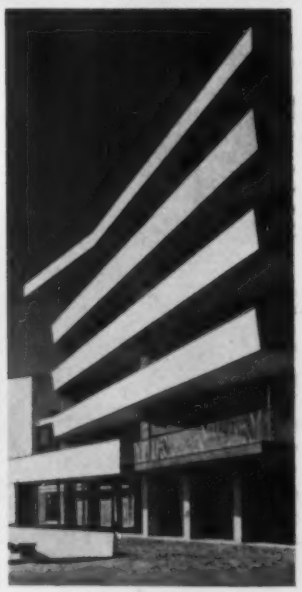
Sottsass would probably put the accent on serious. But the design of the Elea, which is anything but sculptural, and nothing if not serious, has an imposing style. It is the undeniable elegance of the simplest linear forms arranged according to their own logic. This would seem to be perfectly orthodox Bauhaus—30-years-later. Sottsass himself prefers to think that if there is any outside comparison to be made, it is with Japanese style. Perhaps the Elea is really neither German nor Oriental. Perhaps it is Greek.

It is easy to suppose that Olivetti's prestigious reputation stands mainly on its sophisticated avant-gardism in advertising and industrial design. This may not be true. Products and advertising are what the public sees first, but they may not be what the public notices most. Between Olivetti's advertising and design, and run-of-the-mill advertising and design, the distinctions are great only to the instructed eyes of professionals. But in the fields of factory architecture and workers' welfare, the differences between Olivetti and the next guy are vast, and well known. The firm is a national institution, and an Italian who greets any other typewriter with indifference will invariably respond to an Olivetti machine by saying *"Com'è bella"* (roughly: "Gee, that's great!"). But is this because of the products Italians have seen or the factories and social services they have heard about?

If Olivetti factories are well known for not looking like factories, the main reason is that the company thinks of the industrial organization "not simply as a production center, but also as a place where people work together and live together," and its factory architecture expresses one aspect of this philosophy. Back in depression days, when rising production required more production space, Adriano Olivetti began picking his architects as he picked his commercial artists and industrial designers—on the basis of how well they understood the human element. For the initial additions to the Olivetti plant, in 1934, he called in two young architects named Luigi Figini and Gino Pollini, whose internationalist-style work he had seen at the Triennale in Milan the year before. With their subsequent additions of 1941, 1949, and 1957, they have created the three-block-long, five-story glass facade that is the chief feature of Olivetti's installations in Ivrea. Together these installations look less like a production complex than a university campus, and they attract about 20,000 visitors a year.

Olivetti has built plants in half a dozen other Italian towns, most notably at Pozzuoli, where anecdote has it that tourists happening by the factory have mistaken it for a summer resort and stopped to ask for rooms. As the Italians say, *"se non è vero,*

New Dusseldorf showroom by Ignazio Gardella, 1961. Facade of Sao Paolo plant by Marco Zanuso, 1959; corner of workers' housing unit in Ivrea designed by Marcello Nizzoli and G. M. Oliveri, 1955.



è ben trovato"—"if it isn't true it might as well be." Snuggled in among the hills just west of Naples, Luigi Cosenza's split-level, glass-enclosed, multi-color cruciform, surrounded by well-appointed gardens, looks out over a row of umbrella pines into an expanse of the Mediterranean holding Capri and Ischia in the distance. The theme has been carried to Olivetti's recent foreign installations. Probably a lot of ink will be spilled by critics trying to decide whether

Opposite: facade of main plant in Ivrea, Figini and Pollini, 1938-57. Above: workers' children's summer camp at Marina di Massa, Fiocchi and Cascio, 1951.

Marco Zanuso's new Olivetti plant in Sao Paulo is a step forward in the progress of modern design, or a step backwards, or just a step aside. But whatever the decision, the glass and concrete building is unquestionably much less a factory than a place where people work together (there is a difference); and, as such, only the latest example of an Olivetti tradition.

Olivetti has showrooms in the main cities of Europe and the Americas, and here again the accent is on modernism and excellence. The styles vary widely, according to the architects—from the rich, colorful fantasy of the New York showroom (designed by Milanese architects Belgioioso, Peressutti and Rogers in 1954), to the more restrained but equally colorful decor of the new showroom in Dusseldorf (Ignazio

Gardella, 1961). A lot of typewriter ribbon already has been spent trying to decide the merits of the New York showroom. Lewis Mumford, in an article in the *New Yorker*, called it an architectural "aberration" but *Architectural Forum* found it "intoxicating," and suggested that it might lead the way in a reawakening of somnolent midtown showroom design. Seven years later, we can say that in some small way it has. In any case, the celebrated sidewalk typewriter — anonymously recording other opinions — seems to have had the last say. Of the 50,000 people who pecked at the machine during the first year the shop was open, one girl caught the public mood when she wrote:

I'd give up my spaghetti
For this here Olivetti.

But of all its vanguard activities, it is perhaps in the company's welfare programs (which it more appropriately calls "corporate services") that Olivetti has been most modern from the earliest. The first welfare fund was set up in 1909, the year after Camillo Olivetti founded the firm, and two years before his first machine was ready to be marketed. By the start of World War II, corporate services included free vocational and high school courses, cafeteria and transportation services, a few employee housing units, and a day nursery and summer camp for employees' children. Today the corporate service program is a vast enterprise in itself. Directed by an Administration Council in which management and labor are represented in parity, Olivetti services are prodigious: nurseries and summer camps for children; medical assistance, including infirmaries at Ivrea and Pozzuoli, and a special convalescent home in the Canavese hills outside Ivrea; cafeteria facilities in all the major plants; nine and a half months' paid leave of absence for expectant mothers; family allotments; a special fund coordinated with regular State social assistance; non-interest loan services; a free vocational school with a program leading to admission to the Olivetti Technical Institute, accredited by the State; special scholarships for higher education elsewhere; adult education courses; recreational and cultural centers which organize everything from concerts and art exhibits (arranged in consultation with employees who frequent the Olivetti library at Ivrea!) to local and national sporting matches; a Center for Social Relations which gives social assistance to inhabitants of Ivrea and the surrounding region who are not Olivetti employees; and, finally, a dependents' housing program which includes a number of Olivetti-built community developments at Ivrea and Pozzuoli as well as about 250 private homes built by Olivetti employees with long-term loans and free architectural services offered by the company.

Corporate services had been begun by founder Camillo Olivetti, but it was Adriano Olivetti, often overruling the reluctance of other directors, who broadened them to their present scope. Adriano Olivetti, dead at the age of 59 in 1960, is a unique figure in the history of modern business. He may not be the only executive who seriously thought that "we have the great responsibility of making this factory a small oasis of civilization"—as he said upon the opening of a new plant in 1954. But he seems to be the only one who was seriously willing to accept the consequences of thinking such a thing.

His way was paradoxical. A tenacious aristocrat in the matter of advertising and product design, Adriano Olivetti was a democrat's democrat when it came to the economics of the corporation and the politics of labor-management relations. Olivetti considers the whole range of corporate services, for example, as "a complex of normal rights of the workers, and not a series of concessions and privileges established unilaterally by management." And in the minds of some of Adriano's associates, the day when he would turn over the ownership of the company to its employees was probably not far off.

In contrast, Olivetti advertising and product design are fastened to the assumption that "public taste," so far from being either good or bad, simply doesn't exist. Its products and advertising campaigns therefore do not try to meet public taste; they are designed to create it. This attitude even extends to the names Olivetti assigns to its products. "Tetractys"—whose etymology we can leave to word-game fanciers—was selected for Olivetti's double-register, memory-equipped, electro-mechanical printing calculator in order to emphasize the sophisticated level on which the machine can solve complicated problems. "A cultivated name for a cultivated product," says advertising director Riccardo Musatti. The most interesting of Olivetti's roster of cultivated names is unquestionably "Elea" for the electronic computer. The brainstorm of Franco Fortini, Olivetti's chief copywriter and a Milanese poet of some repute, the name refers to the ancient Greek city of Elea, located in southern Italy and frequented by philosophers and mathematicians. "Elea" also signifies "*EL*aboratore *E*lettronico *A*ritmetico"—arithmetic electronic elaborator.

All these examples of Olivetti's modernism have been just so many expressions of Adriano's own personality. And they are the result of the iron-handed, sometimes even autocratic, way he ran the business. So that when he died almost two years ago everybody quite naturally wondered, "What's Olivetti going to do now?"

One thing it can't do, as every company executive readily admits, is replace Adriano's imagination. "He was always thinking," recalls one of his associates,

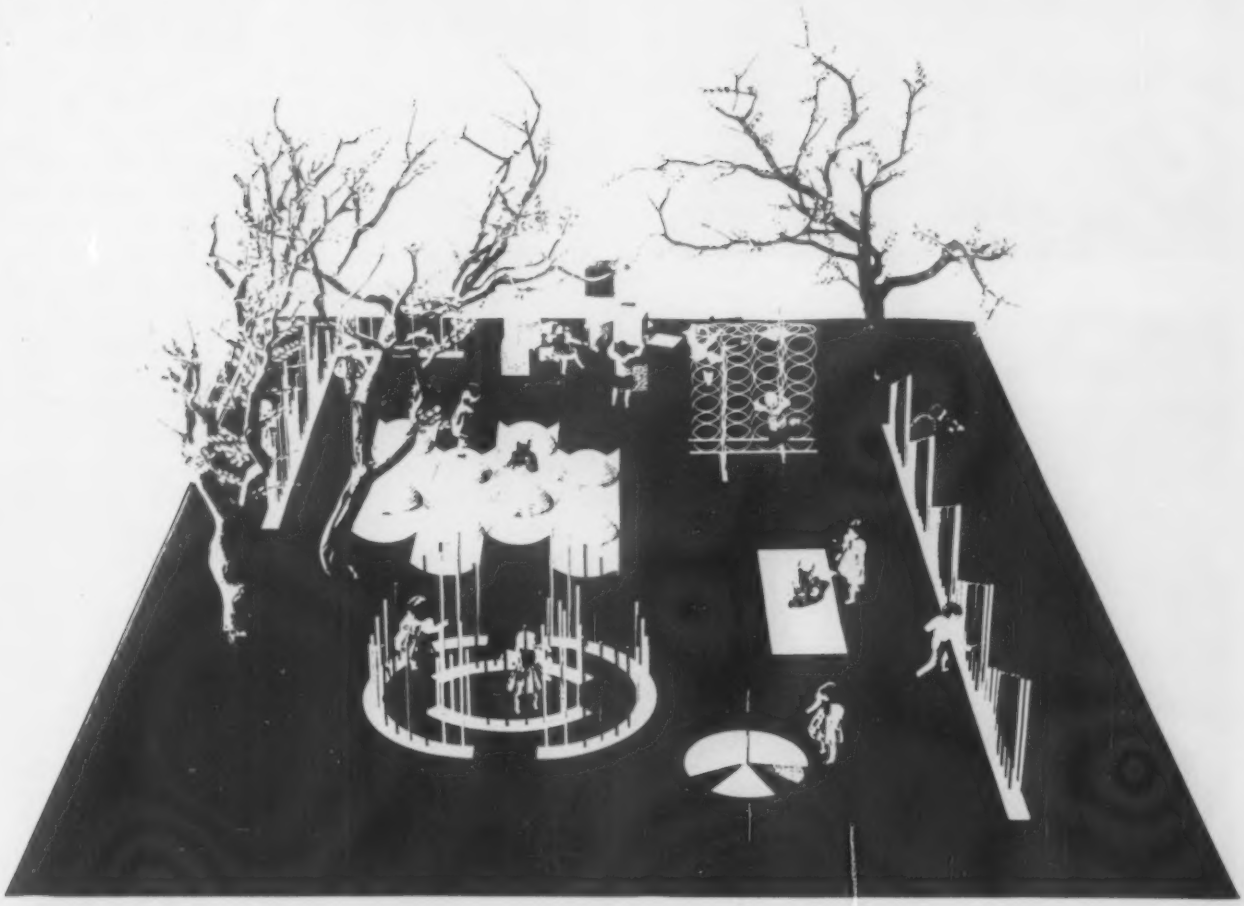
Adriano Olivetti just before his death in January, 1960.

"about 10 years ahead of everybody else." But he never really articulated his strategy, as such, choosing instead to express it through his tactical decisions—in the planning of a new product, in the building of a new factory, in the hiring of a designer, in an expansion of corporate services. And these decisions came out of a private recipe of careful thinking and impulsive action for which no one of his successors pretends to have the formula.

Actually, no one has succeeded Adriano. Olivetti policy today is made by several men, including president Giuseppe Pero, Underwood president Ugo Galassi, Adriano's son Roberto Olivetti, advertising chief Riccardo Musatti, and a few other key officers. (That's not an official list: Olivetti eschews organization charts.) Pero's specialty is company finance, Galassi used to be Olivetti's sales chief in Italy, Roberto Olivetti is at present occupied mainly with advanced electronics, and Musatti keeps his eyes on publicity. No one of these men regards his specialty as a fence around his responsibilities, but neither do they operate as a committee. Like Italians generally, they are temperamentally unsuited to working through the kind of committees U. S. businessmen find so congenial. They make their major decisions by advice and consent. But probably no one of them is individually influential enough—or, for that matter, daring enough—to lead the company in the kind of adventures that the already legendary Adriano took it through. Yet the rest of the world's businessmen will be justifiably surprised if Olivetti doesn't continue to do remarkable things.

Besides, Adriano had thrown out so many ideas that, for some time to come, the company will look as though he is still running things. The move into advanced electronics with the building of the Elea computer, and the foray into the U. S. office machine industry with the purchase of Underwood, are two projects generated by Adriano and now being carried through by men who know what he wanted to accomplish.

In one way, Adriano did articulate his strategy. It is summed up in that remark of his about making the factory the nucleus of civilization. It is certainly not a new idea. John Ruskin was already talking about it a century ago. But Ruskin looked back to the middle ages in order not to have to face the unsightly problems which the industrialism of his time was creating. Olivetti looked forward to the solution of these problems by industry itself. One measure of how far forward he looked is that, while some day it will be universal, the idea of a kind of capitalism fully aware of its social and esthetic responsibilities hasn't really caught on yet. And that idea is the ultimate source of the prestigious public image Olivetti has today.



The **ALUMINUM PLAYGROUND** equipment, created for the Alcoa Forecast program, is an eye-catching combination of geometry and color, and it is also designed to please the ear and the foot.

Children's outdoor play equipment has come a long way since the swing made of a discarded tire suspended from the limb of an oak tree in the front yard, but modern equipment often lacks variety. The designs on these pages were inspired in part by the need for diversification. The other part of the inspiration was Auminum Company of America's invitation to Martin Rosenzweig (graphic and exhibition design consul-

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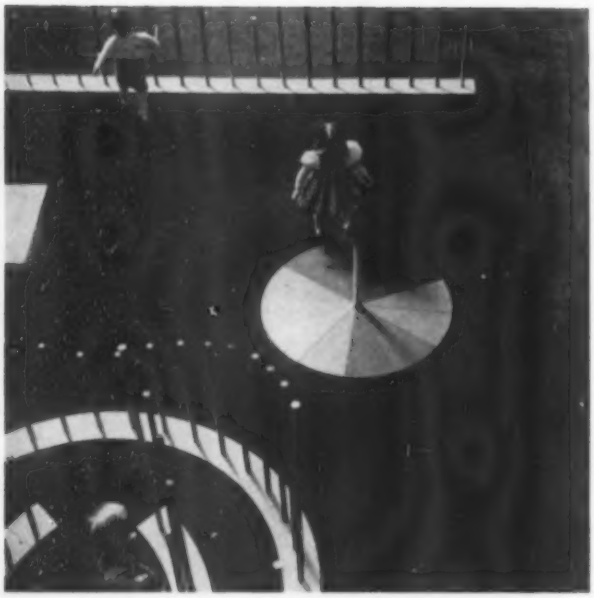


2

1. *Designers Martin Rosenzweig (left) and Harold Krisel examine model of aluminum playground.*
2. *Spectrum sundial is a 6-foot diameter circle with 12 aluminum-alloy, porcelain-enameled segments, surmounted by a 4-foot high, polished aluminum gnomon.*

tant) and Harold Krisel (architectural designer with Skidmore, Owings & Merrill) to submit some ideas for "Forecast," Alcoa's program commissioning dramatic, advanced designs in aluminum for use in its advertisements and promotional material (ID, July, 1957). In preparing Forecast, back in 1956, Alcoa asked New York's Museum of Modern Art about designers who were doing interesting things with metal. A year earlier Rosenzweig and Krisel had won the Museum's play sculpture competition with a metal-tube noisemaker much like the Alumophone shown here. They seemed a natural choice for Alcoa, and just as naturally their choice of design project was playground equipment. From the sketches Rosenzweig and Krisel showed Alcoa, six were chosen because they offered ideas for equipment supplementary to existing playgrounds. The designers made models and working drawings for these six items, but Alcoa did not release them until this fall.

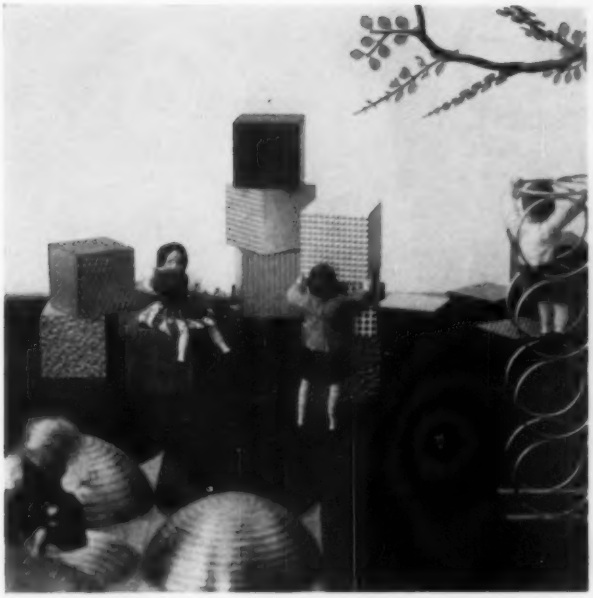
Most playgrounds have swings, slides, teeter-totters — devices which obviously contribute chiefly to a child's sense of motion. The Alumophone, spectrum sundial, climbing rings, tactile hopscotch, stepping stones, and giant blocks are intended to sharpen the primary sensations of touch, sight, and sound, as well as motion.

Spectrum colors are repeated in the sundial, Alumophone, and blocks. The sundial has 12 different-colored, porcelain-enameled segments to represent the hours, making it possible for children who cannot yet read a clock to tell time. ("Come home when the shadow reaches red.") The Alumophone repeats nine colors in its graduated, anodized tubes. Tubes of equal height are the same color and produce like tones when struck. The line of pipes can be arranged as a fence, a maze, an undulating line, or a forest. Variations in touch as well as sight are provided by the giant blocks, which are textured in addition to being colored. They are dent-resistant: outer aluminum panels are laminated to honeycomb aluminum frames. (Rubber bumpers along the edges help avoid dents in active children.)

The tactile hopscotch is best used by a shoeless, sockless child. Each of its nine panels has a different texture, giving a different sensation.

The stepping stones are designed to provide a play surface with added dimensions. Its modular units are four-foot squares of cast aluminum, half negative (10 inches deep), half positive (12 inches high). Rubber insets prevent slipping.

The climbing rings are something like a conventional jungle gym, but their open arrangement gives a child more freedom for climbing and swinging. The unit's design suggests motion, and serves as an intermediate form between the angular blocks and the rounded stepping stones.—*E.C.*



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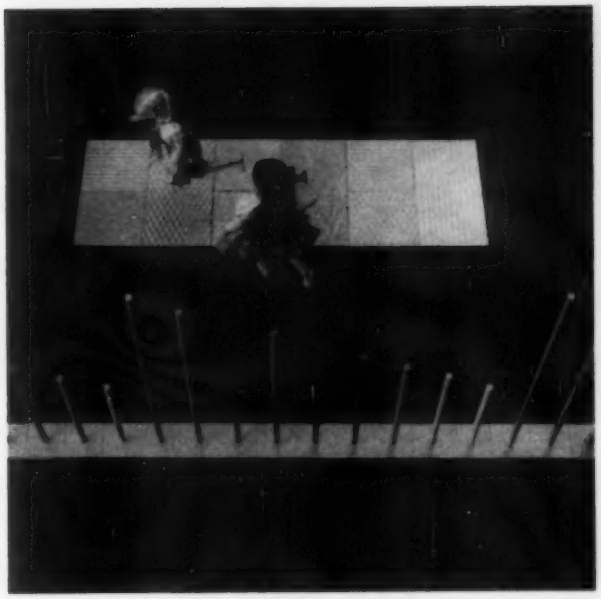

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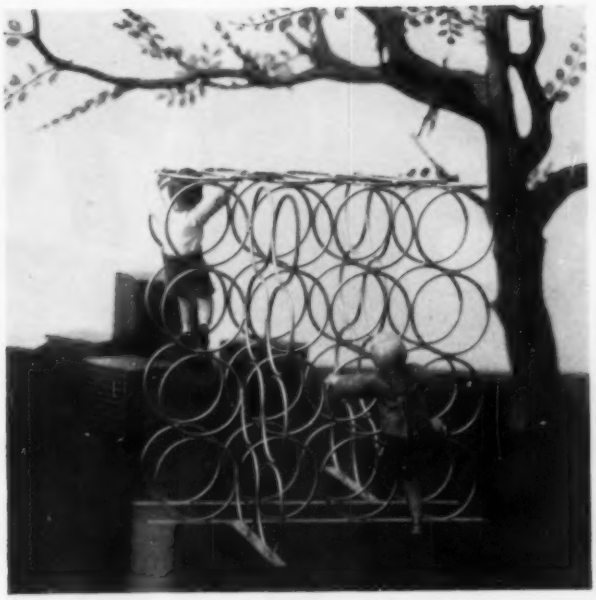

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3. *Play concept behind these 2-foot square giant blocks is simple construction. They are vinyl clad, colored or textured aluminum, with rubber-bumper edges.*
4. *Climbing rings are two-foot circles of aluminum tubing welded into a trellis-like structure with two asymmetical wings; units are four-rings high, four or two-rings wide.*
5. *Tactile hopscotch is composed of nine contrastingly textured aluminum panels set in a Thiokol bed to provide resilience and an adhesive base.*
Overall dimensions: 4 by 12 feet.
6. *Up-and-down stepping stones are positive and negative half spheres inset with rubber rings to prevent slipping. Hollows are 10 inches deep; hills, 18 inches high. Alumophone of graduated, tonal tubing is in background.*

70

Words, letters, numbers, coats of arms—all are the **PRODUCT GRAPHICS** that adorn or clutter nearly every product from automobiles to scrub brushes. As symbols, their basic functions are identification (as on nameplates) or instruction (as on control panels), but they must also perform a host of secondary tasks, some of which conflict with the primary motive — communication. The problems of graphics for communication are discussed below; those concerning graphics for instruction will be treated in Part II of this article in February. BY MAUDE DORR

It was cartoonist Abner Dean who first observed that "everybody's got to have a label," and certainly the American consumer is deluged with them. The label on his coat may read Brooks Brothers, and various buttons identify him as an Elk, a Lion, or a Mason. And although it may not be immediately apparent that his car is a Ford, it is clear that he bought it from a dealer in Indianapolis, went to Purdue University, is a member of the AAA, and has traveled to Ausable Chasm. At home, he has a tv set stamped Magnavox (also stamped COLOR across the bottom so he will know he is watching color tv). He shaves with a Schick, mows the lawn with a Sunbeam, and takes pictures with a Bell & Howell. (How does he know? The graphics tell him so.) Furthermore a thousand ghostly personages haunt his possessions: a Magic Chef

presides over the range with his wife, Roger Maris is branded into his son's baseball bat, and his daughter jointly shares her hat with a Mr. John.

Labels, like movies, are bigger than ever. If once upon a time the label was a small nameplate discreetly identifying the manufacturer, it has grown considerably and is now one of the major features of a product. Manufacturer, merchant, and consumer have all contributed to giving the label an importance it never had before. The nameplate is a prestige symbol, an advertising billboard, and a decoration. It is also the carrier of more identifying elements than the Prince of Wales has titles: trademark, trade name, brand mark, brand name, model name, model number, and finally, a simple generic classification. The designer's problem is how to incorporate all these into the design of a product to the satisfaction of the man who makes it, the man who sells it, and the man who buys it and must live with it.

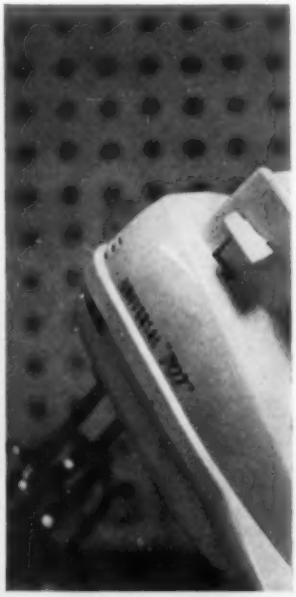
Actually, the consumer is as much responsible for this be-labeled world as is the manufacturer. He has helped create it partly out of apathy, and partly through susceptibility. He may object to being a walking signboard for someone else (although surprisingly few do) but he has almost no resistance to being identified with royal titles, exotic place names, magic numbers, or any word with a dynamic reference or a perpetual beat. For a democracy, America is riddled with aristocratic allusions. The washing machine is a Princess, the woman's electric shaver a Lady-So-and-So, and the disposal unit a figure from Nordic legend named Waste-King.

Along with the titles go the royal trappings: gold and silver coronets, fleurs-de-lis, and multi-colored acrylic escutcheons. Our steeds are Valiant, and bear the arms of Sieur de la Mothe Cadillac, founder of Detroit, or Hernando de Soto, discoverer of the Mississippi River. The Lincoln could not depend upon the Great Emancipator alone, but had to find a tenuous British ancestor to reinforce his pedigree and contribute a coat of arms. With a little abstraction (1), these heraldic devices can be easily adapted to the 20th Century. In fact, the elaborateness of their symbolism is not too different in spirit from that of some of the more highly charged modern corporate identity marks.

The lure of foreign places was once represented by the paper stickers handed out by hotels, boats, and airlines. But the hard-earned collages on the luggage of weary travelers are now translated into die-cast scripts for the side of automobiles—Biarritz, Seville, Biscayne, Catalina—available to anyone with a down payment; he need never leave Pittsburgh. For those who are not so adventurous and prefer the comfort of an exclusive suburbia, there are discreet references to Fleetwood and Parkwood.

1. *Cadillac's old chivalric crest (top) and modern version.*

2. *Meaningful and meaningless graphics as applied to an outboard motor (left), a hand mixer (right) or a sewing machine (below).*



Some labels take their appeal from the dream of motion. Progress may be difficult to define, but motion is its simplest expression, and what better invitation than to be dynamic, to ramble, or dart like a lark? Failing names like these, it is still possible to slant the lettering into the wind, or add wings or comic book vibration brackets (2).

There is of course a good deal of logic in calling an automobile a rambler or a lark, or in trying to suggest graphically that an outboard motor has something to do with speed. But just as, in the thirties, the "streamlining" appropriate to one kind of motion got designed first into all moving objects, and then into toasters and radios that were poised for flight, so are the graphics of motion now applied to products that have no intention of budging an inch (2).

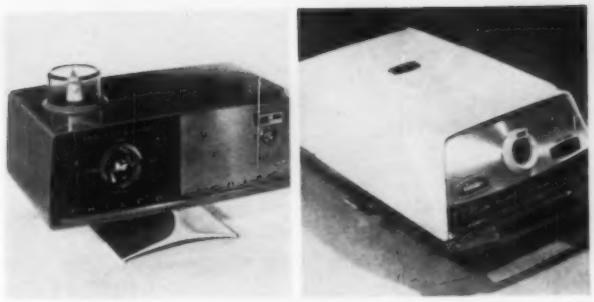
The mystical power of meaningless numbers is less easy to account for, but the evidences of it are obvious. If this is a good year for 600-B or Mark IV or 707, you can attach it to everything from a roadgrader to a eggbeater and automatically make the merchandise more attractive.

The strength of the prestige label is rooted in the consumer's willingness to buy an illusion instead of a product—a feeling rather than a thing. But even so, most prestige names have been grossly overworked; everything has become deluxe and special until, ironically, if the terms have any value, it is in inverse proportion to their glossiness—the cheaper products are those which brandish the fanciest titles, and the most regal trappings fool those who can least afford to be deceived. This is perfectly appropriate in a society that calls women "ladies" only when trying to sell them bargain basement merchandise.

But product graphics have a role beyond snobbery or inverse snobbery. They have to identify products and contribute to their physical attractiveness, and this function becomes increasingly important as more and more products become plain, simple boxes. Cars are flat boxes, tvs square boxes, refrigerators tall boxes. It is often difficult to tell the ionizer from the vacuum cleaner, so that the manufacturer not only has to give it an alluring name but state quite clearly what it is (3).

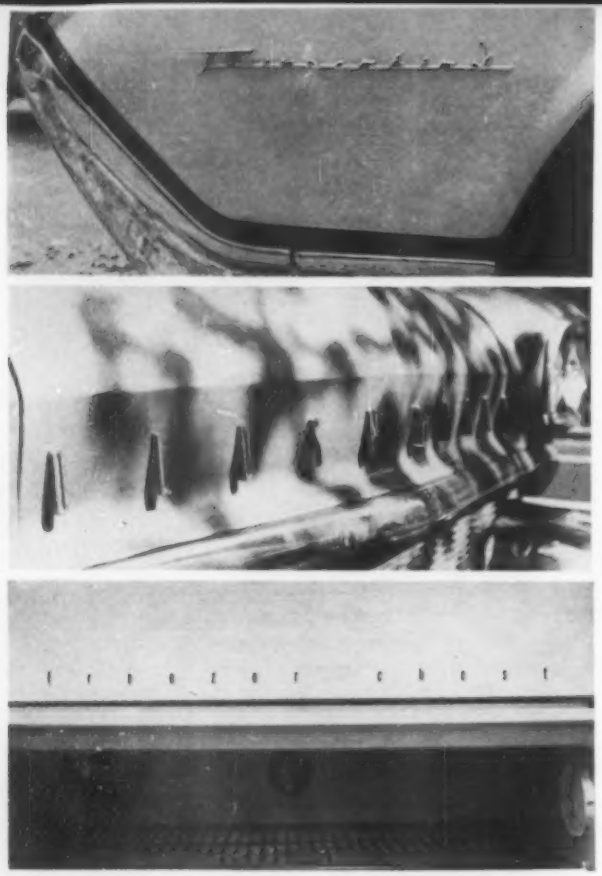
The world of things has not always been this confusing. Once it was possible to tell one automobile from another without having to read at all, much less go wall-eyed to take in all the letters, or squint, count the characters, and guess. Percy Seitlin, in the "Age of the Auto," reminds us of 1911:

> By then, we could name them all
> for each had eyes, a face and a body
> like the man behind the counter
> at the grocery store
> or your well remembered cousins
> who lived in another city.



3. *Box styling: without the label, who could tell which is the ionizer, and which the vacuum cleaner?*

4. *Once the name was on an obscure little label, nearly lost among the components of the machine (Model A) now—although less readable—it is the most distinctive design element.*



5. *Illegible dot-and-dash graphics: wide spacing, 3-D effects, indistinct letter formation.*

6. *Legible "classic" typography: modified serif and sans serif faces are neutral enough to be applied to stereo, carpet sweeper, dishwasher, and range.*

Pierce Arrow's eyes were wide apart;
Dort was a half-legitimate child,
but he was there and you accepted him;
Apperson was low and
Mercer was stubby
National a lion pouting . . .

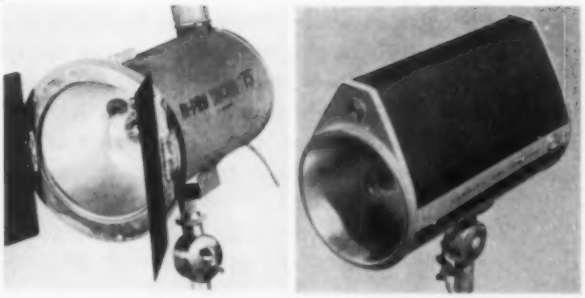
Today, clean design has polished off the horns and headlights, and tucked the billowing vacuum cleaner bag inside a tank. Distinctive surface forms are almost extinct, and graphics are all that remain to entertain the eye (4).

If a word is meant to inform, it should be designed so that it is legible. And if it is meant to be decorative, it should still be treated as a word and not as a group of graphic abstractions. For letters have a peculiar faculty of teasing the mind; they demand to be deciphered, and if they cannot be, the result may frustrate rather than decorate. Yet, is one supposed to read the low silvery line, "Thunderbird," or is it just a decorative dash to accent the front bumper? Are those widely-spaced, three-dimensional beads decorating the rear end of an Oldsmobile supposed to be recognizable? And what about those shriveled, lonely letters on the Kelvinator freezer chest? Are they either legible *or* decorative (5)?

In their way, faces carry as many associative implications as names and symbols. Italics are considered graceful and feminine. Bold, heavy letters are masculine. Clear, even types are disciplined, mechanical, professional. And then occasionally someone breaks the rules, successfully puts typewriter type on a refrigerator, and a whole new set of implications is born. At the moment there is a movement afoot for a clearer graphic style. This is variously called "modern," "classic," or "highbrow." The predominant typeface is a squarish roman letter (6) — but this is not an exclusive requirement. Italics are frequently used, alone or in combination with roman, to distinguish two types of information on a label (6) The total effect of this style is understatement. And it is generally supported by a color scheme to match —subdued, unobtrusive, nearly monotone. For instance, light lettering will appear on a charcoal, bronze, copper, gray, or black background, or vice versa. Metallic nameplates with polished letters embossed or debossed in a three-dimensional effect, are particularly suited to this style. And one manufac-

turer (Park Electrochemical Corporation) has developed a process that combines glossy and matt surfaces on anodized aluminum, which is also compatible to it. For an actual example of the difference between high and lowbrow product graphics (7), compare the before and after styling on the Hershey photographic equipment. (Lowbrow graphics can be characterized as informal, casual, ostentatious, confused, and uncoordinated.) The early model has three typefaces of different thicknesses and sizes; in the cleaned-up version, the flashy model name is dropped and the rest of the words are given equal billing in a neat Roman type.

Typography can also be an important marketing tool. A manufacturer may be able to adapt a product to several markets by subordinating the brand name to a variety of model names with their own distinctive type. Hamilton, for instance, recently gave one Skotch



7. Lowbrow and highbrow typography: before and after models of Hershey photographic light.

8. Type casting: strong brand-like mark is in character with drilling tool by Chicago Pneumatics.

Kooler two labels, Trail Blazer and Skylander (9). The first appeals to rugged campers, the second to the less adventurous picnic crowd. The characteristics claimed as peculiar to each were stressed by an adaptation of Barnum type on a two-toned khaki background on the Trail Blazer, and a Copperplate Bold against a two-toned blue body on the Skylander. In each case the company name forms a subordinate part of the design, a neat underline or a circle around the principle logo.

Since the development of adhesives, the label itself has become a much more flexible affair. The old metallic nameplate that had to be fastened on with nuts and bolts is being replaced by the pressure-sensitive label. Obviously cheaper and easier to apply, it is—from the manufacturer's point of view—perfect for a wide

9. Marketing by graphics: two type faces and two logos adapt same Skotch Kooler to two different types of customers.

Remington Rand
COMPUTING UNIT

ELECTRA 225

MACY'S OWN BRAND
Supre-Macy

SEARS Kenmore

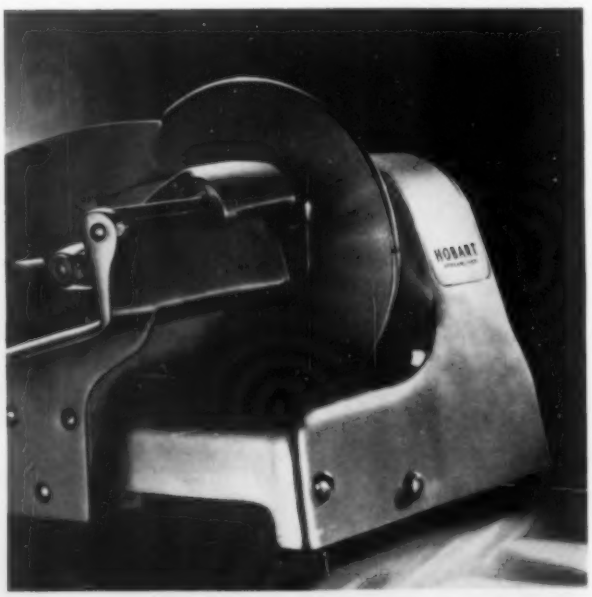
10. *Flexible, co-ordinated corporate labels: Univac and Buick nameplates have metal frames with adhesive inserts. U symbol (die cast into plate) and Buick shields are subordinated to model name.*

11. *Problems with co-ordination: the phrase "Macy's own brand" competes with Macy's own brand name. Sears label is clearer as store name is isolated in circle, but poor choice of script for Kenmore almost cancels advantages.*

range of applications. But there is some consumer resistance to it. It has been criticized for looking "cheap" and "slapped-on," and "as though it will peel off." Clearly, the substantiality of the label is representative of the solidity of the product. When the consumer may suspect that Macy's Own is not exactly Macy's very own, the store is careful not to advertise the fact with a peeling pressure-sensitive label.

The problem of peeling identity has partly been solved by framing the label within a plate or a recessed area on the product itself; the raised edge foils picky fingers. This mounting method also has the advantage of making the name appear to be an integral part of the product, while offering the flexibility of a removable label. Using this method, Buick can change the model names on its various cars simply by applying different anodized aluminum labels to a standard frame (10). In this case, the model name is featured and Buick is reduced to a heraldic symbol of three shields. Similarly, in the recently designed nameplates for Remington Rand's Univac system (10), the typography, though far from consistent from one kind of label to another, makes a clear distinction between the two graphic elements—the constant tradename and the changing model name. The Univac symbol is die-cast into the left side of the plate; the right side is left blank to receive the pressure-sensitive model name. On the legal plates required on these

12. *Old and new labeling: Hobart products (center and right) show changes in typography corresponding to changes in product design. Thor tool (left) keeps old label on new product.*



machines, there is the same distinction: the emblem is a colorful silk-screen on the left, the right is left blank for stamping.

Given the problem of having to include a variety of names on a single plate, most designers seem to prefer arrangements like Buick's and Remington Rand's, i.e., to limit the company identification to a symbol, leaving the full name for the model. Sears Roebuck, which confronts the problem repeatedly in labeling its multiple-brand merchandise, has solved it by dropping the store name in most cases and, where it does appear, putting it in a disk as though it were just a symbol, and separating it from the brand name (11).

Corporate identity also raises a host of problems in product graphics. There is first of all the problem of the ancient or unsuitable logo that has to be retained for various reasons — sentimental to economic — and that plays hob with a well-designed modern product. Sometimes it is possible for the designer to change the logo enough to make it more compatible. Egmont Arens, who has handled the Hobart account for 30 years, has been permitted to adapt the logo to the product (12). By comparison, the Thor tool (12) has a graphic styling very like the old Hobart logo, and the tool and logo obviously do not mix. One solution to the unchangeable logo is to clean it up without altering its basic character. Monte Levin renovated the logo for Sylvania by modifying the proportion and spacing of type (13).

SYLVANIA

S Y L V A N I A

13. *Renovated logo: proportions and spacing of Sylvania type have been changed without destroying character of logo.*

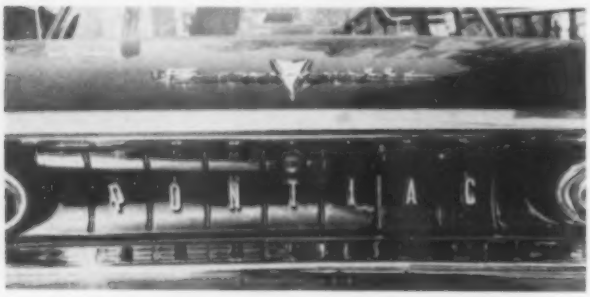
Corporate identity can also be a problem when the program has been established by a designer whose orientation is two-dimensional graphics or by a management who conceives it to be a device primarily for printed material. By the time the mark comes to the product designer's hands, it is frequently too late to change it.

One other source of complication in product graphics is the advertising agency. Sometimes an advertising campaign for a product will also include redesigning its graphics. But the label's main function is to tie-in with the message at the time of the campaign. This does not necessarily result in bad graphics, of course, but it may later require the designer to incorporate a visually awkward element into his design (14).

14. *Interference with corporate identity marks: "Dyno-mite" designed (and invented) by ad agency, takes precedence over Millers Falls. Spielman displayed as prominently as Chevrolet, is not the name of a model, it is the name of an auto dealer.*

The nameplate, like the label on a package, once restricted the designer to a particular area in space. A self-contained metal plate, it was confined by custom to certain locations — handles, hubcaps, the center of a fan, or the trim on a radio. These are still logical places to put a name, but they are no longer the only places it appears.

The designer today operates on the technologically valid assumption that almost any part of the product is a possible surface for identification. This has led to such justifiable uses of the nameplate as veiling an unattractive mechanical element or disguising a seam. But it has also led to its incorporation into a functioning part of the product, and this can be exasperating. How is a secretary to know, for instance, that the "Royal" emblem on her typewriter is also the release for the catch that opens the top



of the machine? Or how is a filling station attendant to guess which letters in Pontiac hide the cap to the gas tank (16, above)?

There is also the question of proportion. Is there any reason why a big refrigerator may be permitted a small label, but a little transistor must carry the weight of a disproportionately huge name (17)? The appliance field has come around to accepting that its products need not be identified from a distance of one mile, at a speed of 150 miles an hour. As an intimate object carried close to the head, isn't the portable radio deserving of similar re-evaluation?

To the question of proportion can be added that of multiplication. Does a broiler oven (17), already identified by a neat little label on its case, also have to wear its name in huge yellow letters across the front of its see-through door, permanently obscuring the progress of the steak? Is it necessary for a lawnmower (17) to have four identification plates, two within four inches of each other on the main body, and two at an interval of a foot on the handle?

While the size and frequency of identification frequently depends upon marketing considerations, too few manufacturers make sharp distinctions between a label's various uses as identification, decoration, or advertising—and to design it accordingly. One could, for example, forgive Studebaker for spreading its name across the rear guard of its first farm trucks on the grounds that they were new to the market and the competition was solidly established. But this makes the label an advertisement, and permanently so. It is a kind of labeling that turns the consumer into an unvoluntary sandwichman. Once a consumer buys a product, isn't he entitled to think of it—and

15. *Convenient labeling areas: see-deep acrylic handle for freezer (top left), embossed and rolled surface of battery (top right), debossed hub cap (center right), and trim on stereo set (bottom).*
16. *(Left) Shell game: Behind which letters is the gas tank cap hidden?*

17. *Permanent advertising: Westinghouse label (left) out of all proportion to unit; Crown broiler (right) identified twice, once obscuring the steak; Sunbeam lawnmower (bottom) bears four permanent identity marks as well as three sales tags.*

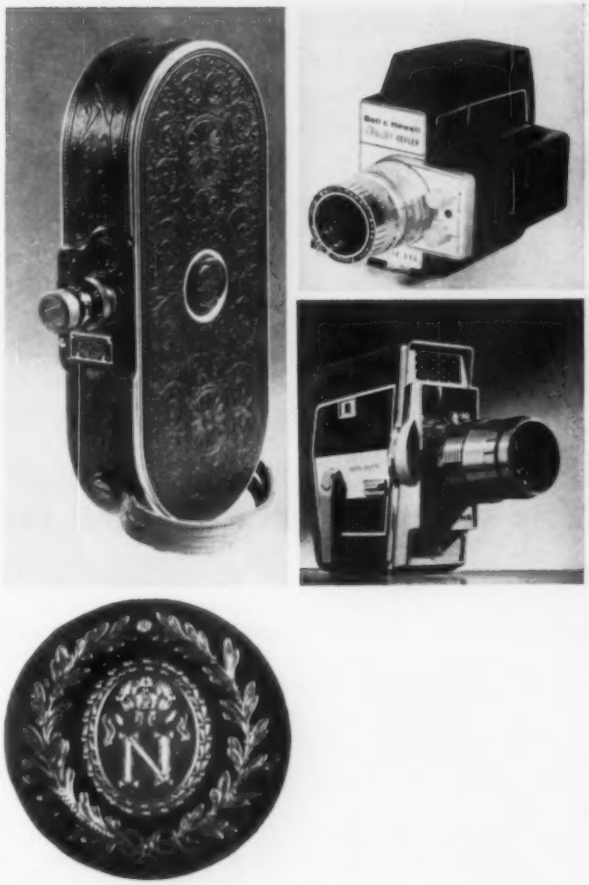
have others think of it—as his personal property, for his private use? Labels that are meant to identify a product in a store can be as big and shiny as the market demands, but they should be removable. The label that follows a man into his home should behave like a guest, rather than an in-law.

Although this would seem to run counter to the instincts of both mothers and sales managers, there are indications that it can happen. In housewares, for example, a distinction is frequently made between temporary advertising labels and permanent labels of identity. The first may be bright paper stickers listing the product's uses, extolling its virtues, and distinguishing it as "advertised in *Life*", "guaranteed by *Good Housekeeping*", and finally, "made by Griswold." The permanent identification, a trademark or tradename, is usually molded into the plastic or metal body and—unaccentuated by color—is nearly invisible. Despite the fact that this restraint is due partly to economy (a permanently fastened label costs more) and utility (the plaque type of labels are difficult to keep clean), the method recommends itself to other types of products.

Often the designer can strike a blow for modesty in labeling by convincing a client that it is not always necessary—and can be downright disadvantageous—to hit his customer over the head with his nameplate. Albrecht Goertz cut the number of nameplates on one manufacturer's paper punch from three to one, and in another instance, hid the nameplate of a fountain pen on the small beveled edge of the cap. And Schory-Steinback Associates have obviously shown the Hershey Division of Simpson Electric Company that the labeling for its equipment need not equal the intensity of the lamp it identifies. As a matter of fact, the more modest label will appeal more strongly to the desired market — the professional photographer.

Now that decoration itself is once more permissible in design generally, names and other identifying symbols may no longer have to do double duty in chrome. The letters on the 1962 cars, for example, have tended to come closer together again, often to the point of legibility. Moreover, there is now a wide variety of abstract-decorative materials—such as embossed or printed aluminum panels, Mylar-vinyl laminates, or plastic coated papers. The standard designs on these to date are simulated leather textures, grid patterns, wavy lines or other textures resembling cement, ocean waves, finger prints, wood-worm tracks and the like.

While these decorative elements have often been very badly used—and no doubt will continue to be—their abuse is not intrinsic to them. There is no reason to believe that they cannot serve both to enhance the appearance of products, and to allow the label to go quietly back to its appropriate role: identification.



18. *Graphics that decorate, identify, or advertise: the first two had their distinctive places on 1929 Bell & Howell camera (top left). 1961 model (top right) includes modest name on faceplate, no decoration. Confusion bedecks 1961 Keystone camera (below right) with three gold nameplates on body, another on lens cap and K symbol in front. Round label for Elizabeth Arden compact is a purely decorative device—N is for Napoleon. It resembles the old Bell & Howell.*

In spite of gondolas and more gondolas, delegates to the second General Assembly of the **ICSID IN VENICE** rode to their meetings in water taxis. That kind of business-like attitude pervaded the whole conference: decisions were reached, speakers spoke on schedule, and intentions were obviously purposeful. The action revolved around the organization's basic problem: how to work out a means of working together, and thus became a truly professional society. BY POLLY MILLER

The leisurely, lighthearted city of Venice did not prevent the young International Council of Societies of Industrial Design from going about the business of its second General Assembly, September 13 through 17, with considerable earnestness. For one thing ICSID has now grown to 25 member societies from 19 countries, and this evidence of substance, alone, was enough to encourage a spirit of seriousness and purpose. In the words of president Misha Black of England, "We have managed to successfully surmount the perils of infancy and now stand ready to confront the challenges of adolescence. Our growth shows the real wish among industrial designers to have an international representative body. We have provided a bridge of understanding. This is a good beginning toward proving that it is possible to work together toward common objectives."

Much of the five days was taken up with efforts to do just that—i.e. to perfect the machinery for working more closely together. Areas of common concern became clearer, which in turn made it possible to explore the areas of controversy with some equanimity. Happily there seemed to be more of the former than the latter, although no one could have drawn this conclusion from the first business session. Almost as soon as it had convened at the Fondazione Cini on the island of San Giorgio Maggiore, the Assembly ran into some hotly debated differences of opinion over the ratification of Yugoslavia, the first iron-curtain country to request membership in the Council. The Dutch delegation led the fights against admission by challenging the validity of the 600-plus membership


CANSOVIN
POLAIO

figure claimed by the Federation of Artists and Applied Arts of Yugoslavia, and by questioning the Yugoslav definition of industrial designer.

Speaking for the Yugoslav society, Miroslav Fruht conceded that the make-up of his group was broader than that defined by the ICSID, but said that of its 600 members, more than half were active in areas that came within the Council's definition. For evidence he pointed to examples of the work of Yugoslav industrial designers on view at the International Exhibit of Industrial Design, sponsored by the Assembly and running concurrently with it in the same building.

His position was supported by Misha Black who said that the Council's executive board had examined the Federation's application closely, and had found that its membership included those engaged in the legitimate practice of industrial design under the Council's terms. Political considerations, Black contended, should not be a factor if a country's designers function in a capacity acceptable to the ICSID terms. When the vote was taken, only Belgium abstained. The balance of the societies voted for admission.

The business sessions also voted on a much smaller, but possibly far-reaching, issue. It dropped the last three letters of the last word in its name, Designers, to become the International Council of Societies of Industrial Design. This will permit the organization to accept design societies whose membership is made up not of designers, but of people or institutions interested in advancing the cause of industrial design.

The existence of such societies was made evident by the questionnaire circulated to *all* industrial design societies in the summer of 1960. One of the highlights of the assembly was secretary-treasurer Mia Seeger's analysis of the results of this questionnaire, which requested information on membership requirements, financing, and composition and classification of work categories. Mrs. Seeger's report spells out the extent to which some governments sponsor or participate in the activities of industrial design societies, and also the very active role played by industry in the professional design societies of some countries. Of equal interest was the apparent diversity of work in which designers engage, and even the diversity of classifications for the same work—a telephone, for example, might be classified as capital goods in one country and consumer goods in another.

In another report, vice-president Sigvard Bernadotte explained what progress had been made on the formulation of an International Code of Ethics. This master code, which is being based on individual codes supplied by ICSID work groups in each member society, plus the official ICSID definition of industrial design, which has now been accepted by 12 societies, plus Enrico Peressutti's massive report on design education, delivered at the last Assembly, will together

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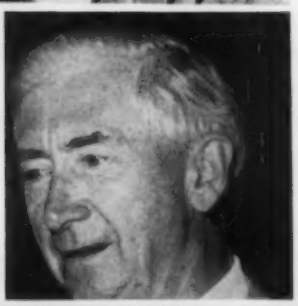

3 — 4

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6

Conferees in Venice included (1) Virginia Dey, Massimo Vignelli, Harold Barnett, and Annette Doblin, all of the U.S. except Vignelli, who is Italian. Ilmari Tapiovaari, Finland, Josine des Cressonnieres, Belgium, and William de Majo, England, appear in (2); below them are Edgar Kaufmann (3) and Sir Herbert Read (4). Listening intently (5) are Raymond Spilman and Leon Gordon Miller of the U.S. and Paul Reilly and Gaby Schrieber of England. On the dias (6) are Sount Sigvard Bernadotte, Sweden, Peter Muller-Munk, U.S., and Misha Black, England.

provide a body of common attitudes, Bernadotte thinks. And these will eventually become a common professional heritage.

In between these business sessions were laced three open sessions given over to papers and discussion on The Function of Indutrial Design in the Community, The Training of Industrial Designers, the The Profession of Industrial Design. Bernadotte, Karl Schwanzer (Austria), and Georges Combet (France) were the speakers on the first topic; Peressutti, Jay Doblin (U.S.), and Tomas Maldonado (Germany) gave papers on the second; and Peter Muller-Munk (U.S.), Alberto Rosselli (Italy), and Ilmari Tapiovaara (Finland) represented the third. Of the three, the session on the training of industrial designers was the liveliest, largely because Maldonado's paper raised a heated response. (Note: ID will reprint the Maldonado paper in a future issue.) For the rest, the comment of one delegate is probably an accurate summary, "Much of what they said was, of course, deathless, but there were just too damned many papers." Excerpts from several of them, as well as from Sir Herbert Read's after-dinner speech at the opening banquet, appear here.

In contrast to the open sessions, participated in by observers, wives, and guests—estimated by registration figures at over 150 persons—the business sessions were limited to six delegates from each country represented in the Council, with one member from each society in each country serving as a voting delegate. The voting delegates from the United States were ASID president Raymond Spilman and IDI president Leon Gordon Miller.

The business sessions concluded with the election of a new executive board representing Sweden, England, Italy, Belgium, and the United States. For the two years ahead, ICSID will be governed by Count Sigvard Bernadotte as president The two new vice presidents are Jay Doblin and Alberto Rosselli, editor of *Stile Industria*. The new secretary-treasurer is Madame Josine des Cressonnieres of Belgium. The site chosen for the third General Assembly, at a date

yet to be decided in 1963, is Paris. The Institut d'Esthetique Industrielle and Chambre Syndicale des Ingenieurs Estheticiens et Stylistes Industriels will serve as host societies.

From the paper of **Georges Combet,** *president, Institut d'Esthetique Industrielle*:

I recently visited a large factory which produces wood-fiber sheets. It is a factory which destroys the wood and breaks down its structure, just as any thermal machine is, in the long run, a machine for breaking down power and increasing the disorder in the Universe. Now this remark does not apply solely to wood-fiber sheets. Practically all modern materials conform to the same principle, which involves a breaking down of the structure. They are very easy to handle and suitable for all purposes, so in themselves they hardly influence the industrial designer or act as a source of inspiration to him, except in so far as they require decoration. . . . .

The progress made in electronics, amongst other things, is forcing us towards the point where man-made objects become incomprehensible and invisible. We can explain to a child the mechanism of a watch, but not that of a radio or television set. The valves or transistors are connected up from a diagram which is as unfathomable as a magician's book of spells. And this mysterious equipment is delicate. It has to be protected from knocks and dust. The outward appearance of the set is therefore uniformly that of a box, and there is little more than the control buttons to indicate its purpose. The same type of box may be used equally well for a radio, tape-recorder or transistor record-player. Its purpose is incomprehensible and remains invisible. The container has no apparent connection with the contents.

These boxes themselves follow a law governing the evolution of machines which was discovered during the last century by Samuel Butler, viz. a trend towards a reduction in size. My first camera was a mahogany cabinet fitted with a sleeve through which I passed my hand in order to insert a new plate in place of the used one. This cabinet was a considerable size and weight. Today my camera will fit into my waist-coat pocket. It is shaped like a cigarette lighter. Others are shaped like a fountain pen.

This reduction in size may be carried to the point where objects completely disappear. There are no longer any door-handles in our lifts. Opening and closing are automatic, just as the doors of a garage are opened by an invisible ray, without the help of any apparent mechanism. So we have now reached the final stage to which the evolution of *functional objects* appears to be inevitably leading us. Function is engulfing form. Form is becoming unnecessary. There no longer remains any form at all.

From the paper of **Ilmaro Tapiovaara,** *president, Ornamo*:

The tool is the most important factor affecting the development of form. Tools set a different tempo to the work. We may claim that this is the result of power. Hand, steam, electric, and nuclear power each has its own tools. A chair from the "steam period" is technically, and in spirit, different from that of a chair from the atomic age. The different energy periods have in turn experienced social progress in time to the quickened rhythm of the machine.

From the paper of **Alberto Rosselli,** *Associazione per il Disegno Industriale*:

The appearance of consumer goods in general seems to be bound up with the rhythm of natural obsolescence of design. However, in some individual cases, such as cars and other articles in which the pressed or extruded parts play an important role in outward appearance, there exists a secondary rhythm of natural obsolescence which depends on the speed with which the tools for these processes are worn out. This gives rise to small alterations in the appearance of less important parts at a faster rhythm than that relating to alterations in the general shape of the body, which in turn is altered with greater frequency than the design of the chassis and the power unit. This different frequency-cycle expresses the technical and economic dynamics of a technological society. The esthetics of the permanent (that is, of the Beaux Art) do not help in this situation because their justification is that of ensuring cultural values which are much more durable than those of technology.

From the address of **Sir Herbert Read:**

In the development of industrial design, it has proved easier to seek out and establish the laws of a mathematical harmony than to preserve an organic tradition, but the result has been something less than perfect art. And yet we should not despair — there is a solid basis for hope. We have perfected this all-powerful tool—the machine—and could we but use it with instinctive wisdom, the results might exceed in beauty and splendor any monuments of the past. What is lacking in our sense or sensibility that makes such an instinctive application impossible? The answer is to be found in that hiatus between past and present which William Morris detected. Morris believed in tradition . . . defined as an organic continuity in methods of work. Before any further progress is possible, the chain of tradition must be reunited. The sensibility that coursed along the nerves and veins of countless generations of craftsmen must be made to flow again in the veins of our industrial designers. This is the essential remedy for our alientation.

THE ASID AT CATALINA ISLAND explored art, technology, and the St. Catherine Hotel; heard about "ideal" fallout shelters; watched and played with the experimental creations of student designers; and — as the start of a new two-year-term policy — held on to last year's officers. BY JUDITH RANSOM MILLER

1) Ron Chesley on "sea saucer" he designed with fellow Art Center student Aris Nichols. 2) Ed Albright in his amphibian. 3) Designers Bruce Bittle and Bill Grover flank ASID president Raymond Spilman in their "sea sled." 4) Cole Williams drives his "desert rat" up to his hotel room.

1-2

3-4

The American Society of Industrial Designers called its 17th annual meeting "Design Explorations," saying: "The second half of the 20th century has been proudly described as a period led by science and industry. Yet historians have observed that the decline of many of the past civilizations has occurred coincident with the decline of the Arts. The plan of the 17th annual meeting is one of exploration of the accomplishments of science and technology, as well as those of the creative arts, to refresh our perspective as designers, as members of industry, and as informed citizens." Their position is well taken, even though it is an oversimplification of the situation of our times. We cannot establish that, in past civilizations, retrogression of the arts has been coincident with the advance of the sciences. Nor can we say for sure that the arts are now retrogressing—only that scientific accomplishment and other accomplishments appear to be out of step with each other and even traveling at different rates. Further, today the subsidizers of science and technology *and* the arts seem often to ignore Bacon's *finis scientiarum*, i.e., "the endowment of human life with new inventions and riches." Of today's most powerful patrons Bacon might still say, as he did of the ancients, "There is hardly one single experiment that has a tendency [of itself] to assist mankind."

We are confused by scientific and technological accomplishment. "Accomplishment" is a "good word," just as "striving" is a good word. Thus, if the striven for is achieved, then the accomplishment, per se, must be a "good" thing, particularly if the primary decisions are corporate ones which carry anonymous responsibility. It is easier to catch a covey than a single bird with this sort of sophistry, for the single bird has no leader to follow, whereas the covey is dependent perforce on the discretion of the leader.

The remarkable scientific and social truth of this

"camel-design" era is not man's collaborative power to fissionize, nor that he simply cannot willingly design for himself the scientifically recommended living necropolis. It is that his power has corrupted his vision. Whereupon, one observes industrial designers convening in the damp, darkish, un-windowed chill of a California hotel on a smiling afternoon to listen to an inheritor of the oath of Hippocrates tell the impersonal and impartial statistics of the megaton, pointing out that *ideally* the underground shelter should contain a "flowing spring" and that "even pregnancy" will be among the ills of the gopher society. Not once did the speaker, Dr. Sherwin U. Miller, use the conditional. For him the clean, crisp future-indicative: so many persons *will* be killed, *will* be maimed, *will* be injured, *will* find shelter, will, will, will. Finally, someone asked Dr. Miller, "Have you—either for personal or experimental reasons—ever built a shelter?" Long silence. "Well, we've talked about it." Later, in conversation, Dr. Miller agreed that the decision to build a shelter or not is "really a philosophic problem" that is obscured by unintentional push-button realities.

Following Dr. Miller and a hearty meal, Mr. C. Rhoades MacBride, president of Convair Division of General Dynamics, presented smaller, but positive realities. In essence: The dollar spent on design should bring back its full value not only in the quality of design, but in its significance. Thus a $31 doorstop for an airplane, replacing the time-honored hardwood wedge, is an example of over-design, no matter how pure in form and performance—particularly if the taxpayer's money is spent on it. I do not quarrel with Mr. MacBride, if he uses money as a measure of time, concern, skill and materials used, rather than as a measure of value per se. There is a point of diminishing returns on the investment of time, skill, materials and money; that point is reached when other, more important, needs must be set aside to make room for the lesser ones.

Significantly, an earlier speaker, Anthony Tocco, of Space Technology Labs, discussed those casual accidents of engineering and design which result in increased costs, accidents which grow from (1) lack of sufficient evidence at the time of making decisions, (2) the laying down of precise specifications in situations where a reasonable latitude would permit the use of stock or catalog items, (3) a disregard of the limits of the in-use production tools, and (4) that old portmanteau, the lack of imagination.

Thus the two speakers considered opposite ends of the same string, that is, the conservation of human economic resources. Both presented the problem as one of "prior considerations"—the one dealing with "design priorities" in the social economic sense, the other discussing the elimination of "prior errors" at the engineering level. On the one hand, we have a point of diminishing returns on the investment in design; on the other, we have an initial loss resulting from improper scheduling of design and/or engineering decisions. Succinctly put: If all more important human needs have been met, then we can afford, perhaps, the luxury of the over-designed doorstop or certain other inefficiencies.

On Saturday the panelists, meeting in the languid airs of Avalon at off-season, disdained the assigned topic, "Is the artist gaining or losing ground in this atomic age?" (Why *this?* Are others anticipated?) Instead they spoke of the hazards to productivity in this age. None seemed optimistic, except moderator Millard Foist—a management consultant with a nice platform optimism somewhat like that of parents who cannot do physics or algebra themselves, but advise their children to use a little self-discipline and keep trying. None was willing to speak for any group, be it painters or architects, or designers, or amateurs.

The final event of the conference, like the final event of last year's conference, was a demonstration of unusual projects, most of them designed by students. Not one of the young persons whose projects were on display, and in operation, had need of Millard Foist's uncomplicated advice. All were in there pitching, all were disciplined. Moreover, none that I talked with had any delusions of grandeur or any notions that they had gone any great distance. Richard Coss, a senior at the University of Southern California, had on display a prosthetic device by which a polio victim could use a useless hand. He said, "You learn so much about the normal hand from the not-normal one." Ed Albright, an Art Center student whose amphibian failed to perform as he had intended, replied to expressions of regret, "It's just a matter of gear ratios and time. Displacement is good, though . . . better than I had hoped for." Art Center students Aris Nichols and Ron Chesley, designers of the "sea saucer," would have liked to have their "toy" viewed in terms of its usefulness in logging operations, small boat harbors, etc. Cole Williams, seven years out of California Institute of Technology and University of Southern California, presented his "desert rat" on its own merits—ride it and see. When asked if it would descend stairs, he replied by walking it up the steps of the Saint Catherine Hotel (page 85).

The announcement of new officers, which generally concludes ASID's national meetings, was replaced by an announcement of new policy—in the future, officers will be elected for two-year terms—and old officers. Members voted to implement the policy by re-electing for an additional year last year's officers: president Raymond Spilman (page 85); vice-president William Renwick; secretary Clarence F. Graser; and treasurer George Payne.

After two days of business and elections, the **IDI IN BOSTON** spent a day discussing computers as they relate to designers, designers as they relate to the world at large, and the world at large as it relates to the mass production of excellence.

Chermayeff
Whitney
Carlhian
Licklider

Miller
Harkins
Coffin
Tangerman

Like the ASID, the Industrial Designers Institute decided this year that running a design society is no job for a novice. (With a one-year term of office, the executive staff became most effective just when it was time for the president to draft his farewell speech.) Therefore — during its 23rd annual meeting held at Boston's Statler-Hilton on October 26 and 27 —IDI elected the following officers for a two-year term.

John Vassos was re-elected as chairman of the board, and Leon Gordon Miller was re-elected as president. Serving with them are Jon W. Hauser, executive vice-president; Theodore C. Clement, secretary; Yasha Heifetz, treasurer. Regional vice presidents are Joseph Parriott (who has just been made a Fellow), for the east; Montgomery Ferar, for the midwest; and Donald W. Brundage, for the west coast. President Miller announced the establishment of a Boston chapter, and presented its charter to the chapter's chairman, William H. Harkins.

The meeting ended with remarks by Miller, who addressed himself to the familiar old question—Is the designer a professional? His answer: as a group, designers were not and could not be until both professional and educational standards were clearly set.

On Saturday, October 28th, IDI moved to the Somerset Hotel for its First National Design Symposium, devoted to discussion of "The Pivotal Forces." Although all the morning speakers began by professing (honestly enough, we suspect) not to know what the subject meant, it turned out, in effect, to be the inevitable subject of all design conferences everywhere in the world: what is design, and who are designers?

Elmer Tangerman, editor of *Product Engineering*, led off by comparing the practice of industrial design with that of design engineering. "The designer and the design engineer are natural enemies," he said, but went on to suggest that a little hostility is a useful thing. "Industry today is like a balanced rock in a state of unstable equilibrium, poised between too high costs on one side and too high a sales price on the other. A little push will send it either way. The industrial designer and the design engineer have one thing in common here—one of the few things they

have in common, perhaps—they can push either way . . . neither needs to be a massive force to be a decisive one . . . maybe it is just as well that they are opposed; it maintains the precious equilibrium and prevents the hairline shift that could upset the whole structure."

Ralston Coffin, RCA vice-president of advertising and sales promotion, read a paper called "Computers and Communication," describing computer abilities present and future, a subject that figured curiously in the panel discussion at the end of the day.

The final speaker of the morning was Serge Ivan Chermayeff, professor of architecture at Harvard's School of Design. "The pivotal force affecting all design in our society," he said, "is the overwhelming fact of mass culture." Then, incisively, he showed how this fact militated against design excellence. "A technically minded society tends to produce excellent staples," Chermayeff said, "which is why the greatest examples of industrial design are to be found in a hardware store. In 1945, when I was preparing the 'Design for Use' exhibition at the Museum of Modern Art, I made a lot of designer-enemies by my inability to find—after visiting all the major American industrial design offices—more than one example of a professionally well-designed product. On the other hand, I found plenty of excellent anonymous design. However, I think we have improved: I have no doubt that if I were doing the same exhibition today it would be much easier to find examples of things that are made good on purpose. An affluent, mass-producing society is hard put to avoid vulgarization of its products. Nevertheless our tastes are improving. The chief obstacle to design excellence is poverty of purpose. A contemptible purpose can never result in a good design, no matter what is done to the product."

One student said he was "confused, frustrated and worried" by Coffin's fabulous computers and Chermayeff's suggestion that technology was not Eden. "What if, some day, computers can design?" he asked. "They already can," said Tangerman.

"No matter what the range of technology covered by this valuable tool," said Chermayeff, "it is still a tool. What goes into a computer is the human commitment, and all that can come out is the shape of that commitment."

The shape of that commitment dictated the shape of the afternoon's panel discussion, moderated by William H. Harkins. Publisher Charles E. Whitney (INDUSTRIAL DESIGN, *Interiors*) questioned the relevance of what designers usually talk about at conferences (i.e., "the pivotal forces") to the kind of work they really do. "I have been saying for more than 20 years that industrial design is important," he said, "but I do not believe that it holds the key to what your program calls 'the forces of freedom.' I do not believe that the industrial designer can save the world. What the designer *can* do—what traditionally he is superbly equipped to do — is to make the world better worth saving."

Moderator Harkins objected, "But we designers have to be concerned about world problems."

"As a man," Whitney agreed, "the designer cannot escape social problems. I expect my doctor to be interested in world peace, and improved schools. But his *professional* responsibility is to practice medicine."

Architect Jean Paul Carlhian, an erect, ebullient Frenchman with a stubbornly good humored unwillingness to accept the second rate as inevitable, deplored the emphasis that technology has given to speed: "The computers Mr. Coffin was talking about can fantastically multiply the speed at which we work. So what? Why are we all in such a hurry? A computer enables me to get work to a client in time for a committee to sit around for weeks trying to make up their minds whether to decide to think they like it. I want to be the best, not the first."

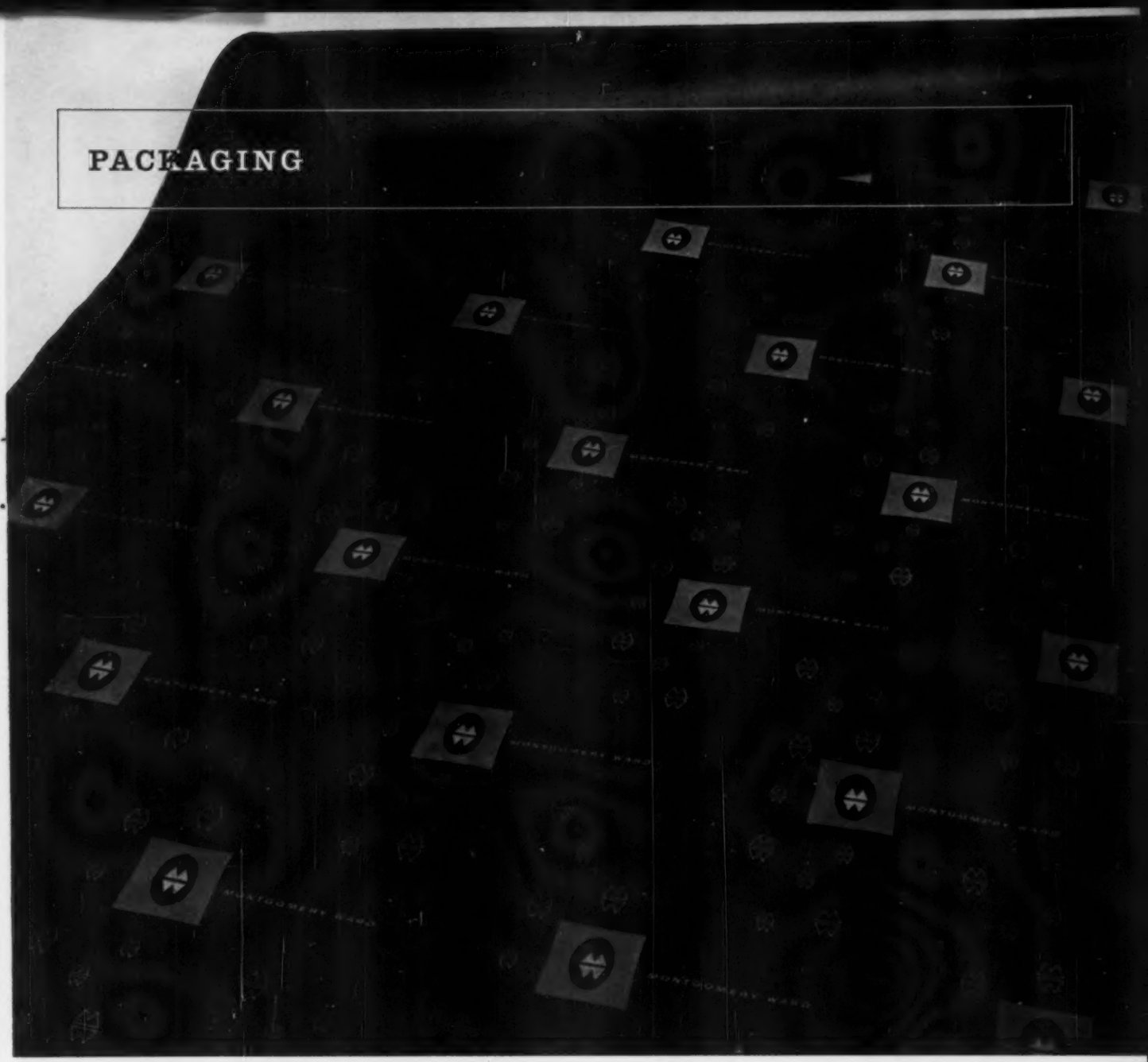
Psychologist J. C. R. Licklider took issue with this. "Creativity is doing something good *first*," he said, apparently equating it with competitive enterprise. "To do it first, we need complex information fast."

"If the news came slower, maybe we would avoid some mistakes," Carlhian insisted. "We already get too much too soon."

Disturbed by what he called a "needlessly negative tone in the morning speeches," Licklider seemed to trace this to a fear that computers would replace thinkers. "There is no threat from computers in the near future," he asserted. "I welcome the computer as a partner, and if it is more intelligent than I am, o.k. But I don't think that is a risk at present. I like computers."

"So do I," mumbled someone in the audience. "But I wouldn't want my sister to marry one."—*R.C.*

PACKAGING



When a retail merchant stocks over 100,000 items and rings up an annual billion dollars in sales, package design is big business. For Montgomery Ward the complexities of package design are further complicated by experiments in merchandising. The following report describes how Ward's package design section reflects the thinking of this **COMPANY AT THE CROSSROADS** *BY ANN FEREBEE*

Map indicates spread of Ward stores from Northeast and Midwest to West Coast. As of last month Ward was operating 527 retail stores and 660 catalog stores. Since 1955 they have replaced 100 old stores with 54 new catalog stores and 21 retail stores.

What is it like to design packages in a department that last year processed more than 400 jobs—from a comprehensive drug program to simple feature tags? Most obviously, it's like a lot of work. On a typical day at Montgomery Ward last month the design staff was repackaging detergents, brassieres, marine paints, and shotgun shells. They were also redesigning corporate checks, graphics for delivery trucks, and logos for six new brand names. Ten "minor" jobs included streamers for furniture, owner's guides, and feature tags. Package design section manager William Farr says that, with small jobs, he often has 40 to 60 design assignments in the shop at one time.

For Montgomery Ward, whose seesaw financial history goes back to 1872 when it started a catalog service for the farmer, the already complex problems of package designs are made more so by the merchandising revolution in which the company is now embroiled. Under Board Chairman Sewell Avery, Montgomery Ward weathered the depression successfully only to stagnate in the years after the war. Because Avery refused to invest the company's money in expansion, its post-war sales never went much over the $1 billion mark, while those of its arch rival, Sears Roebuck, rose from $1 billion in 1945 to over $4 billion last year. It was this situation which forced Avery's retirement in 1955, when attorney John A. Barr became chairman of the board and launched a half billion dollar expansion program which has already meant adding 51 new retail stores and 423 catalog stores. But Barr's program means more than just adding physical facilities; it is an experiment with new (to the company) merchandising techniques. For example, Ward recently converted three of its old stores to self-service in a cost-cutting test, installed vending machines in three locations, and is now negotiating a merger with Interstate Department Stores, Inc. to get a hand in the discount business. In each of these experiments the company has called—or will call—on its package design staff. Yet six years ago this staff scarcely existed.

By 1955, Ward's old Design Bureau, haven and training school for such designers as Richard Latham, Dave Chapman, Joseph Palma, and James Teague, had virtually died from the stagnation infecting the rest of the company. All that remained of Anne Swainson's once-potent Bureau "was a desk in the corridor of Ward's administration building and one assistant." But shortly after Barr took over, consultant designer Dave Chapman urged the reactivation of a design staff and suggested Frederick W. Priess to direct it. Priess had spent eight years designing for Ward's before leaving in 1950 to head up the product design department at Hallicrafters. Under his experienced hand, the new Product and Package Design Department has come through a six-year period of

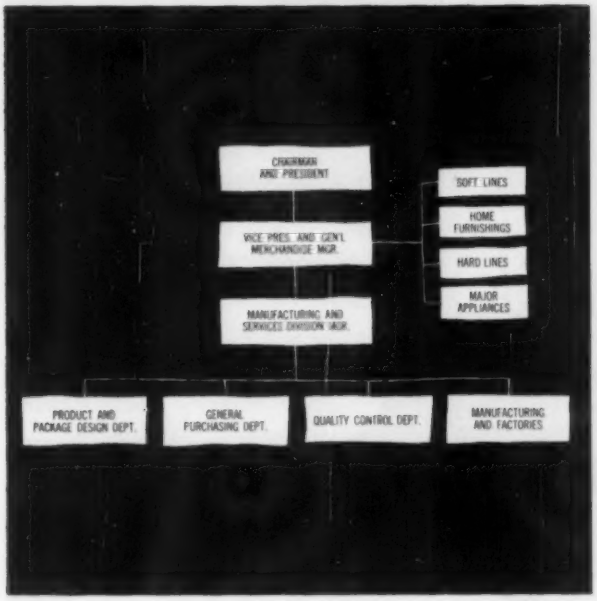


Chart shows chain of command from product and package design department up through manufacturing division to merchandising. Design manager Fred Priess now reports to R. L. Reeves, manager of manufacturing and service, who reports to Ward's overall marketing vice president, Charles W. Wood.

rejuvenation and experimentation paralleling that of the company.

Priess has now built up the Design Department to its former size and has selected William Farr as head of the department's package design section, with responsibility in four areas: corporate identity, brand name design, feature tagging and customer literature, and packaging itself. An additional responsibility is simply maintaining visual and dimensional order in the merchandise. When the company purchases sheets from six different sources, for example, the packaging group must standardize the folded size so that the end packaging will be uniform. (In soft lines Ward's usual method is to set standards, design the package and contract with the package supplier, then let each sheet source order from him).

An early and continuing assignment of Farr's group is corporate identity, and much of it is concerned with the changing character of Ward's public image. In recent years Ward's association with the farmer has been overshadowed by its wooing of the suburbanite. Following its customers in their move from the farm to the town, Ward opened its first retail store in 1927. By this year practically every one of Ward's 51 new retail stores were located in suburban shopping centers. Four years ago, after a thorough study, the packaging group did a contemporary version of Ward's historic M W monogram to represent "the new Ward's" (page 93). But neither symbol nor exterior signing (which used only the company's last name) accomplished all that was hoped. Especially in new areas, customers confused Montgomery Ward with other retailers named Ward. Now the company is using its full name on signs, and the package design section has modified their symbol to read more literally as M and W letter forms (page 93), giving equal billing to the first as well as last initial.

The development of a brand name program has been another important concern of the package design group. Armed with a study initiated by Ward's merchandising executives, Priess and Farr showed that the company was promoting over 250 brand names—some of them conflicting. Since it is obvious that the fewer the brands, the greater the possibility for concentrated promotion, management approved cutting the number back to 42 and Farr has tried to create a distinct graphic personality for each (see page 97). The new brands relate to *areas* of merchandise as the customer thinks of them—for example, Style House includes floor coverings as well as furniture. (The program might be even stronger if brand names consistently connoted the type of products they represent. Riverside, for example, could be a brand of rice, although actually it is automotive equipment). Also, because the design department is familiar with the merchandise in dozens of individual lines, it has had good


Guide for your new...
Riverside
mo-ped
MODEL NO. FZP-140108
MONTGOMERY WARD
SALEM SQUARE
QUALITY
Price-Less
DRESSES
PRESTIGE
Stainless
Steel
18-8 TRI-PLY
WATERLESS
COOKWARE
23"
Airline
TELEVISION
Pinehurst
living
leather
Treasure Chest
BLANKET
You're in good shape...
Stretch Nylon
BRENT
SUB ZERO
WARM WINDPROOF WATER REPELLENT
Cashmere
Brentshire
washable
auto

1


MONTGOMERY WARD

2

3

Scope and size of Ward's packaging operation are represented here with feature tag projects (1), which go out at the rate of 8 to 10 projects per week; corporate bags and boxes (2), of which Ward uses 123,000,000 a year; and a few of the 2,000,000 special packages (3) for Christmas season. Packaging section also redesigned old logo (4) last month to emphasize M and W letter forms (5).

4

5

opportunity to suggest additions to certain lines, deletions in others.

In another area, feature tags, Ward's packaging group faces more than the usual number of problems. The lack of the kind of advertising that goes behind national brands places an extra heavy burden on the Ward tags (left). If a potential buyer needs information on a Tru-Cold refrigerator, for instance, he is apt to get it from the feature tag. This means that the packaging group must convert the technical information and selling points sent up by the buyer into as powerful and attractive a tag as possible. Since eight to ten tag groups go out every week, work is carefully scheduled by Harold Stocker for Chicago and by Harold Chazen for the New York-based design detail which takes care of soft line packaging.

But the packaging group's most important role is, of course, packaging. And here again Montgomery Ward's particular kind of operation requires particular handling. Although only 30 per cent of the company's business now comes through catalog sales, these are serviced from the same distribution center as retail sales, and packaging must be sturdy enough to withstand shipping as well as over-the-counter selling. At one time, for example, Carol Brent Hosiery was packaged in cellophane for retail selling but in a simple paper package for mail order. Now the company finds it simpler to package both kinds of orders in cellophane, but for added protection the mail order stockings are slipped into a paper bag before going down the conveyer belt from storage room to packaging floor.

To insure the sound structure of all packaging, the design department's package engineers advise and set standards for each merchandising group. Over half the time package engineering supervisor John Jergovan works out his own structural solutions, but he also calls on package suppliers for help. It was Continental Can, for instance, who contributed to the design of the false-bottom folding box (page 94) now being used in Ward's test vending machines. Jergovan had first tried to pack the boxes with tissue paper, but then he found that the false bottom made a better cushioning device for the product when the boxes dropped through the vending machines.

The recent redesign of Ward's vitamin line shows the process by which merchandising aims get transformed into real packages. While requests for packaging may come from buyers, department managers, or division managers, it happened that merchandising vice president Charles W. Wood initiated the packaging order for vitamins, never a big Ward retail item. After Wood decided to push retail sales Kurt Ward, the department manager for drugs, and Jack Wolf, buyer for drugs, requested a whole new packaging program. In September, 1960, they asked

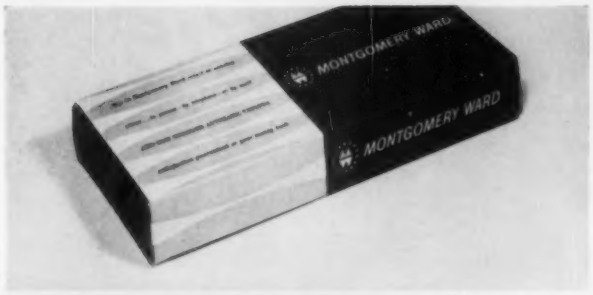

250 CAPSULES
Geriatric
Formula
WARDS
ENDORSED
100 TABLETS
Lecithin
Tablets
A NATURAL FOOD PRODUCT
EXTRACTED FROM SOYBEANS
Vitamin Diet
with Minerals
A NUTRITIONAL SUPPLEMENT OF THE DAILY DIETARY


WARDS
ONE-COAT
SUPER
HOUSE PAINT
Mind green
75-63
ONE-COAT
Satin
ENAMEL
pale amethyst
75-3728
75-113
75-4433

1—2
3—4


SPECIAL
5
PACK
FREE!
HANDY
OPENER
oil
season
Riverside
MOTOR OIL


PowrHouse



5

6

Vitamin packaging (1), paint line (2), and motor oil cans (3) are recently completed major projects of package design section. Section's more than 400 jobs a year include structural solutions such as tote-box boot package (4) and false-bottomed vending machine package (5); and surface treatments like that for lawn sprinkler package (6).

Priess and Farr to set up general goals, including a cost and time estimate. Since production on the 100-item line ran from 2,500 units for one item up to 1,000,000 units for another, Ward and Wolf decided to pro rate packaging costs for the line as a whole, thus achieving a low average box and label cost. (The company normally expects a new packaging program to pay for itself within the first year). Farr set May 1 as the deadline date, in time to have the line photographed for the Fall and Winter catalog. After running a survey to determine how Ward's vitamins and drugs were presently packaged, Farr launched a redesign program that included a new logo and color coding as well as new bottle designs (left).

A new brand name, "Ward's Endorsed," was selected by sales promotion manager Elwood Powell, Kurt Ward, Priess and Farr. The designers placed it in the center of a rounded triangle to make a simple, strong logo. Farr found that by coordination he could reduce the number of bottle sizes in the line from ten to eight for considerable packaging savings. He also eliminated the existing round bottle shape in favor of a rectangular bottle which provides a bigger display area and stacks better, important since some some of the specialty items come in runs too small to warrant boxes. Farr and Priess picked five colors —red, violet, orange, yellow and blue—for such areas of use as maternity and geriatrics. Because they could work quickly with already familiar packaging sources, the design group finished the assignment a month ahead of schedule.

"One of the problems of working as a service department," says Fred Priess, "is that we seldom are in a position to focus on a single program, but must shift gears from one problem to another every 15 minutes. While the outside design consultant has the advantage of choosing his job to some extent, we have to take them as they come. An advantage we have over the consultant," continues Priess, "is that we have had a few years to gain the confidence of our clients—the buyers and managers. We are also in a position to act as missionaries of good package design among our manufacturing sources. We sometimes find that the same manufacturer who retains a good consultant for the design of his products thinks any bread-wrapper artist can design his packaging."

But with the important exception of not having to design against competing brands, Priess believes that the merchandising approach of the Montgomery Ward package designer is similar to that of the outside consultant. Since the design department bills the company for its time on the board, and for outside type and photo services, its operating method is similar too. Now that the design department reports to the manager of manufacturing and service (chart, page 91) who reports to merchandising vice-president

Wood, the package designers have close contact with whatever merchandising policy the company formulates. At present, however, they carry out merchandising policy more often than they help to formulate it. The change made in one already well-designed package is probably traceable to this.

When Ward came out with a new line of paint packages this Fall, one puzzled observer remarked, "Why alter a good package (below) after only four years?" The complex answer tells a lot about the strengths and weaknesses of Ward's present design set-up. In 1955, when Dave Chapman, Inc. was asked to consult on design after the Avery resignation, one of their first assignments was the redesign of the labeling for paint line. Their answer was a neutral gray ground against which an actual color dot paint sample could stand out. Though expensive in terms of packaging costs, it showed the customer what color he was buying without having to refer to a color guide—and it was fairly handsome. But when veteran paint salesman Robert Jones joined the company last year as manager of the paint department he wanted to put his own merchandising ideas into action, most important of which was a new packaging program to increase customer self-service and sales.

"My idea," Jones explains, "was to make the paint department as appealing to women as the lingerie department. And I knew that if you're going to sell color to women you can't sell it in drab surroundings."

To give Jones what he wanted, Farr retained the color dot, but eliminated the uniform gray background in favor of light blue, green, yellow and orange labels indicating floor, exterior, interior, and enamel paint. While some of the new background colors tend to conflict with the color dots, Farr has minimized the conflict by replacing Chapman's circular form with a hexagonal shape which provides a larger neutral white area around the dot. Although by most designers' standards the new program lacks the integrated elegance of the Chapman design, it does make it easier for the customer to find the paint he wants. The company says that Jones' conviction that it will sell better is already backed by "a substantial increase."

Even if Jones is right, color *could* have been added to Ward's paint departments, and even types of paint could have been designated, without adulterating a good existing package design. The trouble may be that Ward lacks a clear-cut, effective system for integrating merchandising aims with good design.

This situation may get more attention now that Ward has hired a new president. Robert E. Brooker, president of Whirlpool until this month, will bring to Ward's the 15 years merchandising experience he picked up as a vice president at Sears, Roebuck. Whatever this experience has meant, it will soon be felt in the design program too.

Paint line packaging (1), designed in 1958 by Dave Chapman, Inc., was redesigned (2) this Fall in effort to win added sales. Ward includes its own merchandise under 42 broad-coverage brand marks (3), all designed by packaging section.

1

2


StyleHouse
PowrHouse
Pinnacle
BRENT
Garden Mark
Airline
SALEM SQUARE
LE GANT
Signature
POWR-KRAFT
ADAMS
Brentshire
suburbia
HAWTHORNE
fairway
WARDS
GUILD MARK
ROYAL OAK
TRU-COLD
brite world
Riverside
Trimgard
Pinehurst
SUN BRITE
RED HEAD
teen world
COVERALL
Treasure Chest
fashion stride
WARDS ENDORSED
SO-SOFT
tiny world
Carol Brent
FORWARD
SEA KING
wishmaker
PENN SQUARE
Charm world
WESTERN FIELD
skips
ELDECOR
Crisp-lyne

DESIGN REVIEW *1962 Cars*

Sneaking over walls, peering from elevated water tanks, Detroit's styling reporters have done their work well — the 1962 cars look vaguely like each other, or like last year's models, or those of the year before, or something from before the war, or something seen overseas. One small consolation is that repetition makes even the blatantly gross seem dull. If Detroit has noticed that part of the charm of foreign cars is their differentness from each other, it has tried to achieve the same effect by calling every slight variant by a different name. Once again, this leads the customer to think he has a wide range of choice. Once again, he hasn't. There is so much frenetic overlap in internal and external design that a small car can, for instance, cost the same as a large one with the distinction between them being simply one of greater or lesser mass. BY DANIEL LIST

Compacts

1. Valiant——This economy cousin of the Plymouth is decked with more chrome and bezazz, and is available with bucket seats. It is one of the few cars to feature an alternator instead of the old-fashioned generator.

2. Corvair——Newest in Chevrolet's Corvair line is the Monza 900. The basic line of the Corvairs has been continued, but a fake air intake is tacked on the front. These coupes and other two-door models have kept Corvair sales up to expectancies.

3. Falcon——Ford adds a luxurious simulated wood station wagon to the Falcon line. Mechanical changes are few, and only minor doctoring has been done on styling. Ford rarely tinkers with a winner.

4. Tempest——Pontiac's small offering retains its mechanically ingenious transaxle and "rope" driveshaft, but abandons the traditional Pontiac split grille for a "General Motors" look. The four-cylinder engine, actually a half-eight, is a unique "first" in American motoring.

5. Rambler American——Rambler has redesigned the grille in the American line, which last year resembled nothing so much as an arrangement of strips of razor blades. Note also a rear quarter design reminiscent of some currently available English cars.

1. (Opposite and below) Plymouth Valiant

2. Chevrolet Corvair

3. Ford Falcon

4. Pontiac Tempest

5. Rambler American

Super compacts

1. Chevrolet II—This new car from Chevrolet, designed to compete with the Falcon, and probably the Mercury Comet as well, is a smooth clean-lined, close relative of the full-size Chevrolet. Single headlamps are back, it appears. The II is available in a sports coupe called the Nova, and most other body types, including a convertible. Four or six-cylinder motor, depending on your needs.

2. Lancer——The Dodge Lancer, a relative success, is pulled along on the coat-tails of its more compact cousin, the Valiant. It features the novelty of some printed circuitry in its innards, and long mileage lubrication. Available also is a "Gran Turismo" model, a posh hardtop coupe with split seats, much instrumentation.

3. Oldsmobile F-85——The compact F-85 continues as before, but Oldsmobile has entered a new Cutlass coupe in the line. It is a sort of luxury, sporty compact gilded with such things as a padded dash and chromed stick shift.

4. Lark——The Lark loses its boxy look somewhat with the addition of 13 inches in length, a softening of detail, and a re-worked rear deck. However, this puts it on the road back to standard size, probably the wrong road. It used to be eminently parkable.

5. Mercury Comet——The new Comet is now available in nine models, and it is now obviously designed through Ford: there is a lot of Falcon in its general aspect (although it does away with the slant-eyed tail-lights), and it picks up the 1957 Thunderbird rear end.

6. Buick Special——Now in its second year, the Special adds a jazzy convertible. Well known for its advanced brakes, Buick has introduced a V-6 engine for the standard Specials. Optional extras include an aluminum V-8 motor and/or four-speed, floor-mounted gear shift.

7. Rambler Classic——The Classic is still far from classic; however, it is a simple, fairly uncluttered, uncomplicated automobile. It is also considerately priced, which blesses the father of the compact with the promise of a long life.

1. Chevrolet II

2. Dodge Lancer

3. Oldsmobile F-85

4. Studebaker Lark

5. Mercury Comet

6. Buick Special

7. Rambler Classic

Standards

1. Ford——Ford comes in two shapes this year: simple or complicated. Complicated costs money; simple is for the police. The standard line is entitled Fairlane, which used to be Ford's luxury tag. The top of the line is now the Galaxie, which features extra chrome trim, but retains the now-typical Ford bull's-eye tail-light and continuous-pattern grilles.

2. Chevrolet——Chevrolet has finally abandoned flyaway fins and picked up some rear-end ideas from the Pontiac division, a trick tried by Edsel some years ago. The Impala, its best standard sedan, continues a broad, four-headlight front.

3. Plymouth——Plymouth has disposed of the outrigger tail-lights, simplified their line. In an age of convexity, Plymouth features a concave grille with four lights, nicely mounted. The mesh design of the grille is reminiscent of the Sunbeam electric shaver head, only in reverse.

4. Dodge——Dodge will press the Dart from here on in; last year's good sales have prompted them to concentrate on it as their prime mover, and unload the Seneca and Phoenix categories. The resemblance of the Dart to the Lancer and Valiant is remarkable——e.g. the fender lines and overall styling details.

1. Ford

2. Chevrolet

3. Plymouth

4. Dodge

1. Chrysler

2. Mercury

3. Oldsmobile

4. Pontiac

5. Buick

Super standards

1. Chrysler——Chrysler has substituted a catchy numerical designation, 300, on a line of cars that used to be called by a name. Although the limited production letter series cars are continued, i.e. 300 F, G, H, etc., 300 is also the designation for a good-grade sedan using the 300 letter series grille and angled headlights. Chrysler's top-grade standard, the New Yorker, makes use of a scoop-mouth grille similar to that of the Dodge Polara and all other current Chrysler models.

2. Mercury——Mercury has abandoned the sculptured metal arrangements of the past few years. They added little to the tone of the car, but their departure leaves Mercury looking no longer particularly special. Much is derived from Ford, and the rear deck treatment is reminiscent of last year's Plymouth and Dodge. There are fewer models to choose from; this one is the Monterey.

3. Oldsmobile——Oldsmobile's Dynamic 88 and 98 cars are a mixture of Chevrolet shapes and Italian styling (in the handling of the hood, the arrangement of lighting and accessories). Hard-top convertibles have always been Oldsmobile's forte, and 1962 only points it up.

4. Pontiac——Many cars owe a great deal to the Pontiac styling department. This year's Pontiac has a rather menacing pointed grille, a stylized, modernistic version of the old pre-war grilles. The Pontiac Bonnevilles, currently third place in all car sales, are long but clean-lined and quite powerfully engined.

5. Buick——Buick continues to distinguish its cars by knocking holes in the fenders, a form of Buickness that has never quite been repudiated. Front end treatments are similar to those on the Oldsmobile F-85 and the Mercury and, not surprisingly, the Cadillac—the long, low, thin-mouth look.

1. Ford Thunderbird

2. Dodge Polara

3. Studebaker Hawk

4. Chevrolet Corvette

Sports cars

1. Thunderbird——Ford has brought out another two-seater Thunderbird that is basically the usual four-seater with the rear seats decked over and a headrest cowl built in. Another model, the "Landau," gets its name from a simulated landau iron stitched onto the fixed, metal, convertible-shaped top. Very snob. There is little change in the line's overall styling, just small details. The Thunderbird is still the old man's dream of a sports car. He hasn't got the kidneys to drive a Jag or a Maserati, so the Thunderbird serves. Also very big with wealthy college girls, for different reasons.

2. Polara——Dodge's Polara is a high-performance, limited-production V-8 model, a new type for Dodge, and a rival to Chrysler's 300 letter series. It has bucket seats, vinyl upholstery, and a very busy dash. The front end utilizes the Chrysler-type open-scoop grille with two sets of headlights; the Polara, however, mounts one set inboard on the grille; the others fly out on the fender edge. Signal lights are buried under the grille and are barely visible except head-on. An elongated hood completes the picture.

3. Hawk——For Studebaker. Brooks Stevens has styled an attractive finless Hawk model, probably one of the neatest restyling jobs to date. Studebaker occasionally comes up with some unusually (for the period) high styles, and the new Hawk is a great success. Almost austere, it owes something to the Ford, but not much. A light touch of chrome and a business-like dash give this Studebaker the right to call itself "Gran Turismo." It is that and more.

4. Corvette——Chevrolet's 1962 Corvette retains its basic shape, adds a different fender trim and a long strip skirt under the doors. It is available in a limited variety of horsepowers, but factory modifications will be possible. The Corvette, this country's only actual sports car, has produced a fine record on the race tracks, but makes an agreeably docile car for around town.

1. Chrysler Imperial

Luxury

1. Imperial——The stratospheric member of the Chrysler family remains unmoved from its concept of free-standing headlights, the so-called "classic car look". Tail-lights are back on top of the rear fender, and the front grille is minutely reconvoluted. Like Cadillacs, Imperials are not supposed to get outdated, but they may get over-styled.

2. Cadillac——It is becoming difficult to tell Cadillacs apart from year to year, which, from a financial point of view, is probably a good thing. This year's have slightly lower tailfins and a bulging spear running along the line of the wheel hubs. When the fins will disappear is a matter of conjecture; we estimate another two years. Cadillac details are usually neat, by and large, and the '62 highlight is a peek-around-the-corner turning signal that also illuminates, however faintly, the road in the direction the car will be moving. Interiors are plush and general quality is, well, Cadillac.

3. Continental——Ford's best car changeth not. After the lovely but over-priced 1956 Continental, it doodled around for four years with a succession of sculptured metal monstrosities, and has now gone ultra conservative. This version will be around for quite some time if we can believe the releases. With a more realistic price tag, the '62 Continental may give Cadillac a hard run in the luxury field.

2. Cadillac

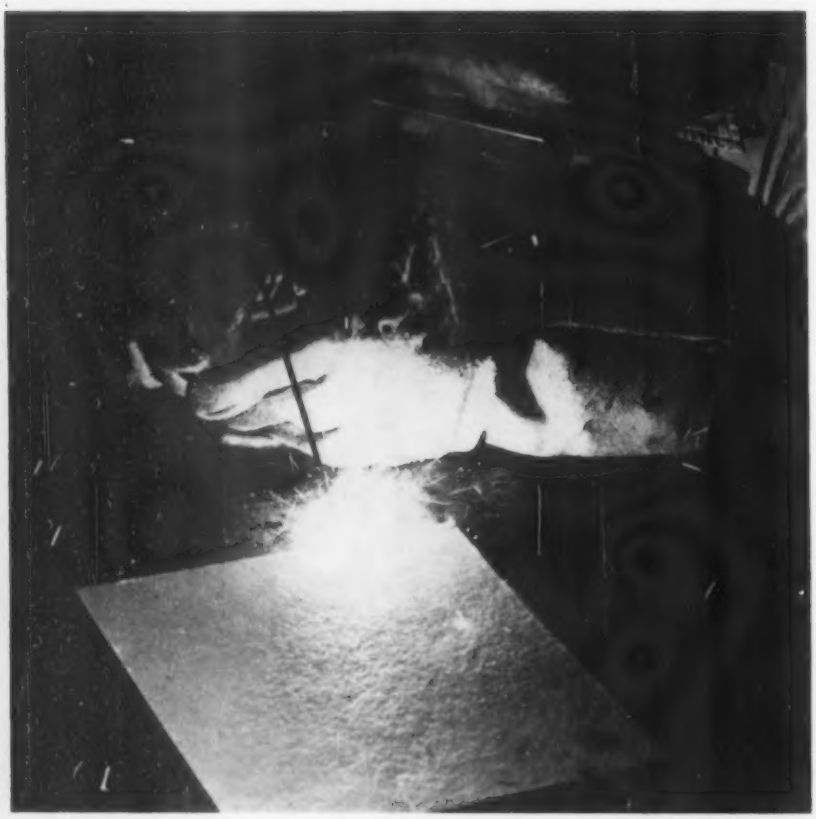
3. Lincoln Continental

Light utility

1. Jeep——The Jeep is the U.S. king of what might be called Truckettes, or off-the-road transportation. A tendency to soften the lines still leaves it simple, stark, but functional. Also available is a line of larger station wagons and pick-up trucks, all of them optionally with or without four-wheel drive.

2. Scout——International Harvester, who came up with an original in their Traveler, an oversize station wagon that stops just short of being a truck, recently appeared with the Scout, a smaller version of the Traveler. Available in a variety of body styles, it is a neat little vehicle and may find a place similar to that of the Jeep, which it resembles in freedom from fuss and frills.

1. Jeep
2. Scout



Quartz-fiber paper

Hot-and-cold paper

Quartz-fiber paper withstands temperatures to 3,000 degrees F., operates equally well in extreme-cold environments

Temperatures as high as 3,000 degrees F. in intermittent operation are withstood by a quartz-fiber paper which was designed for high-temperature applications such as missile nose cone shielding. The paper can also be used in cryogenic environments with temperatures as low as −459 degrees F.

Increasing speeds and miniaturization, with the resulting increase in heat, are opening new fields for the material, which is relatively inexpensive. The paper may, for example, be used with phenolic resin as a high-temperature laminate for ablation, and in heat shielding applications where standard paper forms are not suitable. The heat-resistant paper is one of a series which includes paper made from glass and ceramic fibers. All are available in sheet and roll form, in thicknesses of .0015 to .085 inches. They may be ordered in widths ranging up to 84 inches. *Manufacturer: C. H. Dexter & Sons, Inc., Windsor Locks, Conn.*

Tough beacons

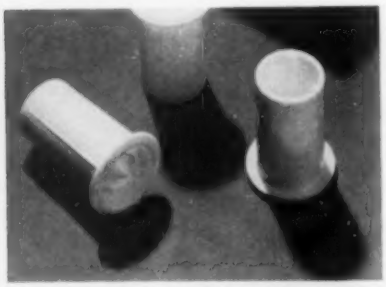
Miniature radio devices operate successfully even after air-drops

A family of miniature HF-VHF-UHF radio beacons—each so tough it can be air-dropped to remote locations without affecting its performance—has been introduced by Sperry Phoenix Company. The group consists of eight beacons, each covering a portion of the 2-260 megacycle region, with ranges up to 200 miles. They were developed for use at sea or ashore, to aid in such missions as recovering space capsules, air search and rescue, and accurate radio-navigation in remote regions. The beacons are crystal-controlled with a frequency stability better than .0025 per cent over a temperature range from −40 degrees to 70 degrees centigrade. They were designed for compatibility with airborne automatic direction finders AN/ARC-27 and AN/ARA-25, but can be adapted easily for use with other direction-finding equipment. *Manufacturer: Sunnyvale Development Center of the Sperry Phoenix Company, Sunnydale, Calif.*

Tube ventilators

Polystyrene tubing serves as wall ventilation, helps control humidity in frame buildings

Plastic tubes, molded from Dylene 400 polystyrene, provide wall ventilation in frame buildings. Called the Turb-O-Vent, the white tubes pull moisture laden air from wall interiors, thus help reduce



Plastic tube ventilators

the chances of paint blisters on the wall's outer surface. Air currents passing over the tube opening create a partial vacuum which sucks air through the tube. Tubes are one inch in diameter, one and a half inches in length. They can be easily installed in practically any space where moisture accumulation is likely to be a problem: beneath eaves, in sink cabinets, clothes closets, chests, stair walls, and storage and basement rooms. *Manufacturer: Turb-O-Vent, Inc., Elyria, Ohio.*

Street-sweeper bristles

Polypropylene filaments outperform natural fibers, other plastics, and steel wire

Street sweeper bristles may soon have a new look with a polypropylene monofila-

Keystrand bristles

ment which is said to possess cost and performance advantages over natural fibers, other plastic filaments, and steel wire. The filament is extruded from Enjay's Escon polypropylene by Keystone Plastics, Inc., to form a hard outer shell encasing an oriented center fiber, somewhat like a sheathed steel cable, with its corresponding strength characteristics. According to the manufacturer, the cable-like structure provides higher tensile strength, while the hard outer shell provides abrasion resistance, rigidity, and flexibility along with the bend recovery needed for handling heavy sweeping jobs. Called Keystrand, it withstands dry rot and water absorption. *Materials Supplier: Enjay Chemical Co., division of Humble Oil and Refining Co., Manufacturer: Keystone Plastics, Inc., Newark, N. J.*

Compact slide-switch

Half-inch switch suggests redesign opportunities for appliances, power tools, electrical equipment

Only a half-inch of mounting space is needed by a new 6-amp slide switch for household appliances, power tools, and other electrical equipment. The switch is ½-inch wide and ½-inch deep, excluding the trigger. Clearances are not affected by lead wires since the leads enter the switch base from the ends and connect to recessed terminals. The nickel-plated steel case is permanently attached to a molded nylon base and switch terminals are recessed within the base in individual barrier channels which prevent accidental contact between terminals. An optional nylon terminal shield, for applications which require complete electrical safeguards, snaps into place to enclose all "live" parts with additional insulation. The silver-plated terminals are adaptable to soldered or solderless connections. Two standard circuits are available—single pole, single throw and single pole, and double throw. Triggers come in eleven colors and varying heights to meet styling needs. It is called Series SS-37. *Manufacturer: Electronics Components Div., Stackpole Carbon Co., St. Marys, Penna.*

Diode protection

IBM glazes diodes and transistors to give reliable protection against dust and moisture

With the use of transistors and diodes in computers and other electronic equipment growing at enormous rates, the size of these components steadily decreases. Often the devices are so small that a thousand may be cut from a silicon wafer the diameter of a nickel. It is essential to their operation that the sensitive surfaces of transistors and diodes remain uncontaminated by moisture or dust. In the past, protective measures have been costly and of questionable reliability. Now, IBM has developed a coating process calculated to overcome these problems. First, transistors and diodes are fabricated conventionally on silicone wafers. Next, they receive initial protection from a thin coating of silicone oxide. The third step is application of glass powder to the oxidized surface, after which the entire wafer is oven-fired at over 1500 degrees Fahrenheit. A microscopically thin film of chemically resistant glass with a smooth, hole-free surface results. The tiny diodes and transistors are then cut from the wafer with an ultrasonic "knife." Electrical contact to the devices is made through small holes etched in the glass and oxide. *Manufacturer: Components Division, International Business Machines Corporation, N. Y.*

Micro-miniature diodes

Miniature computer

Twelve-pound computer can perform 33,000 mathematical calculations per second

A working model of a computer which is about the size of a loaf of bread has been demonstrated by the Burroughs Corporation and the method used to miniaturize the device is expected to have both commercial and military applications.

In building its computer, Burroughs used only readily available electronic components. Reduced size is made possible by a packaging system known as Macro-Module. A finned heat exchange unit is the central element. A 'log' or row of triangular chips (three-eighths inch thick and the height of a half dollar) contains electronic circuitry and plugs into a folded printed circuit board. This board folds around the heat exchanger with the chips fitting snugly between the heat exchanger's fins. In the Burroughs computer, two rows of chips, each ten inches long, contain the circuitry logic, memory, and other working parts of the computer. Capacity may be increased simply by extending the printed circuit board and adding to the number of chips. Its most valuable use should be in adapting military electronic equipment to fit in limited spaces in spacecraft and missiles. *Manufacturer: Burroughs Corporation, Detroit, Mich.*

Macro-Module computer

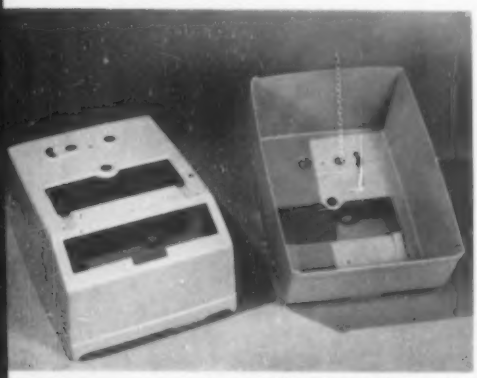
Forty-pound postal scale

Molded fiberglass gives cost and performance advantages to postage scale housing

Eighty per cent of all packaged mail weighs 40 pounds or less. This consideration recently led Pitney-Bowes, Inc. to add a 40-pound postal scale to its product line. In 1954 Pitney-Bowes put a 70-pound postal scale on the market, using

a molded fiberglass polyester resin for the housing. At that time there were cost advantages in production runs limited to 15,000 fiberglass units. Now, eight years later, the cost advantage has been extended to permit a production range of up to 40,000 units. Savings come from a reduction in the price of fiberglass and from production refinements, allowing more rapid manufacture. But the real saving is in tooling costs. Molds for the reinforced plastic housing cost less than $10,000, less expensive by $10,000 to $15,000 than alternative methods of die-casting or deep-draw stamping. In all, tool-up savings are said to be between 33 and 60 per cent.

The new scale will also take abuse



Fiberglass scale housings

well: fiberglass polyester resin will not dent or bend like metal. However, the plastic does bow slightly in long, straight, unsupported sections, a characteristic that the case's designers, Lippincott & Margulies, Inc., turned to advantage by molding the several rectangular and circular openings in the housing, rather than having them cut out during finishing. This eliminates raw edges, cuts finishing time, and reduces the per piece production cost.

Finish is a medium gray alkyd enamel baked on at 290 degrees F. At this temperature there is danger of blistering, and the housings are currently being given two priming coats.

The housing measures 13 by 17 by 8 inches. Wall thickness is .08-inch, and some dimensional tolerances are said to be .01 to .015-inch. The housing is molded under a pressure of 178 pounds per square inch, at a temperature of 250 degrees F. in a two and one half minute press cycle. Fittings are of zinc, chrome, and steel. *Manufacturer: Molded Fiber Glass Company, Ashtabula, Ohio.*

Portable infrared oven

Heating panel units can be moved, and re-shaped to accommodate a variety of curing oven problems

Electric infrared portable heat panels can be formed into any size to fit baking or curing ovens of any design. Low in cost, the infrared panels can give results equivalent to those obtained by custom-made process ovens. They are offered in a variety of widths and heights with the top sections hinged for inclining in an arc to form half an oven section. By placing similar units opposite one another, an oven of any size can be formed by merely rolling them into position and inclining each bank of units as desired. Panels are available in four reflector wattages (from 125 to 500 watts), and with heat sources of Chromalox Metarays or G-30 glass lamps. The heat sources have 12-inch square anodized aluminum reflectors for uniformity of radiation at distances of 10 inches or more. They are mounted in die-formed pressed steel banks of 4, 6, and 8-foot widths. A switch controls each reflector

Portable infrared panels

bank, and a 20-foot supply cord and cap is furnished for connection to 240-volt, 3-phase power supply. *Manufacturer: Radcor, Inc., subsidiary of Edwin L. Wiegand Company, Pittsburgh, Penna.*

Stately radar-dome decreed

Air Force structure in Massachusetts contains more than a million and a half cubic feet, is said to be world's largest radar-dome

A "dish" antenna, 120 feet in diameter, designed for global communications and space studies, will be accommodated inside the world's largest radome by the end of 1962. Erected at Tyngsboro, Massachusetts for the U. S. Air Force, the structure contains more than a million

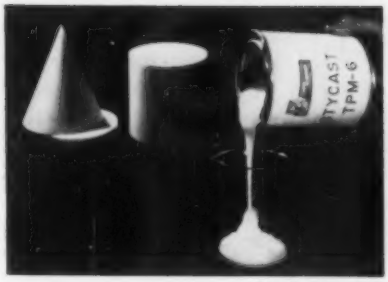
Air Force radar dome

and a half cubic feet of space, stands 134 feet high, and is designed to withstand winds up to 130 miles per hour. It bears a startling resemblance to a giant, truncated golf ball, measuring 150 feet across at its widest point, and 90 feet at its base. The frame is constructed of hollow aluminum beams up to 15 feet long. The skin covering of the dome is glass-fiber-reinforced plastic triangles, measuring up to 15 feet on a side, all with a thickness of only 30 thousandths of an inch. A total of 930 triangles, measuring an acre and a half, were used, and they are so patterned as not to interfere with the radio beam of the radar. Construction of the radome was accomplished through the use of an oil-well drilling tower with 70-foot long "arms" from which workers were suspended to the dome's surface. Constructed under the direction of the USAF Electronic Systems Division, the radome was designed by Lincoln Laboratory of MIT. *Manufacturer: H. I. Thompson Fiber Glass Company, Long Beach, Calif.*

Casting resin

Easy-to-use plastic can be molded at room temperature, holds dimensions well and has outstanding electrical properties

Stycast TPM-6, an easy-to-use casting resin, is gaining wide use as an encapsulant and sealant in a variety of radio frequency and microwave applications. It is a cross-linked polyethylene-type formulation, moderately priced, easily machined, and possessing excellent electrical and physical properties. According to the manufacturer, it can be used as a direct substitute for polyethylene in cables, connectors, insulators, and transmission lines, will not cold flow, and has a temperature capability surpassing that of polyethylene by approximately 200 degrees F. Although it costs only a fraction of the cost for polytetra-



Ready mix resin

fluoroethylene, it is said to out-perform it in thermal dimensional stability. Since no catalyst is required, it can be mixed and poured from its own container. *Manufacturer: Emerson and Cuming, Inc., Canton, Mass.*

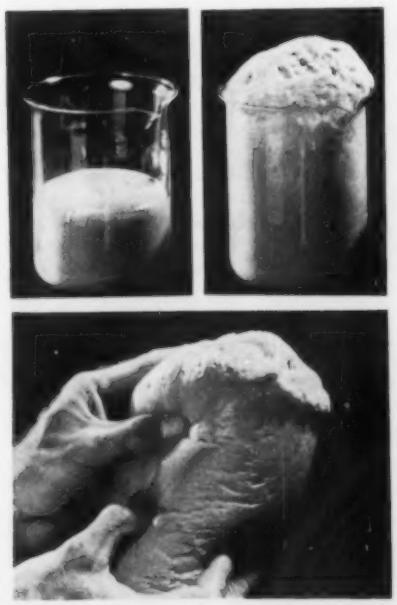
Silicone rubber foam

New foam expands sevenfold, cures at room temperatures and can be handled five minutes after it has been poured in place

Dow Corning has developed a silicone rubber foam that vulcanizes at room temperature. Called Silastic RTV, it is supplied as a low-viscosity fluid base with a separate catalyst. When base and catalyst are mixed, foaming begins, and within approximately five minutes the foam is firm enough to handle. Vulcanizing continues, however, for about 24 hours. With foaming, the material expands, reaching a maximum sevenfold increase in three minutes. The foam is resilient from −100 to 500 degrees F.

Applications suggested for Silastic RTV include thermal and vibration insulations, cushioning and sealing. Before the foaming is complete, the catalyzed fluid pours easily, and it can be substituted for fabricated sponge in hard to reach places. It can also be molded with cardboard or aluminum foil into a variety of shapes and parts. *Manufacturer: Dow Corning Corporation, Midland, Mich.*

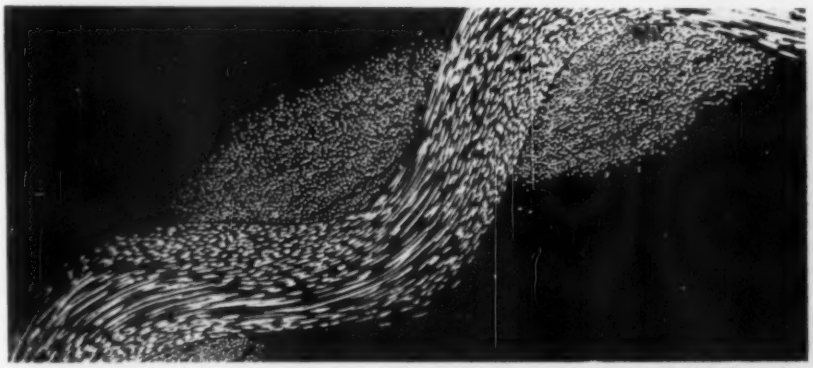
Silicone foam



Graphite cloth

Woven graphite provides durable, high-temperature resistant surface

The accompanying photograph shows a piece of cloth, woven from a one-ply graphite yarn, magnified 150 times. More than 1440 filaments per twist are visible. This close weave gives strength to the fabric which is used (combined with plastic resins) in high-pressure, high-temperature molding of missile and rocket motor components such as nose cones and exhaust nozzles. *Manufacturer: National Carbon Company, Division of Union Carbide Corporation, N. Y.*



Graphite cloth cross section

Super-sensitive heat detector

Infrared sensor, product of low-temperature physics, detected changes in lunar temperature during recent total eclipse

When the moon cooled off during a recent total eclipse, the change in temperature was recorded by an infrared detector developed by Hughes Aircraft Company. The detector, which operates at −452 degrees F., will be included in equipment the company is developing for the U. S. Navy. The infrared eye incorporates a miniature refrigerating device known as a closed cycle liquid helium cryostat, which weighs approximately 27 pounds and has a volume of less than one cubic foot. At the minimum operating temperature of 4.2 degrees Kelvin (−452 degrees F.), only a small amount of power is needed. *Manufacturer: Hughes Aircraft Company, Culver City, Calif.*

Redesigned gyro

New instrument, half the size of earlier models, is suggested for use on stand-by duty

A vertical gyro instrument for aircraft is half the size of previous models, one-quarter the weight, and stands 2 inches high. Designated "VIGIL" (Vertical Indicating Gyro Internally Lighted), it is designed to serve as a stand-by to support larger indicators normally used to indicate the attitude of the airplane to the pilot. Comparable stand-by instruments consist of an indicator, remote gyro, rate switch, and connecting cables. In the miniaturized VIGIL all have been incorporated into a single unit. The device offers an increase in reliability and accuracy due to the elimination of cabling and connectors. Component reductions result in lower costs, space savings, and increased flying safety. The gyro rotor in the indicator is the size of a golf ball, a marked reduction in size, and the indicator is linked mechanically to it. The device is internally lighted, either in red or white, and is designed for a warning flag displaying the word "off" to appear automatically at the lower part of the instrument in the case of an incapacitating power failure. *Manufacturer: Guidance Technology, Inc., Santa Monica, Calif.*

Vibrating feeder

Miniature feeder handles products, materials as small as powder

A vibrating feeder for parts as small as fine powders sets a record for miniaturization in its field. It is 3 inches in di-

ameter by 2⅜ inches high, and may be built right into work stations. It is extremely rigid due to a unique construction which utilizes pre-load springs. Escapements are machined directly into the tough, light-colored plastic bowl, thus eliminating troublesome gravity chutes. The feeder is priced at $160 and is delivered complete with controls and one bowl. *Manufacturer: The Minimus Company, Los Angeles, Calif.*

Fiberglass ceiling units

Vaulted, two-foot ceiling squares are made of polyethylene, fiberglass sandwich and absorb 80 per cent of room noise

A fiberglass ceiling unit provides both decoration and sound proofing. Consisting of two-foot square molded panels that are slightly vaulted, the unit is said to give an illusion of added height to a room. It also absorbs 80 per cent of the room noise that strikes it, according to the manufacturer. Made of a polyethylene binder, sandwiched between two fiberglass slabs, each panel is molded at high temperature and pressure. Its fire resistance is claimed to be excellent, and its flame spread rating is zero.

The unit, called Acousti-Shell, is supported by a grid system of formed metal, suspended from an overhead slab by wires or straps. It is durable and light: 200 square feet of Acousti-Shell panels stack neatly into a compact carton weighing 25 pounds. It is suggested for use in offices, executive suites, hotel or theater lobbies or restaurants. *Manufacturer: Johns-Manville, New York, N. Y.*

Nuclear-magnetic boiler unit

Double boiler uses nuclear-magnetic spin resonance to achieve higher vapor intensification and greatly reduced interlock in operation

A nuclear-magnetic boiler unit, said to have greater vapor intensification than existing units, is now available for development testing in pilot plant quantities. Called the Double Boiler, the new device is constructed of welded steel plate, sheet steel, and high filtration oil filters, and is mounted on a modular frame pedestal. Designed by Richard Stankiewicz, the assembly is said to be resistant to sea-

Low interlock boiler

spray, amino acids, and group analysis. It is expected to have a variety of industrial and military applications.

The principle of nuclearmagnetic spin resonance permits the Double Boiler to operate in the environments cited above with a lower amount of interlock than had previously been possible. It can be ordered with solenoid-operated release features and non-fouling removable retainer plates. *Manufacturer: Diametric Conditioning Company, Ames, Iowa.*

Teflon conduit

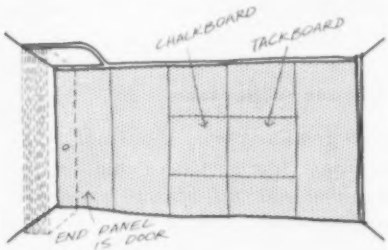
Seamless spiral tubing withstands deterioration, corrosion, contamination inside and out

Teflon is now being used to make a seamless flexible conduit for use as spiral tubing. Called Fluoroflex-T, the tubing eliminates the hazards of deterioration, corrosion, and contamination on both inside and outside at temperatures from −100 degrees to 500 degrees F., and can be easily used in a wide variety of low pressure flexible connection and transfer problems in labs and factories. The range of applications for the tubing includes connections to tanks, centrifuges and pumps; loading and decanting vessels and drums; high-temperature, corrosion-proof vent lines; low-pressure pipe connections; fume ducts; and electrical conduits. Sizes range from ½ inch to 3 inches with planned expansion to 6 inch diameters and in lengths up to 10 feet. The seamless conduit is available with straight tubular ends suitable for clamping or lap joints, and light weight flanges as standard equipment. *Manufacturer: Resistoflex Corporation, Roseland, N. J.*

Movable, soundproof wall

Movable wall incorporates steel, rock-wool insulation for sound barrier; thirty-foot wall section can be stacked in two-foot storage space

A high degree of noise control has been achieved along with flexibility and uncomplicated operation in the newest Hauserman wall, a movable system called Operable Wall, made in 40, 44 and 48-inch modules of steel and rock-wool sandwich panels. It is expected to be particularly appropriate to schools requiring classrooms of changeable sizes, and for



Modular wall system

this reason the modules can be specified with chalk or tackboard surfaces. The standard unit comes in a baked enamel finish in a range of 12 basic colors.

The lightweight panels glide along self-lubricating trolleys at ceiling level, and floor-mounted guide tracks eliminate lateral sway. Continuous top and bottom seals are silicone-treated and the panel joints are double sealed with interlocking neoprene gaskets. In place, the sealing arrangements give the stability of a permanent wall. When the wall is stacked away, the neoprene gaskets serve as hand grips for sliding panels and act as bumpers to protect stacked panels so that materials need not be removed from chalk or tackboard modules.

A 30-foot long section for example, slides readily in and out of place on its hanger assembly in seconds. And it can be stacked in a space less than two feet deep. Because it is manually operated there are no machine or electrical components. *Manufacturer: E. F. Hauserman Co., Cleveland, Ohio.*

FREE LITERATURE *available from manufacturers, on materials, components, processes, machines*

Materials—Plastic

Fibrous Glass Reinforced Plastics. Cadillac Plastic and Chemical Company, 15111 Second Ave., Detroit 3, Mich. 16 pp. Catalog and price list of materials for fibrous glass-reinforced plastics. Available sizes, grades, and prices are shown under each material along with thumbnail descriptions of properties and recommended applications.

Synthetic Fiber Felts. American Felt Company, 2 Glenville Rd., Glenville, Conn. 8 pp. Bulletin 4-61 describes synthetic fiber felts of polypropylene, Teflon, Dacron, Dynel, rayon, viscose, Orlon and nylon which are available in several types of material constructions ranging from pad types to high density filter fabrics.

Materials—Metals

Construction Steels. Market Development Division, Room 2809, U. S. Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa. 28 pp. A new booklet, "New Steels . . . New Shapes . . . New Concepts . . . Toward More Efficient Steel Design and Construction," summarizes the more significant developments in constructional steels, and newest design concepts for their most effective and efficient use.

Light Metals Data. Brooks and Perkins, Inc., 1950 W. Fort St., Detroit 16, Mich. 44 pp. Design data on characteristics and properties of light metals including magnesium, aluminum, and titanium. Lists comparative values for various metals, to assist in the selection of materials.

Aluminum Boxes and Covers. Joe E. Daniels, Zero Manufacturing Company, 1121 Chestnut St., Burbank, Calif. Supplement Catalog B-60 describes additional aluminum boxes and covers available from stock for packaging electronic components or instruments.

Metal and Rubber Seals and Gaskets. Stillman Rubber Company, 5811 Marilyn Ave., Culver City, Calif. 8 pp. Brochure, "Specialists in Sealing," describes line of products designed and manufactured by Stillman.

Methods and Machines

Photo - Optical. Consolidated Systems Corporation, Photo-Optical Division, 1725 South Park Road, Monrovia, Calif. 16 pp. Brochure describes the military camera, photo instrumentation, and optical production capabilities of the Photo - Optical Division.

Manufacturing Engineering Brochure. Manufacturing Systems Division, Designers for Industry, Inc., 4241 Fulton Parkway, Cleveland 9, Ohio. 14 pp. Pamphlet explains how to analyze machinery investments and how to decide when and what to automate. Also discusses the relative merits of buying from a special engineering firm rather than a machinery builder.

Pattern Making Services. Alloy Steel Casting Company, 996 County Line Rd., Southampton, Pa. 4 pp. Patternmaking services for sand and investment casting, and for production of components in fiberglass are described in the folder. Also outlined is the scope of pattern services available both to casting customers and to other plants that need such production aids.

Electric Welding. Linde Library of Electric Welding, Linde Company, 270 Park Ave., New York 17. Linde Library contains process and application details on short arc welding, mig and tig welding and spot welding, submerged arc welding, CO_2-flux arc welding, and plasma arc welding. These papers have been presented at meetings of technical societies and published in industrial journals.

Piping Design and Analysis. Mr. Francis J. Jackson, Assistant Director, Franklin Institute Laboratories, 20th and Parkway, Philadelphia 3. 4 pp. Ill. Leaflet describes how Laboratories' engineers use the Institute's (Univac) Computing Center for piping design and analysis.

Dielectric Testing Seminar Notes. Associated Research, Inc., 3777 W. Belmont Ave., Chicago. Bulletin 10-15.1 is a reprint of excerpts from a seminar held to clarify some of the confusion and disagreement regarding dielectric testing. Bulletin is titled "High Potential Dielectric Testing."

Method of Presenting Goal-Directed Data. Compton Chart Productions, 239 East First Ave., Roelle, N. Y. Bulletin describes and illustrates a new "Target" method of graphically presenting goal-directed data. Concept is suited for plotting sales performances, production quotas, financial figures, and other quantitative data, showing clearly how closely the data approaches the goal or innermost circle.

Tools and Components

Institutional and Industrial Casters. Wagner Industrial Products Company, Inc., 4677 North 32 St., Milwaukee 9, Wis. 20 pp. Ill. Catalog covers Wagner line of institutional and industrial casters in the light and light-medium duty (CFTMA load capacity range). Includes guides to selecting and ordering the proper caster for specific applications.

Industrial Lighting Catalog. Stonco Electric Products Company, 333 Monroe Ave., Kenilworth, N. J. Catalog B-62 illustrates a variety of weatherproof cast aluminum fixtures, floodlights, and luminaires designed specifically for industrial applications.

Instrument Counter. Durant Manufacturing Company, 1976 N. Buffum St., Milwaukee 1, Wis. 16 pp. Catalog 400 describes the Durant line of mechanical and electrical instrument counters. Designed as a ready reference in determining the counting instruments best suited for particular applications.

High Temperature Wires, Cables, Tubings, etc. Hitemp Wires Company, a division of Simplex Wire and Cable Company, 1200 Shames Dr., Westbury, N. Y. 58 pp. Catalog is a complete compendium of Hitemp's product lines, including Teflon tubing. Contains synopses of government wire specifications, commercial specifications, new product highlights, U.L. listings and ratings, etc.

Gyro Information for Engineers. Kearfott Division, General Precision, Inc., 1150 McBride Ave., Little Falls, N. J. Publication entitled "Technical Information for the Engineer—Gyros" details the theory, performance, application, construction, and testing of such gyroscopic instruments as rate; rate integrating; free, vertical, and directional gyros; as well as stable platforms and accelerometers.

FREE LITERATURE *continued*

Multi-Point Gages. Republic Flow Meters Company, 2240 Diversey Parkway, Chicago 47. 4 pp. Bulletin 322.11 presents the complete line of Rockwell-Republic multi-point gages for indicating draft, pressure, differential and temperature.

Brass Strip. Chase Brass and Copper Company, Waterbury 20, Conn. 4 pp. Ill. Bulletin reports on a special process (S-19) brass strip detailing cost savings, characteristics, applications, and performance of the strip.

Grease Summary. Bardahl Manufacturing Corp., 1400 N.W. 52 St., Seattle 7, Wash. 32 pp. Booklet covers in a concise, easy-to-read summary the basic principles, properties, types, and rules for choice and application of lubricating grease, including the effect of additives on the properties of grease.

Timers. Heuer Timer Corp., 441 Lexington Ave., New York 17. Over 100 different timers, from a basic stopwatch to a synchronous chronoscope for measuring intervals to 1/100 of a second are described in a new stopwatch selection guide. Complete data and specifications on construction, method of operation, size, and reading are given for each timer.

Relays and Allied Components. American Relays, 39 Lispenard Street, New York 13. Catalog listings include time relays, sensitive and plate relays, differentials, hermetically sealed, keying and telephone relays, etc.

Electrostatic Generators. Sames-USA, 30 Broad St., New York 4. 8 pp. Brochure describes the company's line of electrostatic generators used in nuclear physics, insulation testing, electron microscopy and optics, x-ray generation, and electrostatic precipitation. Complete specifications for these high voltage dc power supplies are included, covering models ranging from 50 kv to 600 kv output.

Pipe Insulation. United Foam Products Company, 2990 Industrial Blvd., Bethel Park, Pa. Publication explains the recently introduced Hewflex urethane pipe insulation and describes its low k value, its effective resistance to water and moisture vapor, and its extreme flexibility.

Solution Metering Pump. Technical Information Department, Beckman Scientific and Process Instruments Division, Fullerton, Calif. 2 pp. Ill. bulletin describes the features, specifications, and operating principles of the pump, which is designed for any application where small quantities of fluid must be precisely delivered.

Closed-Bore Electric Motor Components. EMD Components, Inc., 1450 E. 289 St., Wickliffe, Ohio. Catalog Series 100 provides detailed dimensions, performance curves, and available standards for the new EMD closed-bore design electric motor components.

Evaluation of Strapping Materials. Robert K. Scharff, Industrial Packaging Dept., American Viscose Corp., 1617 Pennsylvania Blvd., Philadelphia 3, Pa. 12 pp. Illustrated report discusses the strength and performance of "Avistrap" cord strapping, the rayon packaging material.

Miniature Precision Instrument Clamps. Sterling Instruments, Division of Designatronics, Inc., 17 Matinecock Ave., Port Washington, N. Y. 40 pp. Pocket-sized catalog presents diagrams, specifications, and O.E.M. list prices for over 150 different types of miniature instrument clamps.

Electronic Retention Cooling Devices. Charles F. Booher, Birtcher Corp., Industrial Division, 745 S. Monterey Park, Calif. 8 pp. Catalog 1-W discusses more than 10,000 electronic cooling and/or retention devices available. Contents includes description and technical data on tube clamps for retaining tubes and electronic components, JAN shield inserts for tubes, transistor retaining clips and transistor/component heat radiators.

Guide to DC Power Supplies. G. S. Corigliano, Meaker Company, Nutley, N. J. 56 pp. Guide describes semiconductor power rectifiers for every ac to dc application, including: anodizing, aircraft ground power supplies, battery chargers, capacitor manufacturing, current limiting, etc.

Automatic Electronic Balances. Mettler Instrument Corp., P.O. Box 100, Princeton, N. J. Bulletin 101A exhibits a complete line of low-weight range automatic electronic balances for check weighing, sorting, statistical evaluation, and production control.

Castings. Sales Promotion Dept., Advance Foundry Company, 107 Seminary Ave., Dayton, Ohio. Ill. Bulletin presents the products and services available from the company. Of particular interest is the "one-source" service, featuring engineering assistance at all stages from design to delivery of the finished-machined part.

Contactors and Starters for Air Conditioning. General Electric Company, Schenectady 5, N. Y. Bulletin GEA-7316A describes GE's line of contactors and starters for air conditioning, refrigeration, and resistance-heating applications.

Small Diameter Tubing. J. Bishop and Company, Platinum Works, Malvern, Pa. 20 pp. Bulletin No. 13 sets forth the sizes, specifications, finishes, tolerances, chemistry, and suitable applications of Bishop's small diameter tubing line up to 1 inch O.D.

Brand Fasteners. W. H. Gibbons, Dept. 14, Tinnerman Products, Inc., P.O. Box 6688, Cleveland 1, Ohio. 3 pp. Bulletin 359 graphically and concisely presents the Tinnerman line of Speed Nut brand fasteners.

Miscellaneous

Military Specifications. C. R. Brothwell, Macallen Company, Inc., Newmarket, N. H. Bulletin 13 incorporates military specifications for MIL-I-3505C and MIL-I-2107A (ships). Believed to be the only completely separate, up-to-date military specifications bulletin available.

Exposition Publicity. Business Equipment Manufacturers Exhibits, Inc., 235 E. 42 St., New York 17. Booklet pinpoints the differences between corporate, or product, publicity and exposition techniques. Its main theme is cooperation—showing the need for concentrated service by exhibitors' personnel to the varying needs of the working press.

Terminology Glossary. Servo Corporation of America, 111 New South Road, Hicksville, N. Y. The one-page sheet, entitled "Glossary of Optical Terminology," covers a wide range of technical terms from "aberrations" to "surface reflection."

Modern Mapmaking. Keuffel and Esser Company, 3rd and Adams St., Hoboken, N. J. 12 pp. Brochure explains fundamentals used in producing color-separated maps. Step-by-step procedures and double spread demonstrations show how Stabilene films can be used for time and money short-cuts in the preparation of multicolor aeronautical maps.

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EXHIBIT PRODUCTION DIRECTOR—*Executive level—Permanent position all benefits, write fully, in confidence stating background and salary bracket. Agencies please note. Ivel Construction Corporation, 1st Avenue & 53rd St., Brooklyn 32, New York.*

MISCELLANEOUS

PRODUCTS WANTEDS—*Well established research and development company desires to contact designers and inventors having new, novel and original ideas or inventions for toy or hobby field. Royalty or outright purchase. Prefer items two dollars retail and higher. Any accepted medium OK. Please send for submission forms. Box ID-422,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22, New York.*

Index to Advertisers

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INDUSTRIAL DESIGN, published Monthly at New York, N. Y., for October 1, 1961.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, Charles E. Whitney, 18 East 50th Street, New York 22, N. Y.; Editor in Chief, Ralph Caplan, 18 East 50th Street, New York 22, N. Y.; Managing Editor, Betsy Darrach, 18 East 50th Street, New York 22, N. Y.; Business Manager, none.

2. The owner is: Whitney Publications, Inc., 18 East 50th St., New York 22, N. Y. Following is a list of stockholders owning one per cent or more of the total amount of stock:
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3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None:

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 10,744.

CHARLES E. WHITNEY,
Publisher

Sworn to and subscribed before me this 2nd day of October, 1961.

ANNE HARMSE.
(My commission expires March 30, 1963)

CALENDAR

Through December 31. National Housing Center presents exhibit on family fallout shelters. 1625 L Street, N. W., Washington, D. C.

November 5-December 3. Exhibition of works cast by the new Mendota sculpture foundry. Walker Art Museum, 1710 Lyndale Ave. South, Minneapolis, Minn.

November 18-January 15. "Fabrics International." Fabrics selected from all over the world. Museum of Contemporary Crafts, New York.

November 19-January 28. Exhibit "Japan: Design Today." Munson-Williams-Proctor Museum of Art, Utica, N. Y.

November 6. Western technical conference, sponsored by the Los Angeles section of the American Institute of Electrical Engineers. Biltmore Hotel, Los Angeles.

November 8-10. Annual convention of the National Warm Air Heating and Air-Conditioning Association. An address will be given by Commissioner Neal J. Hardy of the Federal Housing Administration. LaSalle Hotel, Chicago.

November 13-15. Annual technical and operating conference of the Steel Founders Society of America. General chairman, Dale L. Hall. Hotel Carter, Cleveland.

November 15. Society of Plastic Engineers regional technical conference, sponsored by the society's New York section. Subject: Vinyl Plastics in the Household. Statler-Hilton Hotel, New York.

November 15-17. Annual display of the Aerospace Electrical Society. Pan Pacific Auditorium, Los Angeles.

November 16. Packaging Association of Canada, Ontario Chapter, Technical Institute on Color Standardization. Time and place to be announced by Packaging Association of Canada, 1835 Yonge St., Toronto 7, Canada.

November 23. Canadian Package Design Council presents "Packaging Forecast." Sponsored by the Packaging Association of Canada. Time and place to be announced by the Association (see address above).

November 27-29. Special-materials conference held by the American Management Association. Savoy-Hilton Hotel, New York.

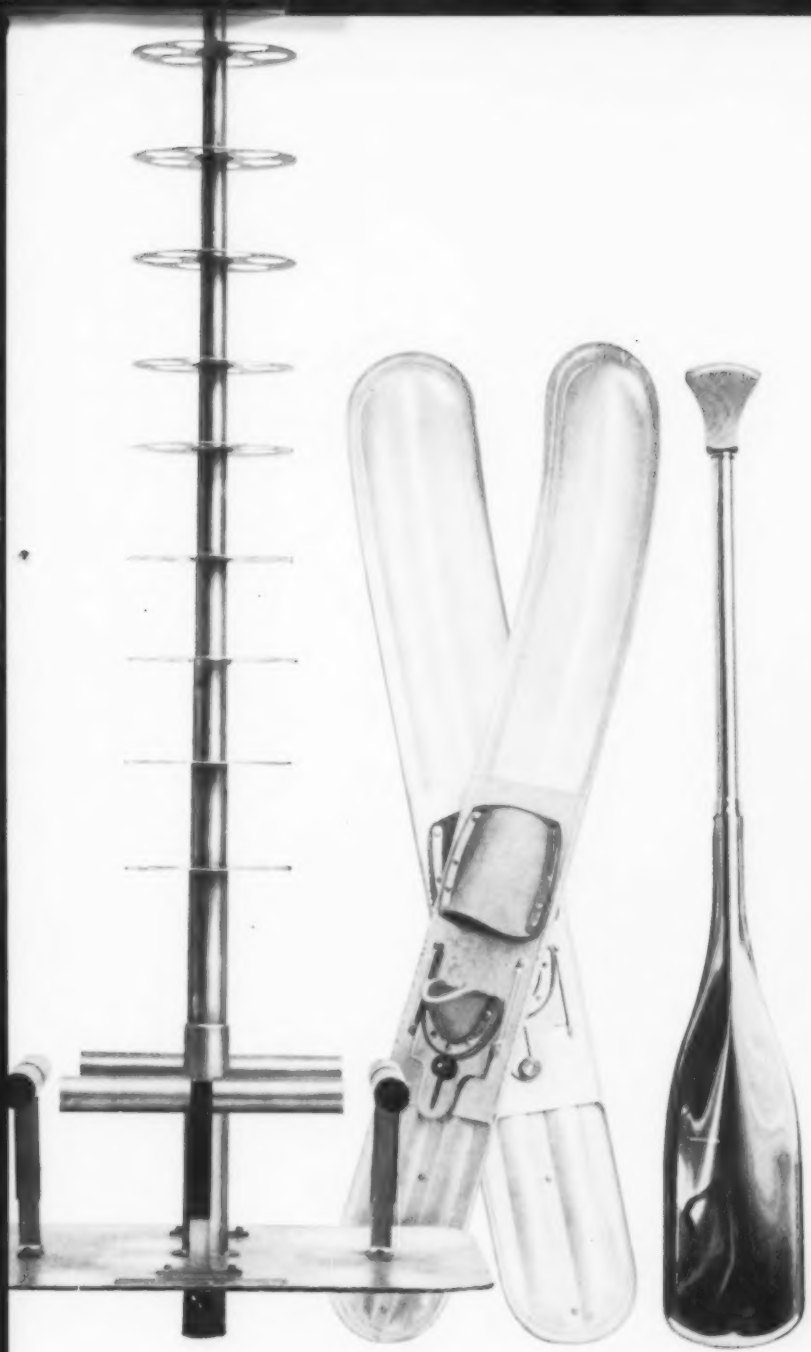
November 27-29. University of Texas Conference on "Mass Communications and Understanding of Science." Dr. Dewitt C. Reddick, director. University of Texas, Austin, Texas.

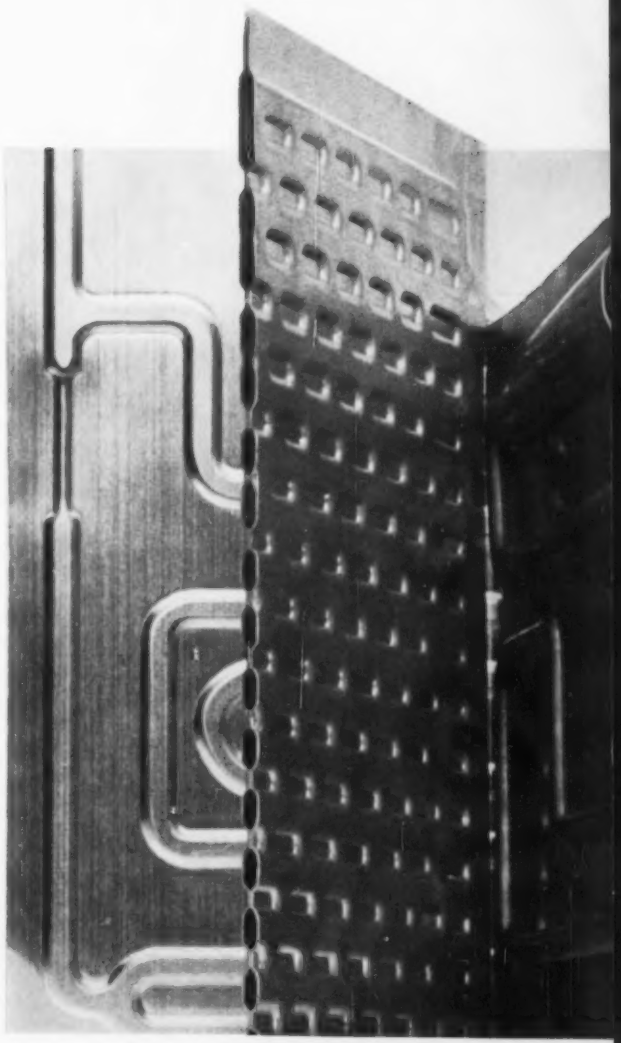
November 27-December 1. Regional corrosion conference sponsored by the Southeast Region of the National Association of Corrosion Engineers. Key Biscayne Hotel, Miami, Fla.

November 28-30. Building Research Institute's fall conferences. Feature topic will be "Identification of Colors for Building." Mayflower Hotel, Washington, D. C.

December 1. Society of Plastic Engineers regional technical conference. Theme: Screw injection molding. Sheraton-Cleveland Hotel, Cleveland.

December 2-5. Visual communications conference, sponsored by the Society of Reproduction Engineers, the American Institute for Design and Drafting, and the American Records Management Association. Biltmore Hotel, Los Angeles.





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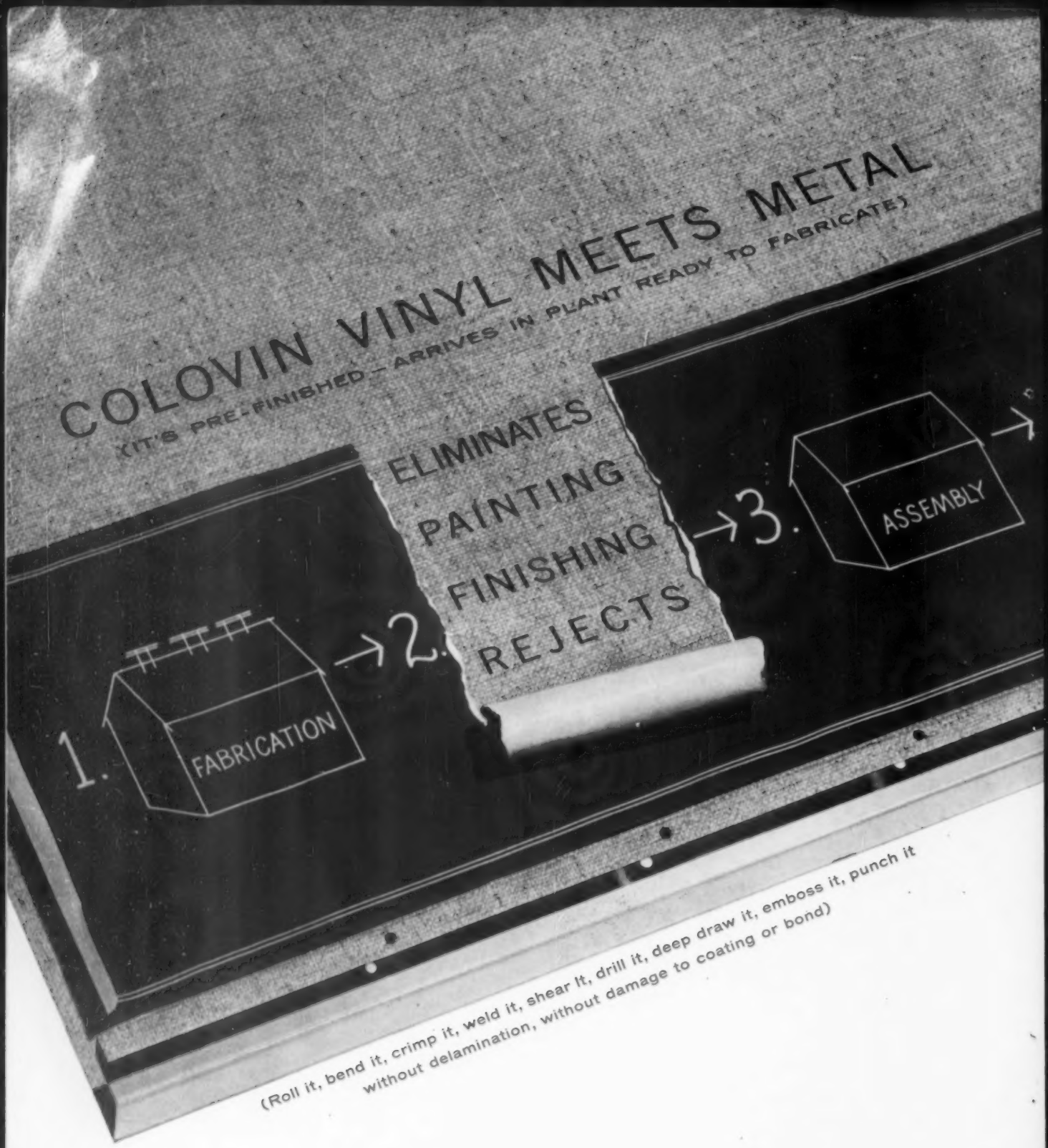

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