INDUSTRIAL DESIGN

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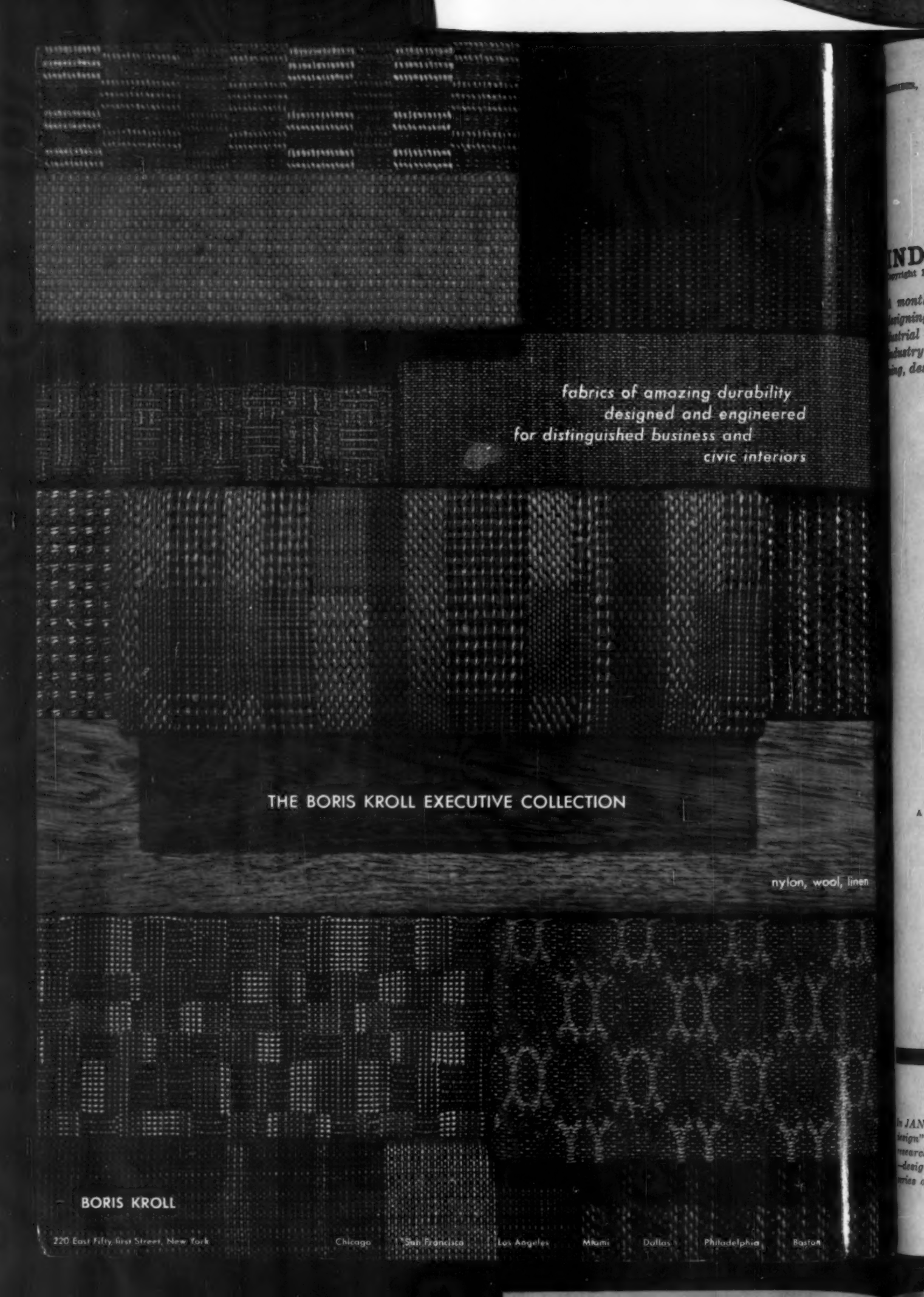
ANNUAL DESIGN REVIEW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ER, 1957 VOLUME 4 NUMBER

12

INDUSTRIAL DESIGN

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

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In JANUARY — the first comprehensive study of "pre-design" research, explaining how market and motivation research techniques serve the designer. In FEBRUARY —design behind the Iron Curtain; beginning of a new series on packaging problems.

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onstrated in "Translusion," a pattern created by Arno Scheidig for
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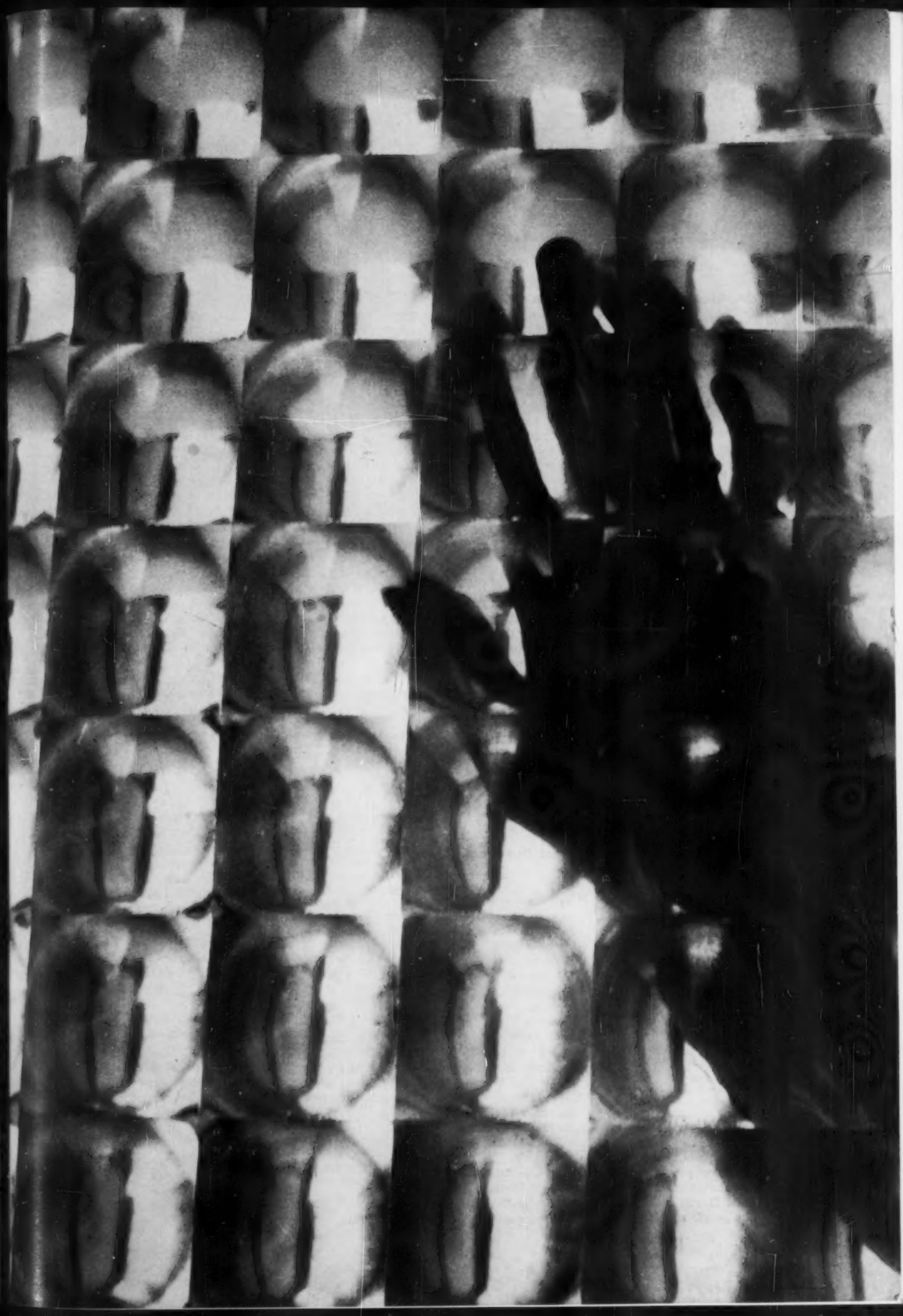


LETTERS

Even more ingenuity

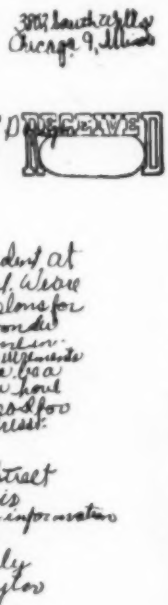
Sirs:
The Calypso musician on page 65, September ID, would be very disturbed if he heard you calling him a drummer. He has indeed created a new use from an old package, but it is much more ingenious than you think.

The various facets outlined in paint on the face of the instrument each give out a different note. With a tone somewhat like that of a marimba, he is playing the melody instead of "keeping a steady beat."

This instrument is the basis for the overall sound (and name) of a Calypso Steel Band.
C. L. Williams, Jr.
Walter Dorwin Teague Associates
New York

Future designer

The editors feel that the following exchange between Dave Chapman and a young designer-to-be speaks for itself.


3702 Southwell Ave
Chicago 9, Illinois

Dave Chapman Industrial Design
420 North Michigan
Chicago Illinois

Dear Sir:
I am an high grade student at Abbott Elementary School. We are starting to layout our plans for our future jobs. And I thought if you could send me some information on what requirements are necessary for me to be a good designer. If you have some information please send it to my address:
Harold Taylor
3702 Southwell Street
Chicago 9 Illinois
thank you for any information you might send.
Yours truly
Harold Taylor

Dear Harold:
Many young students today prepare themselves for their future jobs by studying only technical subjects about that job. The world needs more young people to train themselves to be creative workers as well as technical workers. If you can learn to understand and like *people* and learn how to work with all types of people, you will have a valuable background for success, and more importantly, happiness in your job and your personal life in years ahead.

The art courses you may take in school are very much part of your training to be a designer. But they are only a part of the background of a designer. Remember that he must be a complete man. A good designer uses his art work only to describe on paper what he is thinking in his mind. A pretty picture of a new product only becomes good design when the picture can show that the new product will be a better product for *people* than the product people already have.

A good rule to follow while you are planning your future is to learn all you can about the people you will work and live with and the people you will live and work for. Ask yourself: "Why do they think the way they do? Why do they act the way they do?" Don't underestimate anyone just because you don't understand him or her. If you understand and love people you will have a good chance for happiness and success in anything you do.

I hope this information will help you in making your plans.

Good luck.
Dave Chapman
Design Research, Incorporated
Chicago, Illinois

West Coast comments

Sirs:
May I congratulate you and everyone concerned with your Design on the West Coast issue. It was most interesting, especially to those of us who work in this area.
Bernard Caminker
Jim Powell, Industrial Designers
Los Angeles

Sirs:
Your October issue again is an example of skill in presenting the diversity which the Industrial Design field embraces. We of *idc* feel that the special treatment afforded West Coast design will greatly assist in the recognition of professional product design in this area.
William M. Cameron
Douglas B. Heaslet
Robert D. Mason
E. Paul Meylan
Industrial Design Consultants Inc.
Los Angeles

Errata

Sirs:
We are sorry that in your coverage of our electrical connectors and components displayed at the 1957 Design Engineering Show, which appeared in your July issue, mention was not given to the fact that the display unit and some of the product designs were done in conjunction with Robert E. Hazard of Robert E. Hazard Associates, Providence, R. I., our consultant designer.
Daniel B. Miller
Miller Electric Co.
Pawtucket, R. I.

Sirs:
This is just a short communique to inform you of a slight error in the August issue of INDUSTRIAL DESIGN. The caption to the extreme left photograph on page 36 should read James Quinlan, designer, not Joseph Abruzzo. Mr. Abruzzo is our electronics man who developed the internal workings of the Guide-a-phone.
Lothar P. Witteborg
Chief, Exhibition Department
The American Museum of Natural History
New York City

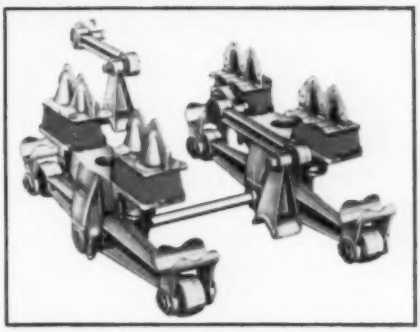
Corrections

In the October issue of ID, page 77, we said that Joseph Portanova and James Kelso joined their respective firms (Hoffman for Portanova, Packard-Bell for Kelso) in 1939. Actually, Mr. Portanova joined Hoffman in 1944, and Mr. Kelso joined Packard-Bell in 1951.

In the September Design Review, page 107, Danube stainless steel was incorrectly listed as imported by Reed and Barton. It is imported by the Scientific Silver Service Corporation, only incidentally associated with Reed and Barton as sales agent for some of its stainless.

It was stated on page 14 of the October issue that Joseph Carreiro had been elected "editorial director" of the ASID. His title should have read "educational secretary."

The upper photograph on page 41 of the July issue, mistakenly captioned "electronic flashlight," should have been identified as a vacuum cleaner designed by Peter Sieber for AEG, Berlin/Frankfurt.



The unique design of the "load cushion" accounts for smooth, even rides in the full range of loads, empty to full. Enjay Butyl Rubber (in red) made it possible.

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BOOKS

Designer's Reflections on Design

PROBLEMS OF DESIGN. *By George Nelson. Whitney Publications, Inc., New York. Illustrated.* $10.00

Reviewed by Joseph Carreiro
Chairman of Industrial Design,
Philadelphia Museum School

This book, comprised of lectures and of articles previously published in INDUSTRIAL DESIGN, *Interiors*, *Fortune*, *Architectural Forum* and other magazines, covers a most productive period in the life of a significant designer. It includes articles on the captive versus the independent designer, obsolescence, contemporary architecture, the Japanese house, prefabrication, art, city and interior planning. The assembling of these diverse, yet philosophically related, observations reveals an unusual awareness of the problems in the development of the remarkably new 'profession' of industrial design. Nelson discusses the role of the designer as an artist, conventional education as a handicraft activity in an industrial age, and the need for a sense of personal integrity if design is to assist man in achieving his highest aspirations.

Trained as an architect at Yale, Nelson did graduate work at Catholic University, where he was awarded a Prix de Rome to study abroad. There he was brought into contact with Le Corbusier and Mies van der Rohe. In the twenty years since, his work has ranged from architecture to interior furnishings and products, and he has done a great deal of editorial work in the field.

In *Problems of Design*, with a clarity of expression (evidence of his editorial background), a candor and boldness which come only to a man of sureness and accomplishment, Nelson cuts through the confusion of our time to reveal ideas in a new and critical light which invariably transforms them. He revels in pulling down sacred cows or at least leaving them rocking precariously or ridiculously askew. Naturally he is bound to be unpopular among the group who are annoyed at having their sacrosanct bovines knocked about.

His candid appraisal of the state of affairs in the area of design, the delight he takes in exploiding myths of all kinds and the damage he does to contemporary cliches are vivid examples of his thesis that the core of the whole design process is the idea that destruction necessarily precedes construction.

In clarifying the role of the designer, Nelson makes what is to this reader a significant distinction: though the industrial designer is intimately involved with the problems of management, production, merchandising and consumer response, these concerns must necessarily remain secondary to his role as an artist, creator of form and concept.

In comparing our outstanding designers with artists in the related fields of architecture, sculpture, and painting, Nelson finds a number of highly successful and talented individuals but no one of the stature of a Picasso, Wright, Moore or Le Corbusier. He feels that in the final analysis, the courage, integrity and capacity that are the significant characteristics of such giants will also be required of the industrial designer before he attains equal status.

The following quotation expresses the essence of this refreshing concern with the integrity of the individual: "By integrity I mean the ability of a man to decide what is good for him and what is bad. It is an intensely personal matter, and cannot be rationalized intellectually. It rarely involves big decisions, but in shaping a multitude of small ones it gives direction to the designer as a person and as an artist."

As a teacher, this reader is particularly interested in Nelson's criticisms and proposals in the field of education. His experimental program for the University of Georgia is a bold and inventive idea. His analysis of the high costs and inefficiencies of the lecture system is pointed and correct. His proposal that the economic advantages of an industrial approach to education would result in a more efficient use of teaching talent merits consideration. (His solution, as a matter of fact, is being tried by a number of universities). He anticipates fears that such a program would diminish the stature of the teacher and contribute to an impersonal mechanization; he is aware of, and points out, the limitations of the techniques he suggests.

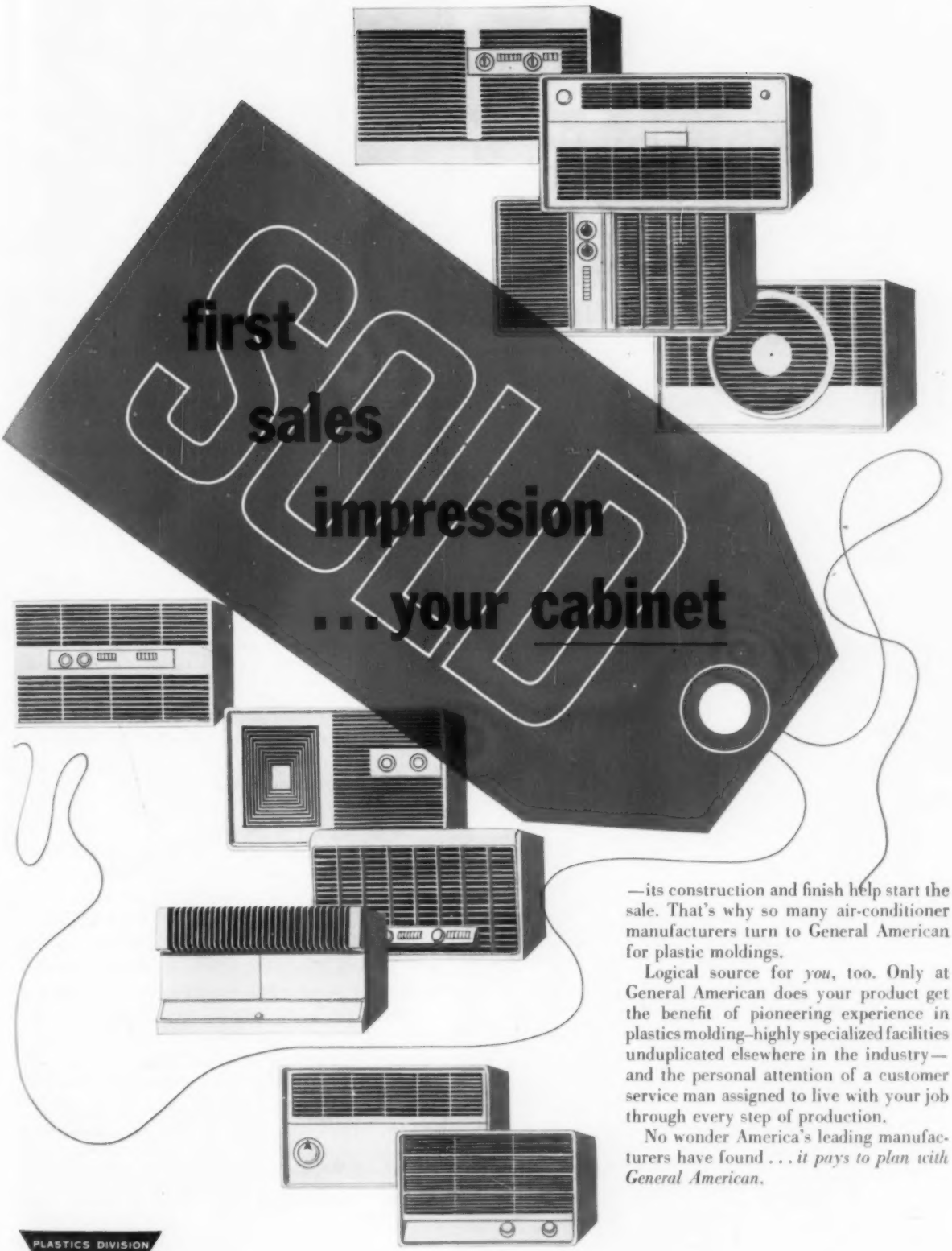
However, just as Arthur Drexler, in the foreword to the book, greatly oversimplifies things by conveniently dividing the industrial design field into the 'goodies' and the 'baddies', (the 'goodies' apparently being the craftsmen who shun the vulgarities of industrial production, the 'baddies' all others), Nelson makes the glaring error of recognizing a few 'great' educators and relegating the balance to limbo, giving no credit for the small signatures that are a major part of all teaching activity.

It would be helpful to the reader of his book if Nelson had included transitional statements linking the chapters. And some of the earlier material, though still important, has lost a bit of its timeliness. Nonetheless, both in the visual material and in his selection of topics, he draws out unique relationships (usually overlooked or dimly understood) by the use of the comparison, the unexpected juxtaposition, and the fragment. And he has a remarkable ability to see the large patterns of events and relationships, as when he discusses city planning or proposes simple and exciting ideas for the revitalization of the expiring downtown shopping area.

In still another chapter, by the simple accident of rolling off a sofa, (combined with his uncanny ability to 'see') he stumbles upon a new and undiscovered visual world of the 'subscape'.

George Nelson is himself an educator. He would perhaps deny this. Yet such is the power of ideas, whether expressed in words or forms, that they need neither university walls to contain them nor regular classes to expound them. He has a deep understanding of the emerging patterns in our culture, the ability to discover pertinent relationships and the power to describe their implications for the immediate problems of design.

This book will be meaningful and valuable to young designers unable to reconcile many of the conflicts between their roles as artists in their society and their function as important members of industry as it exists today. But its significance is not necessarily confined to the beginner. In a world where daily pressures continually erode one's idealism and leave little time for soul searching, this book has an even greater value for the practicing designer.



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- *Rugged plastic part for carburetor air cleaner*
- *Plastic credit cards that print*

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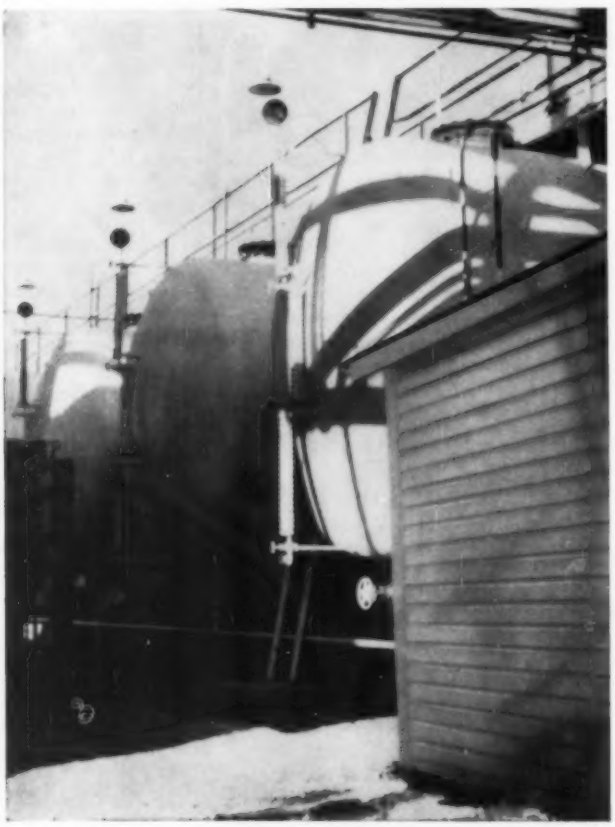
Keep in touch with Bakelite Company. It is your best source of information because it is a leading source of plastics. You can select from the widest variety of materials in the field—phenolics, vinyls, styrenes, impact styrenes, polyethylenes, epoxies, and silicones. And you can call on the laboratory services and technical resources of Bakelite Company for aid in working them into your plans.

1 Vinyl-based coating protects ammonia tanks three times longer



Service conditions surrounding these tanks proved too severe for two earlier coating systems—one failed in eight months, the other in a year. Measuring 10′ 6″ in diameter and 53′ long, the tanks hold caustic solution, and are located in a plant manufacturing 45 million lbs. of petrol-cracking catalyst annually. Vapors in the area contain sulfate salts and intermittent sulfuric acid spray.

Three years ago, a coating system made by Amercoat Corp. based on BAKELITE Brand Vinyl Resins was applied to the exterior of these tanks. It has remained in excellent condition. The first coat was worked into the bare metal by brush to obtain good adhesion. Three subsequent coats were applied by spray. Each was a different color to insure complete coverage. Total thickness was six to eight mils. Maintenance has been at a minimum.

A variety of coatings are formulated from BAKELITE Vinyl Resins and used widely in both industrial and consumer applications. For a complete description of these materials, write Dept. AV-80.

2 C-11 Plastic pre-cleaner withstands engine oil, heat, dirt

More than 75 percent of the dirt that would normally enter the oil-washed air cleaner on tractor engines is removed by this collector pre-cleaner made by Minnesota Plastics Corporation for Donaldson Company, Inc., St. Paul, Minn. It is also designed to serve as an air stack cap, preventing leaves, twigs, and chaff from entering, and forms a rain shield that keeps water out of the center tube intake. Molded of BAKELITE Brand C-11 Plastic, this collector pre-cleaner has a high heat distortion point, and stands up under the working temperatures generated by tractor engines. Since C-11 Plastic is transparent, the pre-cleaner shows when it has collected excess dirt, and is readily removed and washed.

BAKELITE C-11 Plastic is an acrylonitrile-styrene copolymer. It has good resistance to impact and exceptional resistance to chemicals, including foods. It offers a wide choice of color, and molds to a smooth, glossy finish. These properties have led to the wide use of C-11 in packaging as well as for machine parts like this collector pre-cleaner. For more details on C-11 Plastic, write Dept. AW-80.

3 Credit card, charge plate, and ad on one vinyl rigid sheet

This wallet-sized plastic card can tell you a lot about the design features of BAKELITE Brand Rigid Vinyl Sheets. The color printing, in perfect register, makes it an effective ad and proves its dimensional stability. The three-dimensional lettering shows how well these sheets can be formed to fine details. And toughness is demonstrated in the card's ability to stamp its imprint on invoices, as well as to take frequent handling without damage.

BAKELITE Rigid Vinyl Sheets come in several stock sizes and finishes, and a variety of colors, as well as clear transparent, translucent, or opaque. They can be formed into three-dimensional shapes to fill a wide range of design requirements. To learn more about them, write Dept. AX-80.

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Tensile strength, psi (D638-49T)	7700 avg.
Flexural strength, psi (D790-49T)	12,600 avg.
Modulus of elasticity in flexure, psi (D790-49T)	430,000 avg.
Impact resistance (impactometer method) ft./sec. (WC-68-C-1/1) (corrected to .010 inch)	55 avg.
Specific gravity, 23/23 deg. C. (WC-1-M/1)	1.45 avg.
Dielectric strength (0.100 in. specimen) volts/mil Short time test in oil (D149-55T)	425 avg.
Volume resistivity, ohm-cm. (D257-54T)	10^{16} avg.

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NEWS

PACKAGERS MEET MARKETERS: PDC explores new roles in management

The Package Designers Council, with the cooperation of New York University's Graduate School of Business Administration, held an all-day conference at N.Y.U. on October 23, on "The Role of Packaging in Integrated Marketing." With speakers drawn from the ranks of business education, management and advertising, the conference attempted to put package design in the larger context of management reorganization for modern distribution. An afternoon panel session brought designers and marketing personnel together to consider packaging cases in the light of the broadened functions of marketing.

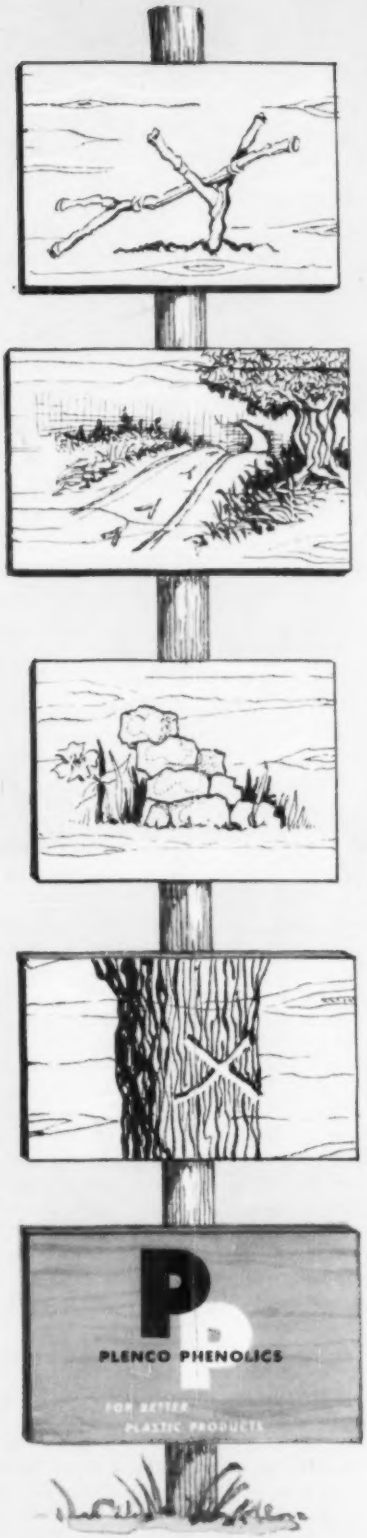
Featured speakers were Dr. Henry Bund, Executive Vice President of the Research Institute of America; Dr. Dudley Maynard Phelps, President of the American Marketing Association and Professor of Marketing at the University of Michigan; and Eugene B. Mapel, Vice President of Barrington Associates, management and marketing consultants. Dr. Bund described the development of an "integrated marketing organization" as having these characteristics: "One, the organization would be truly market oriented—it would begin with the consumer and end with the satisfied consumer; two, it would utilize and combine all the available skills and disciplines to make the total marketing effort effective."

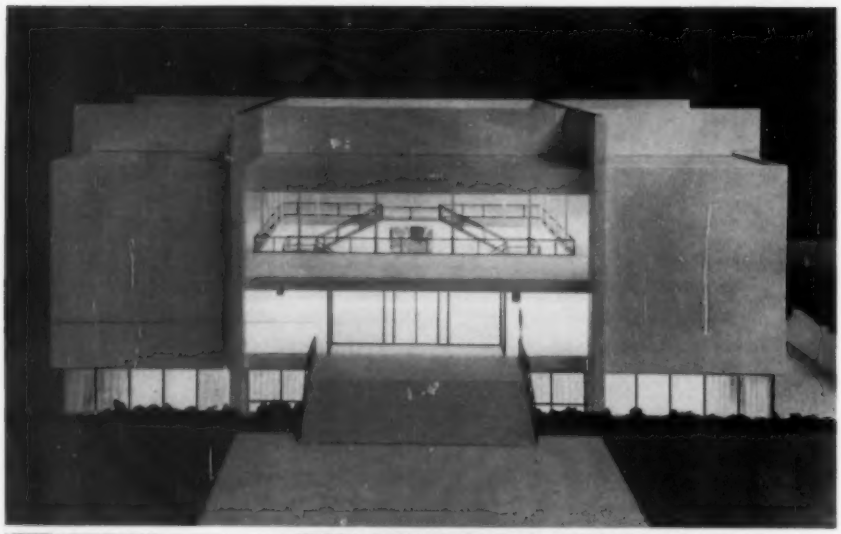
Professor Phelps went on to explore the role of packaging in the type of marketing organization that Dr. Bund had described. Pointing out that marketing has been oriented toward "innovative competition" —selling by innovations in function or appearance—he added that the value of the package is protective as well as promotional, and must be judged by one criterion: how much value does it add to the product? In order to relate package design to the total product planning process, Dr. Phelps concluded, "the necessary coordination in marketing can be achieved through packaging committees, particularly if the designers are brought in early."

Luncheon speaker Mapel placed packaging within the present distribution pattern: "The supermarket has added perhaps a new utility to marketing—easy access; while suburban shopping centers are the personification of ease of access." Mr. Mapel went on to describe *packaging* "ease of access": the package "will be attractive and will attract interest; it will make it easy for the dealer and for the consumer to handle; and it will make it easy for the consumer to use more and come back for more."

Following the speeches, a discussion of seven package case studies was led by a panel consisting of three designers—Frank Gianninoto, Egmont Arens and Jim Nash—and three marketing specialists—Ralph Head, Vice President and Director of Marketing at B.B.D. & O.; Charles Sevin of Alderson and Sessions, management and marketing consultants; and Dr. Arnold Corbin, Professor of Marketing at N.Y.U. The discussion focused in each case on the competitive pressures of the market situation, and on the research techniques used to suit the package to the market.

Speakers: (l. to r.) E. B. Mapel, H. Bund, D. M. Phelps. Panel: (top) R. Head, F. Gianninoto; (bottom) J. Nash, E. Arens, A. Corbin.





Philip Johnson plans new museum building in Ithaca

The recently completed design for its new museum building will give the Munson-Williams-Proctor Institute in Ithaca, N. Y. an unusual combination of contemporary and Victorian architecture. Created by Philip Johnson, the $2,000,000 building (to replace the house at right in lower picture) which will house the Institute's art collection, is designed to harmonize with the Victorian style of the other Institute buildings.

Commenting on his plans, Mr. Johnson expressed his belief that "the modern museum should be the center of the cultural life of a town, and the buildings designed to house it should encourage this use for all the arts including music." To carry out this idea, the new building will have an auditorium for 300 which, through means of flexible walls, may be expanded to accommodate full symphony orchestra concerts. Cantilever construction eliminates the need for columns on the two exhibition floors and permits the diffusion of natural light throughout the galleries and the central indoor court, which will be covered by hundreds of plastic bubbles massed in a rectangle. The walls of the four-story building will be suspended from eight large concrete piers. These, together with the four cross-beams from which the ceiling hangs, provide the main decorative motif, along with the wide entrance stairway.

The Munson-Williams-Proctor Institute, a cultural center for Ithaca and surrounding areas, serves three functions represented by its three buildings. In addition to the new museum with its collection of 1,300 works, mainly in the American school, the Victorian House Museum for 19th century regional decorative arts will provide meeting room for cultural groups, while the Proctor carriage house serves as a school for more than a thousand students of weaving, ceramics, enameling, metal working, sculpture, painting, art history and related subjects.

Art Directors Club holds competition

The Art Directors Club of New York will present its 37th Annual National Exhibition of Advertising and Editorial Art and Design April 1st at the Waldorf-Astoria. Victor Trasoff, Chairman of the Exhibition Committee, has announced the consolidation of certain old classifications and the introduction of new ones. Material published between February 15, 1957 and January 15, 1958 is eligible for submission.

Carolina design school planned

The North Carolina State legislature has recently approved a budget for the addition of a product design department to the School of Design at North Carolina State College in Raleigh. The school now includes a department of architecture and landscape architecture. At present the college is considering applicants to head the new department.

Angels at Museum School

A host of angels descended upon the Philadelphia Museum School December 6 when 1,000 student-designed angels went on exhibition. This year's holiday design project, Create an Angel, brought contributions in plaster and wire, wood, string, plastic, fabric, paper, and other combinations, as well as more conventional paintings and drawings.

The exhibition will be open to the public until January 4.

G.E. reorganizes design office

The industrial design office of the Housewares and Radio Receiver Division (small appliances) of General Electric Company has been reorganized into one group located in Bridgeport, Connecticut, under the direction of D. L. McFarland (below). Prior to this there were three design offices for the division: one in Bridgeport servicing three departments, one in Utica for the radio receiver department, and one in Ashland, Massachusetts, for the clock and timer department. The new organization parallels the industrial design office for the Appliance and Television Receiver Division in Louisville, Kentucky, which is under the direction of Arthur BecVar.

The design office will now have a stronger voice in management, wider scope of work, added versatility in manpower, in line with General Electric's efforts to control their product line through coordinated product planning.

In addition to Mr. McFarland, the office will include Paul Rawson, R. H. Koepf, William Donnelly, Robert Reading, William Judson, John Russo, and Edward Ferrari, manager of the model shop.

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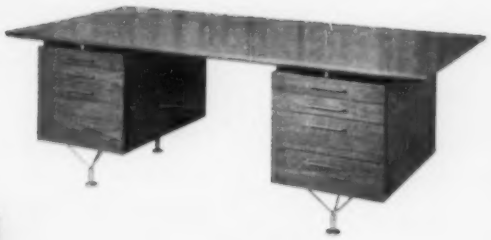

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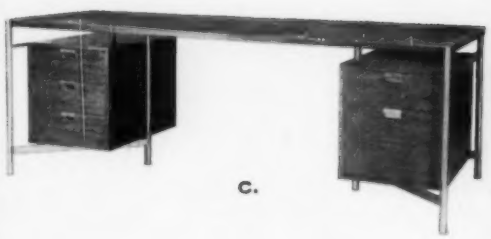
B.

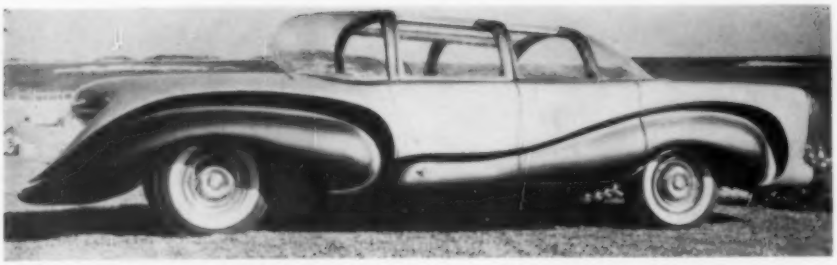


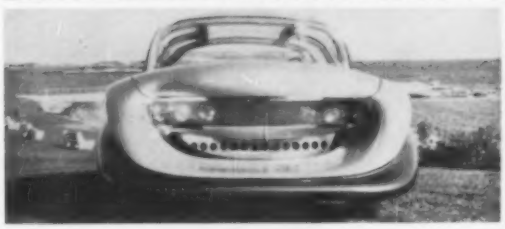
C.

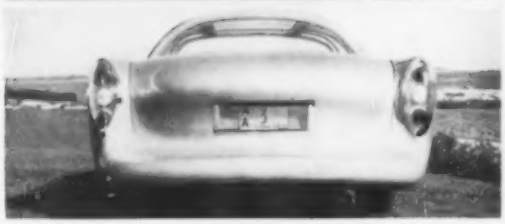
D.

See these and many other desks
in our extensive showrooms...where
executive and general office groupings
are arranged in attractive gallery
settings to facilitate selections.

Macey · Fowler NEW YORK: 305 EAST 63rd STREET · TEmpleton 8-5900







Father Juliano builds a dream car

The strange automobile (above) roaring out of the Connecticut hills one day last month created such curiosity among pedestrians and presented so many engine difficulties to its driver (main difficulty was an improperly cleaned '54 engine) that the normally two-hour trip from Branford to New York took nearly ten hours. This traffic-stopping performance was the culmination of five years' work by Father Alfred Juliano, creator of the Aurora automobile and priest in the Holy Ghost order of the Catholic church.

Interested in automotive design ever since, at the age of 18, he turned down a designing job with General Motors to become a priest, Father Juliano has tried to give the public a safe dream car *now*. He has concentrated on styling a radically new body adaptable to most standard engines and chassis. About a dozen of the new cars, at prices ranging from between $15,000 and $25,000, will be turned out this year by the Custom Automobile Corporation of America, formed by independent associates of Father Juliano.

The styling of the car, Father Juliano explains, is based on mathematical studies of stress and strain and on aerodynamic principles. For instance, Father Juliano discarded the conventional grille in favor of a large, front-end air scoop to cut down on frictional drag. Fenders have been made in compound curves, with wall thickness varying according to stress, to increase the strength of the Fiberglas-laminated body. Bumpers blend into the body of the car and are backed by heavy steel which floats on hydraulic cylinders.

For protection, the bucket seats have safety belts and leather padding and all instruments have been deeply recessed in the padded dash panel. The unusual front windshield (top picture, left) is designed with a reverse slope which sets it almost two feet further beyond passengers than usual, cutting down on the likelihood of windshield head injuries. The angle of the windshield keeps most snow and rain off the driver's viewing area, so that conventional windshield wipers are not needed.

Father Juliano, who began working on the Aurora in 1952, when he was teaching theology at Duquesne University, also plans to build a roadable autoplane simple and inexpensive enough for any American family. He now studies sculpture and painting with Josef Albers at Yale, and believes this helps him in his own classroom teaching by bringing him closer to people.

The Aurora is scheduled for a one-year cross-country tour, and is to be shown in Philadelphia during January.

MMA gives profit data on every item

A new system of accounting which provides cost and profit information on individual items as well as on whole departments and emphasizes future profitability rather than historic profitability of goods has been developed by Arthur Andersen and Company, New York public accounting firm. Called "merchandise management accounting," the new system is based on the concept that the cost pattern (standard costs for delivery, accounting, advertising, other services) is the common denominator of all merchandising, and that this pattern may be determined for any item irrespective of sale price or markup.

Describing the need for such a system, Robert I. Jones, a partner in Arthur Andersen, said at a retailing convention that merchants tend to make price policies on the basis of departmental averages rather than on the basis of profit experience with individual items, even though decisions must be made in terms of specific items.

Under the new system, cost patterns, as shown on charts, may be used to arrive at controllable profit figures for every item in a department. On the basis of this information, a buyer may make decisions based on dollars rather than percentages.

Mr. Jones points out that because of variations (usually not taken into account) in gross margin and operating expense for different items, some are obviously more profitable than others. For instance, cost of delivery will be the same for a $400 as for a $200 refrigerator. In most accounting systems delivery expense for major household appliances is generally figured at 2.3 per cent of sales price, although it is obvious, for example, that a $400 refrigerator did not cost $2.90 to deliver.

$2,500 Architectural League grant

The Architectural League of New York announces that applications for the $2,500 Arnold W. Brunner scholarship will be accepted until February 15, 1958. Applicants for the award must submit outlines of a project in architecture, city planning, design, painting, photography, or sculpture, or other fields represented by the League.

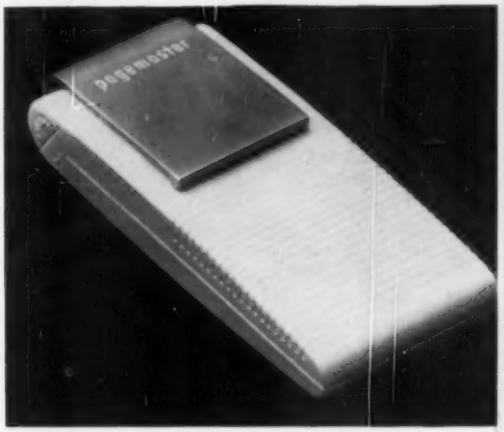
Requests for application forms should be addressed to Architectural League, 115 East 40 St., N. Y. 16, N. Y.

Saul Bass Honored

The Golden T Square, awarded to the art director of the year, was presented to Saul Bass at a recent dinner in his honor. Mr. Bass was presented the award by Cleveland Art Directors Club president Ted Lozier as a result of a poll of over 3,000 members of the National Society of Art Directors.

The New York Art Directors Club also honored Mr. Bass this year with two of the twenty medals awarded at its 1957 exhibition. Mr. Bass has been widely recognized for his work on "The Man with the Golden Arm" and "Around the World in 80 Days."

Magnetized flash light leaves both hands free, has pullout light to aim beam in any direction. Properties of high-impact Styron 475 allow the electrical contacts and magnet to be molded right into the case.



High electrical resistivity of Styron 475 also prevents short circuits in this pocket receiver for a radio paging system. Easily molded, Styron 475 retains its shape, provides high style without bulk.

QUOTED FROM CARL W. SUNDBERG, I.D.I., Detroit.

Satisfying today's hunger for *innovation:* Styron

Mr. Carl Sundberg says, ***"There is a hunger for innovation today, and it is the Industrial Designer who can best satisfy that want."***

As the exciting search for things *new* and *different* gains momentum, the quest for new materials becomes increasingly important. The designer must find and select material with which to carry out his designs . . . materials like Styron® (Dow polystyrene).

"Great engineering needs continual challenge and the Industrial Designer, who by habit thinks years ahead, can provide that challenge."

And The Dow Chemical Company helps designers meet that challenge. Keeping abreast of technological change and popular innovation, Styron is now offered in eleven different formulations. A Styron formulation may make your next thermoplastic design practical and economical.

"The present period of prosperity, combined with a rapidly expanding technology, has presented an unparalleled opportunity to the designer . . ."

Just as the designer thinks ahead to take advantage of that opportunity, Dow is working now on new formulations of Styron that will allow the even greater flexibility he needs. Dow's thorough understanding of the close working relationship existing between the designer, the fabricator and the supplier can help you satisfy the requirements of the products you design.

Call on Dow when you need help in meeting the challenge of innovation. Whether your problem concerns material, tooling or product application, our complete facilities are available to you. Write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1528L.

America's first family of polystyrenes

GENERAL PURPOSE

STYRON 666
STYRON 666M (Easy Flow)
STYRON 665 (Extrusion)
STYRON 689 (Easy Flow)

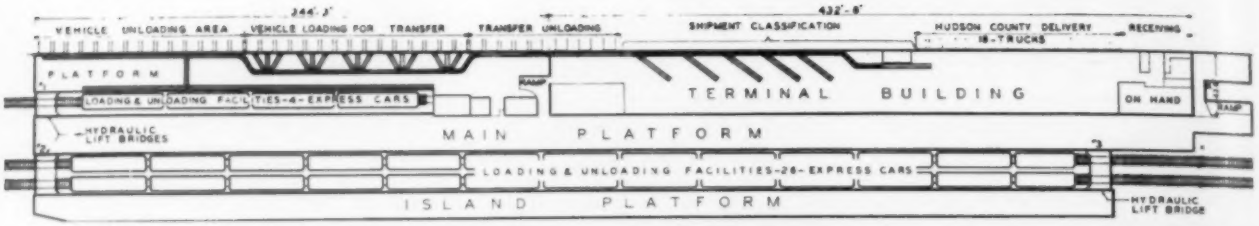
HIGH IMPACT

STYRON 475
STYRON 475M (Easy Flow)
STYRON 777 (Medium Impact)
STYRON 440 (Heat Resistant)
STYRON 480 (Extra High Impact)

HEAT RESISTANT

STYRON 683
STYRON 700

YOU CAN DEPEND ON DOW



Railway Express builds new terminal

The Railway Express Agency has added a $700,000 terminal facility to its location in Hoboken, New Jersey, more than doubling the capacity of express operations. It will process express traffic between the New Jersey-New York metropolitan area and points served by the D. L. & W. and the Erie Railroad.

Providing easy access between all platforms in the terminal are three hydraulic lift bridges of unusual design. Electrically controlled, they may be elevated to support a capacity of 10 tons and link up isolated platforms (picture at right). In the down position they have a capacity of 50 tons and carry rail cars to depot.

A second innovation at the terminal is a conveyor system, 833 feet power operated and 380 feet gravity operated, which extends along the vehicle-loading platform (diagram, above). The picture at far right shows how the recessed, floor-level, steel-slat moving sidewalk permits simultaneous unloading of rail cars at right and trucks, lower left. Conveyor at right moves traffic from two directions to center section, which then carries goods into the terminal's main conveyor line, at left, for processing.

Traffic, amounting to as much as 3,000 pieces of express per hour, flows in an easterly direction over this main materials-handling artery. Initially, outbound items are shunted down fixed gravity fingers in the "vehicle loading for transfer area" (see diagram) to be moved by tractor-trailer to an express railhead for proper train connections. The conveyor continues to the "transfer unloading section" to accommodate trailer shipments and then goes on to the "shipment classification section" for the dispatch of goods traveling by train. Final separation point on the conveyor line is for traffic going to the local Hudson County area.

Brussels Fair Developments

The 150 products for the industrial design exhibit at the 1958 Brussels World's Fair (September ID), have been selected and are now on display (until January 5) at the Boston Institute of Contemporary Art. The articles, chosen on the basis of their ability to express certain characteristically American qualities, are distributed among seven categories: mobility, flexibility, outdoor living, toys, disposability, and the de-centralized kitchen.

Among the other exhibits in the American Pavilion will be presentations of nuclear energy and automation, designed by Becker and Becker Associates of New York. Following the general theme of the fair, these will illustrate, respectively, the peaceful uses of the atom and the advantages of automation in increased productivity and more leisure time.

Ohio Valley I.D.I. elects officers

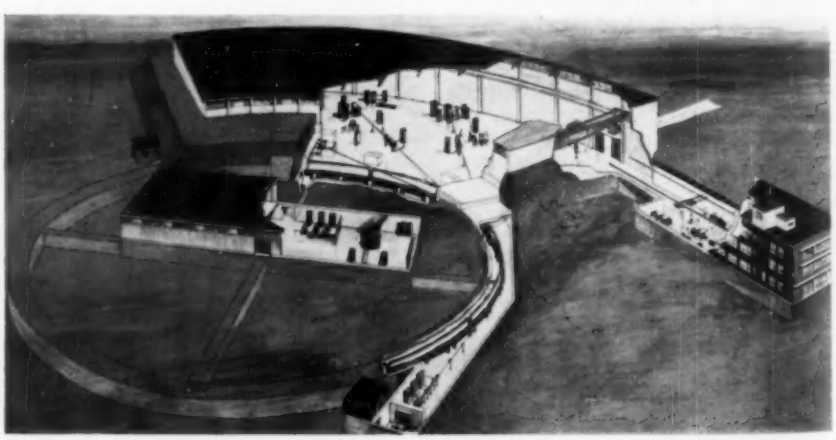
At the second annual meeting of the Upper Ohio Valley Chapter of the Industrial Designers' Institute, the following officers were elected for 1958: chairman, Leon Gordon Miller, independent designer; vice chairman, Wilbur Riddle, designer architect for General Electric Company; secretary, William H. Baird, design director for the Hazel Atlas Glass Division of the Continental Can Company; and treasurer, Don Schreckengost, design director, Homer Laughlin China Company, Newell, West Virginia. Mr. Miller, Mr. Riddle and Mr. Schreckengost also have been elected by the chapter to the National Board of Trustees as vice presidents of the I.D.I.

Cambridge gets new synchrotron

Ground was broken last month for the $6,500,000 Cambridge electron accelerator, in design and operation a cooperative venture between Harvard and M.I.T. It will be built to produce the highest energy electrons in the world, accelerating electrons to very nearly the speed of light and in the process increasing their mass by 12,000 times.

The circular tunnel building (below) for the new machine, or synchrotron, will be placed below ground, sheathed in concrete and covered with five feet of earth fill. Heavy concrete blocks forming a portion of the wall will be arranged to allow narrow beams of radiation into the adjoining building where research experiments will be conducted.

Design for the synchrotron is under the direction of Dr. M. Stanley Livingston, M.I.T. physics professor.



THIS IS GLASS

a bulletin of practical new ideas  *from Corning*

The long and the short of it ... a primer on optimum heating methods

Take a white-colored object and place it near an infrared lamp with a Kelvin rating of 2500°. Some *30%* of the radiant energy will be absorbed.

Next take an ordinary sheathed wire unit at 1000°K. The same object will absorb *70%* of the measurable output.

Now take a new PYREX® industrial radiant heating panel. It looks like this.

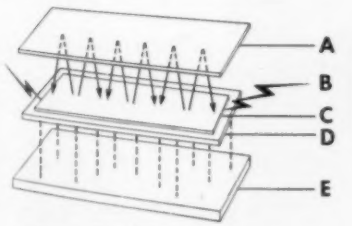
It operates at 600°K. and your white object will now absorb *90%* of the radiant energy.

Behind these differences lies the question of *wave length* emitted by each source. Infrared lamps peak at 1.2 microns; a sheathed unit like the one described hits 3. But the PYREX heater gives from 5 to 20 microns.

It's the *longer* wave lengths that make the difference. And *more* absorption means *more* effective heating per unit of energy expended.

These wave lengths offer you two distinct advantages: (1) all colors will absorb nearly the same amount of them —this means even heating regardless of color and (2) all colors will absorb these waves much more readily than they will the short wave lengths of lamps or sheath wires. With white colors, the absorption is greater with panels than lamps by a factor of nearly 4 to 1.

PYREX industrial radiant heaters have as their heart a panel of tempered *glass* that has a fused-in coating of thin conducting film. The panel is mounted in an aluminized steel frame. A self-contained unit, each heater comes with built-in aluminized steel reflector, mounting hangers, junction box and leads.



A. Reflector—aluminized steel
B. Electric current
C. Resistance element—conductive film
D. Heating element—tempered glass
E. Work—all materials except metallic reflectors

Because it's tempered the glass panel is *rugged;* it also is extremely corrosion resistant. Maintenance is a negligible factor since occasional dusting with a dry cloth is sufficient. If needed, heaters can be cleaned when cold by rubbing gently with a soft rag lightly dampened with alcohol.

PYREX radiant heating panels come in 8 different models, the smallest 11⅝″ square, the largest 23⅝″ square. (Note: rectangles are included in this selection.)

Watts per square inch go from 5.4 to 9.5 and the element itself (when measured in ambient air at 70°F.) runs from 550°F. to 660°F.

Heaters can be mounted horizontally, above *or* below work; vertical installations also possible and practical.

The heat you get from such units is *uniform* (because it's an *area* source) and *effective* (because of its *long* wave).

PYREX radiant heaters look like a real "hot" answer for drying, baking, curing, preheating—just about any application where you want to put the *heat* on and get the most for your investment in space and kilowatts.

Bulletin PE-60 gives the salient data on construction, installation, ventilation, wiring and controls, and maintenance. There's also a full story on where to get and how to use the Corning "Process Prover"—a "pilot" setup complete with percentage timer, pyrometer, variable table and such. PE-60 is free. Using the coupon facilitates matters.

15 gets you 75

Somebody in one of our offices has figured out that 75% of the products we now make were *not* in production 15 years ago. Which means? Glass (as engineered by Corning) is appearing in ever-increasingly useful forms.

Take a few minutes to glance through "This Is Glass" for a sprightly review of this growth. Or brief your problem and let us see if we can't come up with a *glass* answer.

Rounding out the line

Possibility: Some day the writing tip of your ball point pen may be made of glass. *Certainty:* In sizes somewhat larger than those useful for such a purpose, glass balls are available *now* and in *quantity.*

Before final grinding and polishing they look like this.

Since a number of other materials have long been available in sphere form, this news may not appear so startling.

Still a number of considerations that may interest you are involved. First—*Continuous* production of *optical* quality glass was accomplished—no mean feat. Then, Corning developed a *new,* high-speed machine for forming small diameter glass balls.

With this machine now in operation, the following specifications pertain:

Basic data on glass balls

Diameter range	.133″ min.
	.425″ max.
Diameter tolerance .	±.012″
Sphericity of ball within	.008″

What can you do with bits of glass like this? So far interest has been evidenced for using them in finger tip spray dispensers, for hand lotions and cosmetics, valves for blood transfusion and oxygen equipment, and hydrolytic controls.

Corrosion resistant, small, noncontaminating, nonmagnetic, capable of taking a fine finish—glass balls await your evaluation.

Inquiries marked for Railroad and Industrial Sales will get fast action.

Corning means research in Glass

CORNING GLASS WORKS, 54-12 Crystal Street, Corning, N. Y.

Please send me the following: Bulletin PE-60 "PYREX® Brand Industrial Radiant Heater" ☐; "This Is Glass" ☐.

Name _____ Title _____

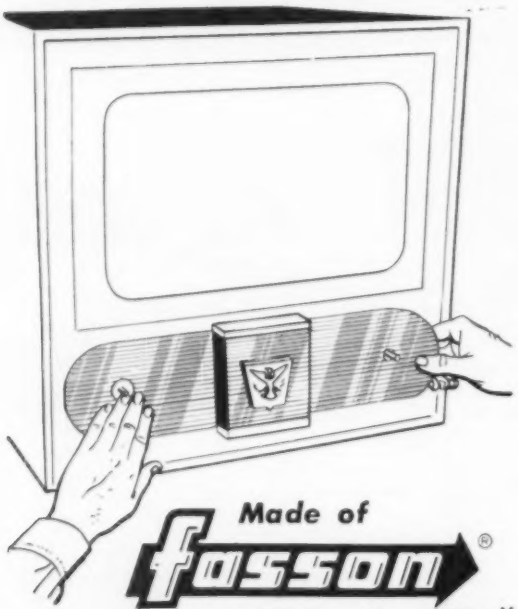
Company _____

Street _____

City _____ Zone _____ State _____

NEW!

Self-Adhesive Metallic Trim



Made of fasson® MYLAR*

Distinctive Beauty

- **Many Colors and Patterns** . . . shimmering metallic finishes . . . smooth or embossed . . . in stock.
- **Tough** . . . tarnish-proof . . . resists abrasion . . . isn't damaged by moisture, temperature or most chemicals.
- **Easily Printed** . . . with your product's name, trademark, other designs.
- **Unlimited Uses** . . . for trim, nameplates, emblems, kick-pads, etc.

Reduces Costs

- **Cuts Parts Costs** . . . no expensive forming dies . . . no anodizing . . . fits contours easily.
- **Speeds Assembly** . . . peel off backing paper . . . press in place . . . no screws, fasteners, glue or special skills needed.
- **Adheres Permanently** . . . to any clean, smooth surface. Our S-201 high tack adhesive holds tighter with time.

Mail Coupon NOW for details and samples of Fasson MYLAR

Fasson Products
Dept. F12J, 250 Chester St., Painesville, Ohio
Please send me complete information about Fasson MYLAR

Name _____

Title _____

Company _____

Address _____

City _____ Zone ___ State _____

Representatives in principal cities. Write for the name of the one nearest you.

* "Mylar" is DuPont's registered trademark for its brand of polyester film.

No Manufacturing Executive or Design Specialist Can Afford to Miss This Important Opportunity

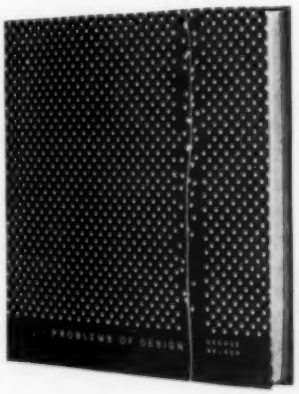
.... by the time this announcement comes to your attention, industry will have at its command a new and more efficient method of evaluating consumer needs and perfecting its product designs.

.... YOU, as a designer or marketing specialist, will profit from this new system of procedure and control beyond any measure of benefit you can anticipate. For, no matter in what markets you compete, it will give you a clearer understanding of your opportunities and help you take advantage of them in ways that have never occurred to you before.

.... first of all, it will bring you up-to-date with the best thinking that has been done in recent years. Then, it will propose a set of fresh, new concepts, incisive and bold enough to dispel the very myth of American mass production as a "myth largely without a meaning." It will prove to you, conclusively, why the customary practice of scaling down product design to the lowest common denominator of taste is one of the worst mistakes a business man can make.

.... finally it will render you the positive service of defining the essentials of meaningful market analysis and of demonstrating how to go about creating genuinely successful product designs. So completely logical are its new precepts that they will send all of us back to school for many of the most important lessons of our lives.

.... all of these benefits await you in the newest of George Nelson's books, "Problems of Design." Nelson, one of America's most versatile and accomplished designers, has a unique insight into the requirements of marketing success. His talents have enabled many a manufacturer-client capture the leadership positions in their fields -- and this new book tells you and shows you how you can achieve leadership in yours. See pages 30 and 31 for additional information and convenient order form. 216 pages. $10.00



PROBLEMS OF DESIGN

WHITNEY PUBLICATIONS, INC. 18 EAST 50 STREET, NEW YORK 22, N. Y.

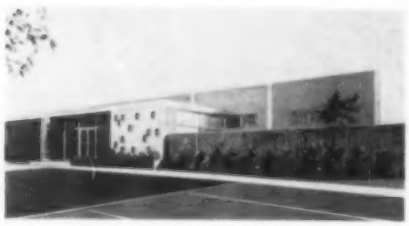
Company News and Views

Hotpoint Co. has predicted that about 286,000,000 major appliances will appear in the marketplace in the next ten years, their value exceeding $85 billion.

The **U.S. glass industry**, preparing to celebrate its 350th anniversary next year, anticipates one billion dollars in sales this year. The industry continues to grow in spite of competition from plastics, with bottles and jars climbing to 24.3 per cent of the industry total.

Interchemical Corporation has released its second movie on color, "**Color Magic.**" Twenty-two minutes long, it illustrates color principles in industry, in design, and in the home.

American Laboratories has opened a new plant (below) with environmental test equipment in Fullerton, Calif. Eugene K. Choy was architect for the building, which features a special expanding wall. As building space requirements grow, the



pre-cast concrete wall panels may be detached from their moorings and re-set at similar moorings with tapered steel girders.

Texas Instruments Ltd., a subsidiary of Texas Instruments Inc., has opened a new plant in Bedford, England, for the manufacture of transistors and other semiconductor devices.

The W. A. Sheaffer Pen Company has purchased the Maico Company, Inc., maker of hearing aids and miniature electronic devices.

The American Nuclear Power Associates, consisting of private industrial and utility companies, has been formed to design a high-temperature, high-performance nuclear power plant, believed by the group to be a forerunner to economically competitive nuclear power.

Four pieces of testing equipment for the Redstone rocket missile have been completed by **Designers for Industry, Inc.**, Cleveland, under sub-contract for the Chrysler Corp.

A million-dollar addition to the Physics Laboratory of **Sylvania Electric Products, Inc.**, at Bayside, N. Y., is being constructed for studies leading to new techniques and products in electronics and lighting.

Western headquarters of **Frederik Lunning, Inc.**, sister company of Georg Jensen, Inc., have been opened at 315 Pacific Ave., San Francisco.

Jim Nash Associates, New York industrial design firm, has established Toronto offices, with James Pilditch acting as general manager. Nash has already made an impression on the Canadian market with the packaging of two new brands of cigarettes, Carousel and Belvedere Filter Tip (above). The top opens to show two foil-wrapped units of ten cigarettes each.

According to a survey conducted at a recent **American Management Association** conference, the use of committees in all aspects of company operations suggests a new way of corporate life, to exchange views and information, and to make recommendations or major decisions.

Becker & Becker Associates will research, plan and design April, 1958 trade fair exhibits in Milan, Italy, and Osaka, Japan, for the office of International Trade Fairs.

People

Reino Aarnio moved his offices Dec. 1 to 224 Madison Avenue, New York.

New member of the Inter-Industry Food Packaging Committee is **Walter Landor** (below), who heads Walter Landor and Associates, San Francisco. The committee is limited to 100 national leaders in the food industry.

Peter Muller-Munk returned to Pittsburgh November 14 after two months in Turkey, where his firm, under contract with the International Cooperation Administration, is helping to develop Turkey's raw materials and craft skills for salable products.

Eben Turban has been appointed study director and **Nickolai Sikorsky**, assistant to the president of the Center for Research in Marketing, Inc. Mr. Turban was formerly with the Institute of Motivational Research. Mr. Sikorsky is a specialist in visual communication.

New director of industrial design at Melanie Kahane Associates, Inc., New York, is **Morris Welch** (below), formerly director of packaging and visual presentation for Associated Merchandising Corp.

Former assistant professor **Hideo Sasaki** has been appointed associate professor of landscape architecture in the Harvard School of Design.

Leslie J. Laskey has joined the staff of Alan E. Sherman and Associates, Clayton, Mo. Mr. Laskey now teaches at Washington University (St. Louis), School of Architecture.

President of Lunn Laminates, Inc., Huntington Station, N. Y., **James S. Lunn** (below) has been re-elected chairman of the executive committee of the Reinforced Plastics Division, Society of the Plastics Industry, for 1957-58.

D. N. Frey has been appointed executive engineer, Ford Division Car Product Engineering. He has been director of the Engineering Research Office.

New staff designer for the Package Design Studio of Harley Earl, Inc., of Centerline, Mich., is **Daniel Lew.**

The former curator of Decorative Arts and Industrial Arts at the Art Institute of Chicago, **Meyric R. Rogers**, has been appointed curator of the Garvan and Related Collections in the Yale University Art Gallery.

R. M. Frink has been named director of the newly-created New Products Division of Calumet & Hecla, Inc.'s Wolverine Tube Division.

George W. Myler is new director of product planning for the Caloric Appliance Corp. He was previously manager of the visual design section.

Gene R. Hill (below) will design and engineer new products for the associate companies of Grayhill, Inc., and Grayhill Moldtronics, Inc.

Charles Westbrook has been named product designer for Schnur-Appel, design consultants of Union, N. J.

Academic promotions at Illinois Institute of Technology include **Eugene Dana**, associate professor, and **E. Ray Pearson**, assistant professor, both in the Institute of Design.

Lunn

Landor

Hill

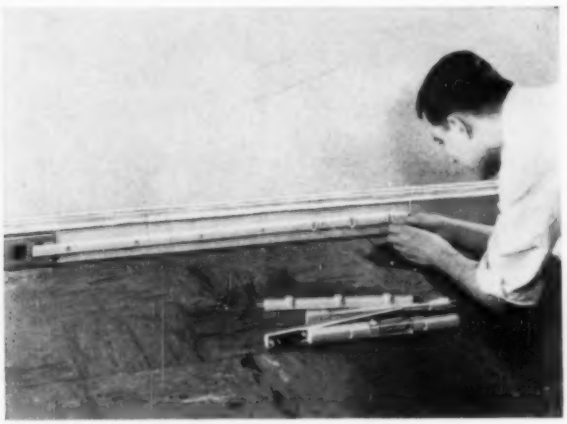
Welch

CYANAMID

PLASTICS NEWSFRONT

BABY-FEEDING WARE WITHSTANDS FREQUENT BOILING—AND BABY

Clever design and practical purpose are combined in the attractive baby-feeding ware and educational toys molded by North Star Industries of CYMAC® 400 polymethylstyrene molding compound. Thanks to CYMAC, all pieces are boilable—can be sterilized as often as necessary without distortion, cracking or discoloration. CYMAC upgrades products, provides better quality at competitive cost.



NEW LOW-COST ELECTRICAL OUTLET SYSTEM

Made from ivory-colored BEETLE® urea molding compound, these interlocking foot-long units provide low-cost, easily installed electrical outlets wherever they're needed. BEETLE's strength and excellent insulating properties guarantee safe, dependable service. Its hard smooth surface resists scratching and discoloration. Made by Cable Electric Products Inc., Providence, R. I., this new Snapit Inter-Link system is fully approved by Underwriters Laboratories Inc., a sure indication of its quality and safety.

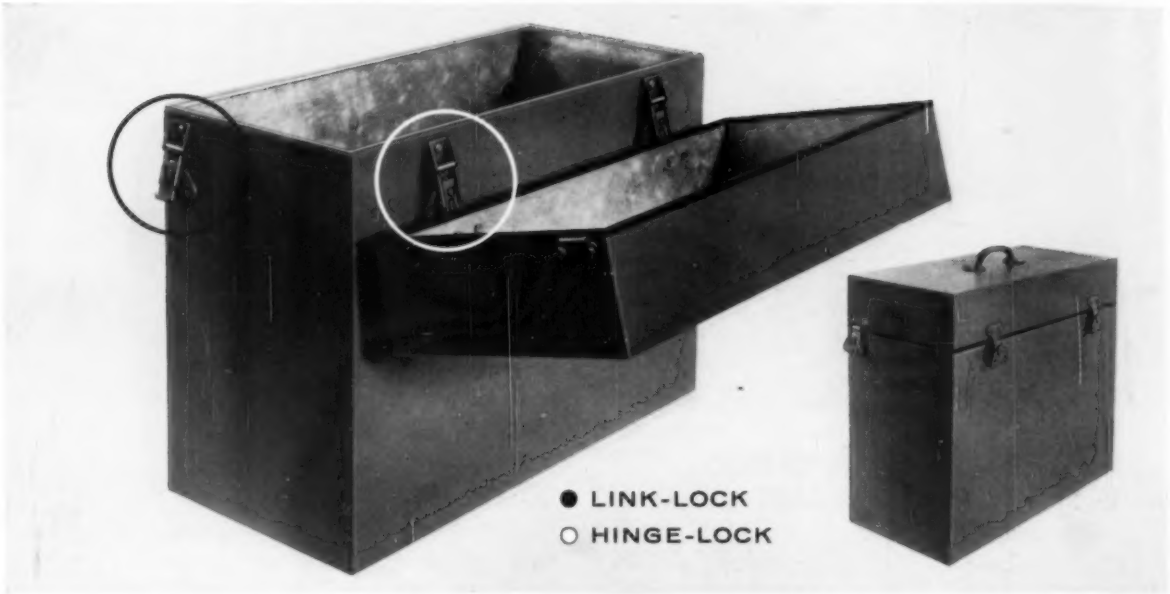
PLASTIC DESK TOPS HERE TO STAY

"Not a single delamination caused by a faulty glue line" is the proud record of Desk Tops Inc., major supplier of school desk tops east of the Mississippi. URAC® 185 urea resin adhesive is used to bond hardwood plywood cores to rich CYMEL® melamine resin plastic surfaces. These resins are exceptionally strong and are fully resistant to moisture, heat and chemicals. Desk Tops Inc. guarantees tops against glue failure...will use no adhesive other than URAC 185.

Now

An all-around pressure-tight seal for hinged-cover transit cases with

LINK-LOCK and HINGE-LOCK



No. 3 LINK-LOCK

No. 3 HINGE-LOCK

Two HINGE-LOCK and two LINK-LOCK Fasteners provide all-around sealing pressure on this container manufactured for the U.S. Navy by the Bonded Structures Division, Swedlow Plastics Company.

The new Simmons HINGE-LOCK, used in combination with LINK-LOCK, provides an even, pressure-tight seal on equipment containers and transit cases with hinged covers. A half-turn applies pressure to both types of fasteners. When pressure is released HINGE-LOCK becomes a free-operating hinge, and LINK-LOCK disengages to permit opening.

Originally developed by Simmons in collaboration with the Engineering Department of Swedlow Plastics Company, Bonded Structures Division, HINGE-LOCK is similar in principle and appearance to LINK-LOCK. Both are available in light and medium duty sizes as matched hardware. LINK-LOCK is also available in a higher-capacity, heavy-duty size.

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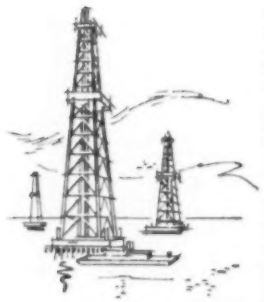

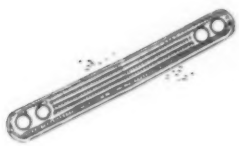

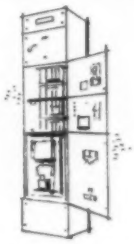

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PROBLEM: Simplify the design, reduce the costs of refrigerator evaporators.

SOLUTION: Reynolds new Aluminum Tubed Sheet *One-Side-Flat** provides passageways for fluids right *in* the sheet. This eliminates separate tubing, accumulators, receivers—as well as many connecting and assembling operations. Passageways can be designed in any pattern, and this aluminum sheet can be color-anodized.

*patent pending

The Finest Products Made with Aluminum are made with REYNOLDS ALUMINUM

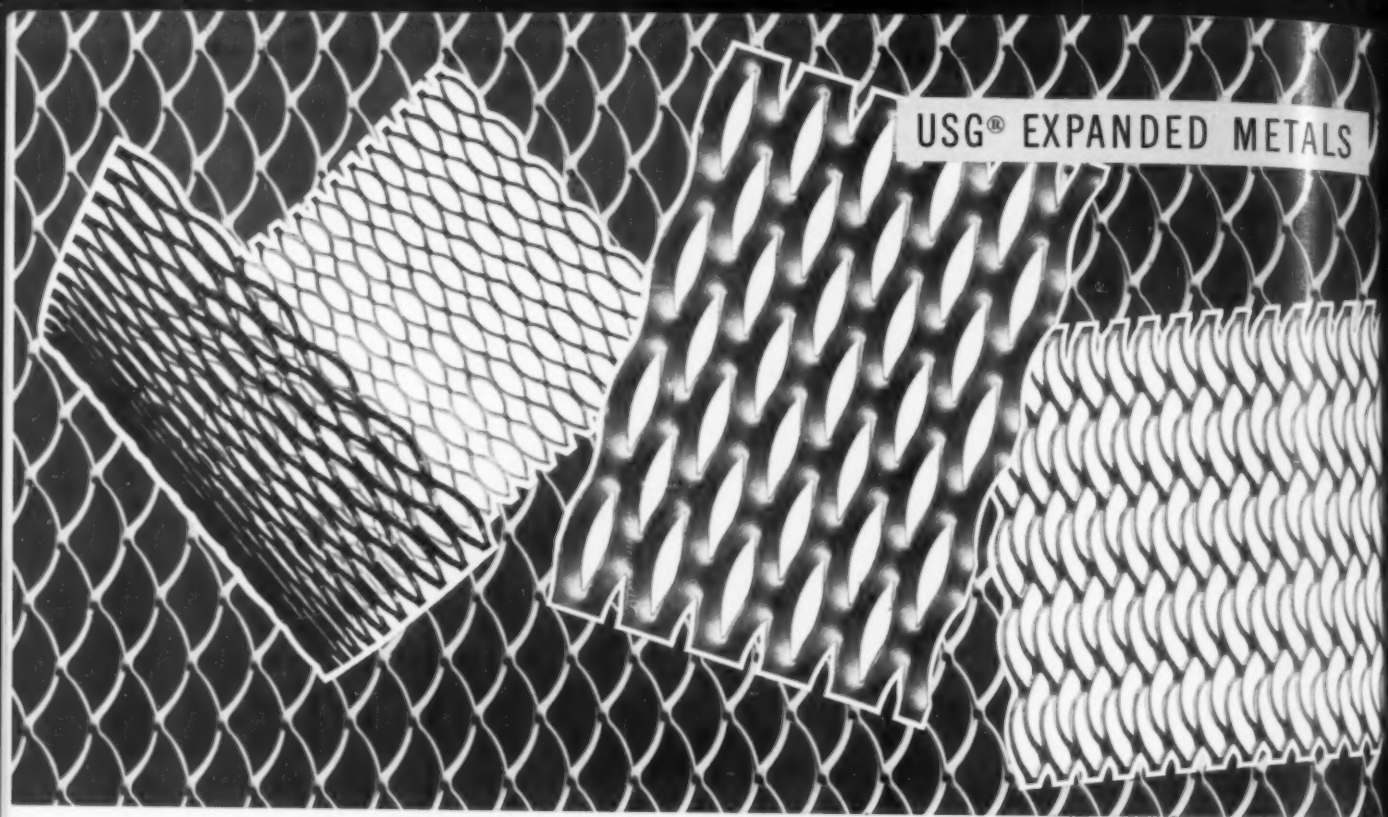
PROBLEM: Make low cost styling changes in new cars, cut finishing and warranty costs.

SOLUTION: Aluminum grilles offer new styling freedom and production savings. They can be made from aluminum sheet or extrusions. Finishing costs are cut, and so are warranty costs because aluminum won't chip, pit, peel, flake or rust. Reynolds fabricating and finishing facilities also offer major savings to manufacturers.

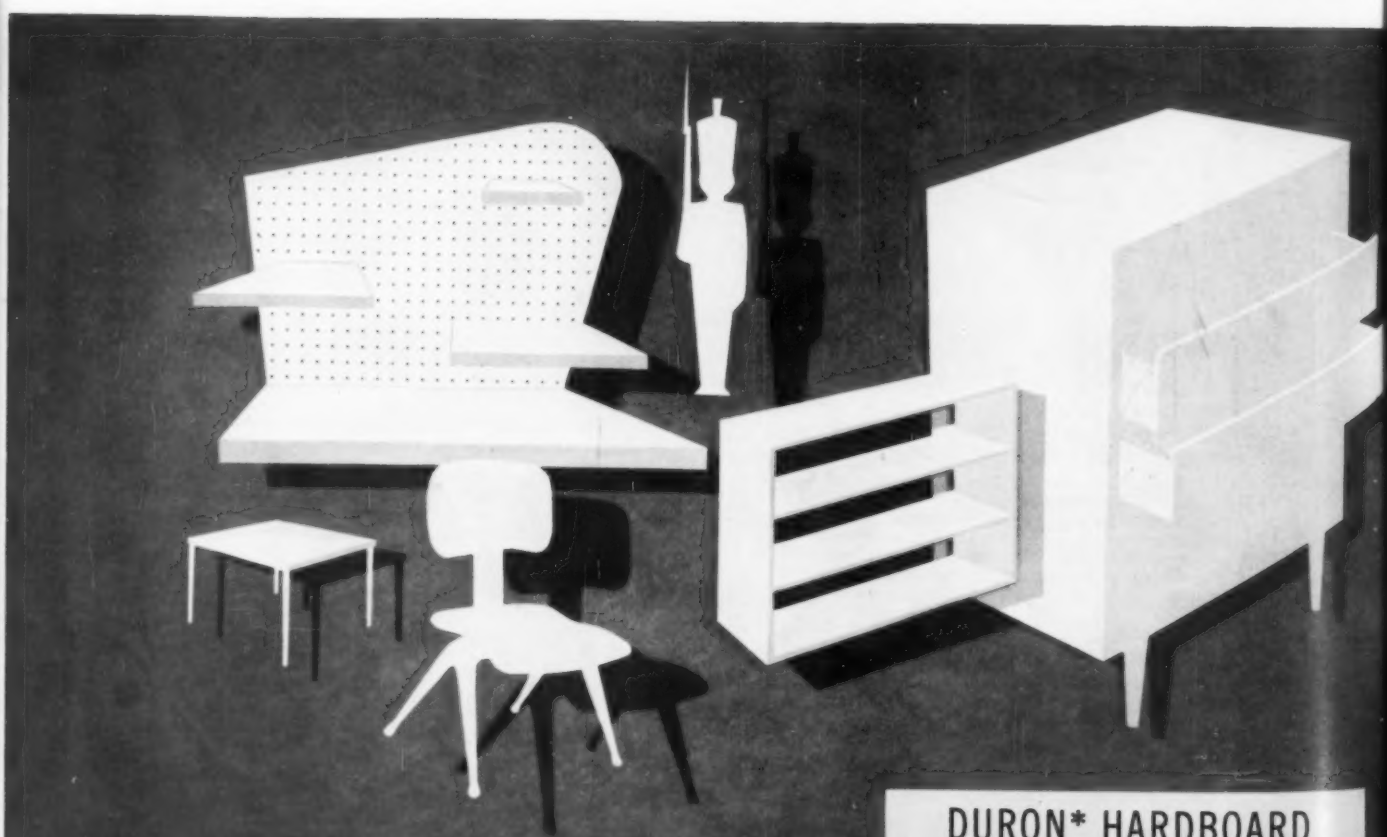
PROBLEM: Cut the weight, reduce maintenance of electrical control center equipment.

SOLUTION: Aluminum cut the enclosure weight of one manufacturer's control center from 430 to about 150 lbs. Used throughout the apparatus, aluminum also has good electrical properties and resists corrosion even in chemical plants. Lightweight aluminum cuts shipping and installation costs, reduces floor load and maintenance.

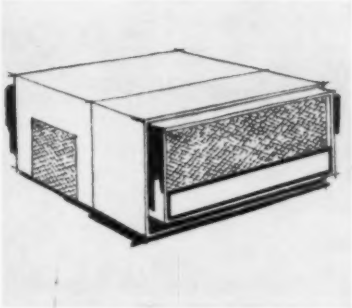
BY THE MAKERS OF REYNOLDS WRAP



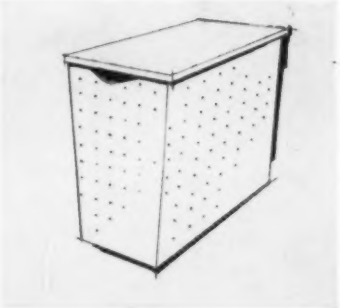
creative materials



CREATIVE MATERIALS INSPIRE CREATIVE EXPRESSION IN PRODUCT DESIGN



USG EXPANDED METALS are cold-drawn from a solid sheet of aluminum or carbon steel; and in some meshes, stainless steel. They are strong, rigid and light in weight, and are readily formed, do not ravel in cutting, and weld easily.



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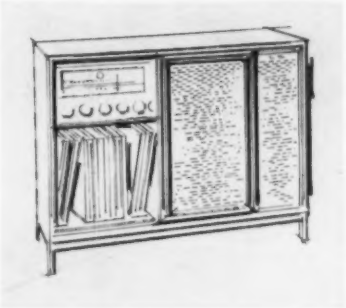

COUNTLESS USES have been found for these versatile materials. For Expanded Metals — utility racks, screens, shelves, safety guards, ornamental grilles. For DURON — cabinets, panels, stiffening boards, gaskets. Imagination is the only limit!

to help your ideas take shape...by providing versatile combinations of beauty and strength

Your creative expression is limited only by the lack of suitable materials to translate ideas into a workable form. Here are two U.S.G. products that combine beauty, utility and fabrication flexibility to offer you greater freedom of design.

USG Expanded Metals — RONDO, FESTOON, WAVELENGTH, ARMORWEAVE and EXPAND-X* —provide strength without excessive weight. These artistically pleasing new meshes can carry the main design theme, or may serve only as ornamentation.

DURON Hardboard lends itself exceptionally well to complex patterns. The non-grain properties of this material permit rapid cutting, shaping and punching. Regardless of the type of finish DURON excels in paintability.

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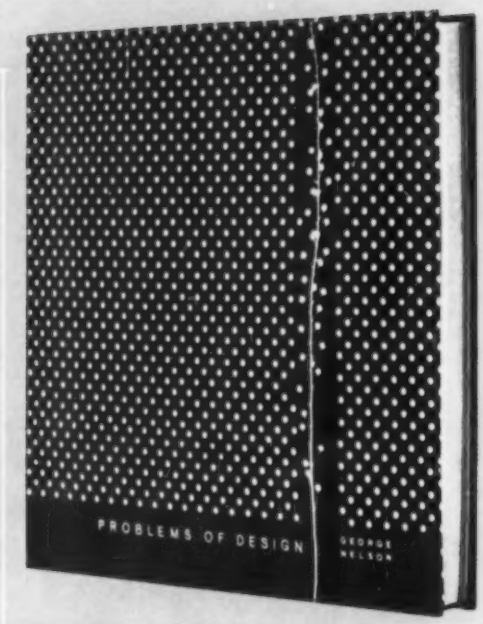

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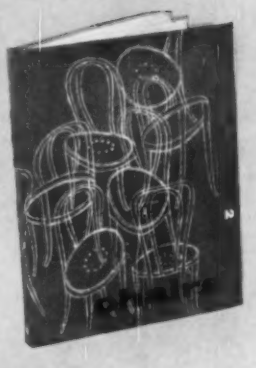

edited by George Nelson. In this book, one of America's most noted furniture designers examines all phases of chair construction and design, in terms of contemporary standards. Chairs created by 137 leading designers are analyzed and evaluated, including the complete range made of bentwood, plastics, solid wood, metal, laminates and upholstered units. An invaluable reference source. 176 large-format pages, 433 illustrations. $10.00

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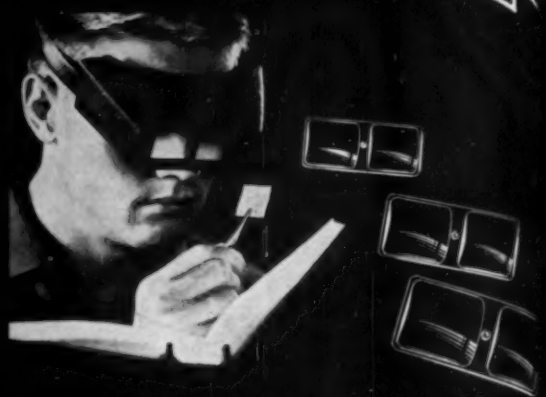

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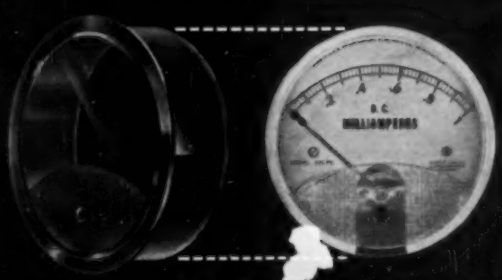

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. . . THROUGH CHEMISTRY

an introduction to our fourth Annual Design Review:

MATERIALISM, LEISURE, *and* DESIGN

The 4th Annual Design Review is just that: a review. The word suggests "parade," and the connotation is a good one, for ADR is a yearly product parade and, like all parades, contains too many elements to permit close examination of any one of them. Never mind. Our purpose is not the scrutiny of a part, but the observation of a whole: we are taking a long, and, we hope, revealing look at one year's worth of American design.

How much *is* one year's worth? Last December there were 244 selections. This year there are 301. Does this mean that design in 1957 was 23% better than in 1956? We must say candidly that it does not. But it probably does mean that there are more *kinds* of design, that the "world of things" traditional philosophers regard so skeptically becomes more inclusive by the year.

We care very much about this world of things, partly because we are design-conscious and partly because we are American: this country is probably unique in that a review of the year's products is actually a measure of the material improvement in the everyday lives of most citizens. Furthermore the most interesting new products, and generally the most attractive, have usually been the least "esthetic:" not the new textiles and flatware patterns, but the bearers of real material advantages — self-defrosting refrigerators, more efficient vacuum cleaners. Even the best furniture has customarily been outstanding more on technological than esthetic grounds.

So the nation is called materialistic and spiritually undernourished. And some of us are inclined to agree. Why *do* "they" make the cars so big, the advertisements so loud? How, in the sober age of Sputnik, do they dare put so much emphasis on luxury items? Why do they pay so much attention to the housewife's back and so little to her soul?

An easy answer might be that their power over her soul is limited. Good design, as George Nelson has written, "cannot transform a dark brown little life into a large, brightly colored one." Yet he adds that the purpose of good design is to ornament life. Our country's design has tended to serve it more prosaically.

No magazine can change the facts of American life, but perhaps we can clarify some of them. If there is a good side to American materialism it ought to show up here, in this selective review of new products. We think there is a good side, and that it does show up here—in quality, in availability, and in the implication of increased leisure.

It shows up most dramatically in building. This country is producing some fine architecture, and the products shown in the first section grow out of that architecture and promise to extend it, to bring custom design and fine detailing within the consumer's reach.

Building components can now be called products in their own right. Put them all together and, often, they spell not only advanced technology but buildings of

high quality. These components, as our first section shows, are sometimes the result of experimentation in the design of great buildings; as such, they are the backbone of an esthetic achievement that can rapidly be made available to all builders. Mass production, then, multiplies and distributes not only mediocrity but excellence.

This really means a further benefit of technology: more and better houses for more (if not better) people. Until now housing has been in the rear guard of the march toward mechanization. The new possibilities of industrialized structures with a wide range of individual choice seem to make it possible for housing costs to go down and quality to go up—a circumstance without which mass housing might halt completely.

We will extend this idea to talk about "products as components," an important theme indeed, for in the building industry's move toward the design of component parts we have the genesis of a much larger movement in all products related to the broader architecture of home, office, plant. It can be seen already in business machines and kitchen equipment. This approach to more choice for the consumer, simpler fabrication for the manufacturer, presents to the industrial designer a challenge not just to create mass-producible goods, but to reduce products to basic adaptable elements, as one architect has already done with the house.

So much for buildings. What about what goes into them? First of all, *people* go into them, and traditionally American design aims unapologetically at making things easier for people, at freeing them. Automatic ranges and one-step washer-dryers leave the housewife with a precious ingredient: time. This has come to be regarded as both her bonus and her right, but not everyone regards it with unqualified enthusiasm. Critics belonging to the woman's-place-is-in-the-sink school ask cynically what she is free *for*. The bridge table? Afternoon tv? The lonely togetherness of telephone gossip? The analyst's couch? Maybe. But is this the designer's problem? Certainly it is absurd to suggest that he has a moral responsibility *not* to help create leisure time because if he does it is likely to be badly used. More choice in how she spends her time gives the emancipated woman an opportunity to face problems of a larger order than before, and this *can* transform her life, even if good design can't.

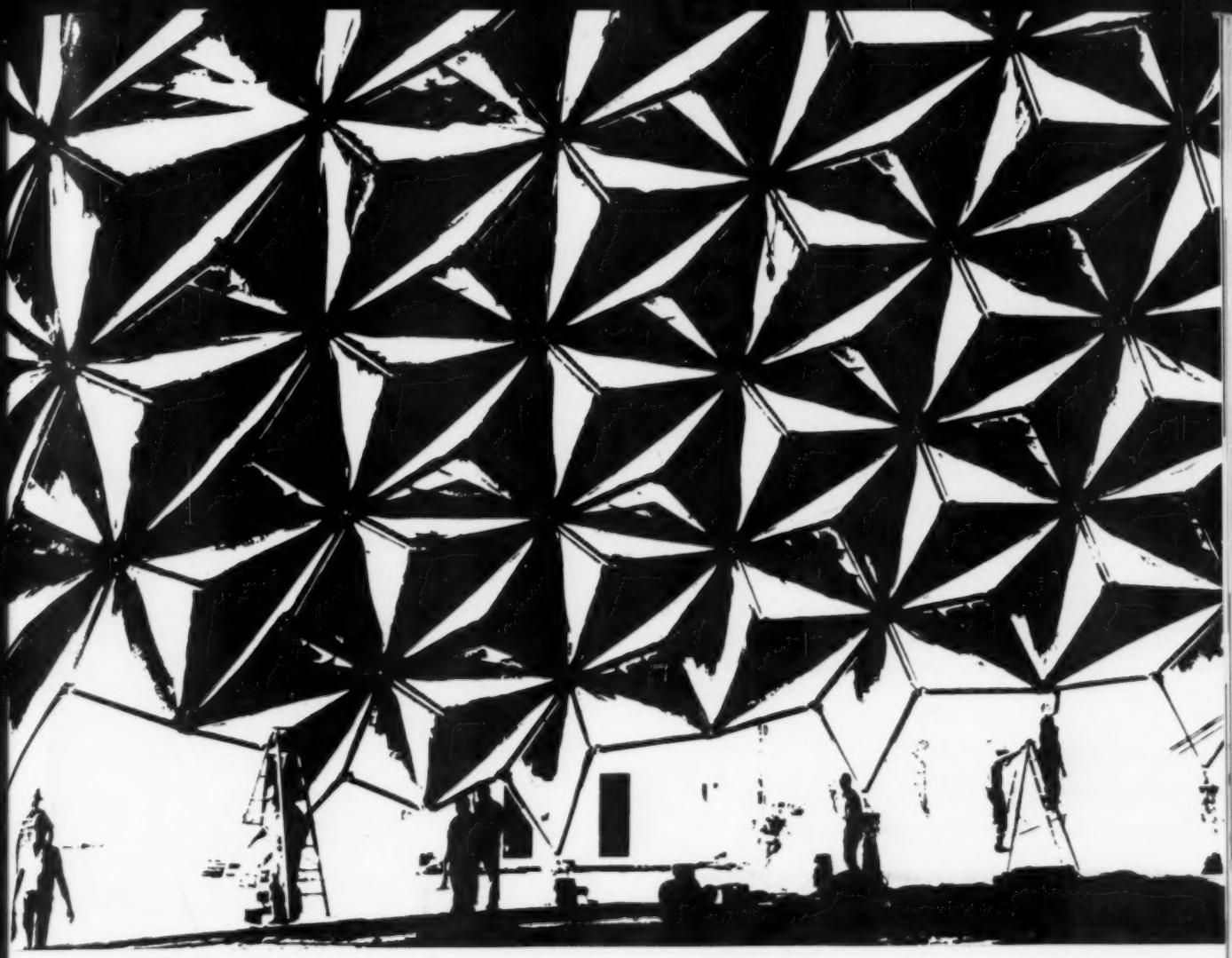
In any case, the designer does have a responsibility to help fill leisure hours, and *any* hours, with objects that are esthetically pleasing. The year's products indicate that some designers are seriously meeting this responsibility. There *is* more art in American design, and again the impetus comes from architecture.

Architects and designers trained in the strict geometric vocabulary of advanced schools have long depended on the impersonal object—the Victorian gew-gaw or bentwood chair or rubber plant—to enrich their interior spaces with romantic lines they were not trained to supply. Now we begin to see, particularly in new furniture (much of it still designed by architects), a more sculptural, more lyric approach in the actual lines and forms. In the best work this is not a turning back to sentimentality but, significantly, a step forward into a more fluid expression, an expression less dogmatic and rule-bound, but no less skillfully controlled than what had gone before.

It is nothing less than a move, however slight, toward art, a willingness to ask not only "Does it work?" but "Is it pleasing?" and "Can it enrich lives?"

But to herald art is not to repudiate technology. 1957 was, after all, the year that man got something into outer space and kept it there. While this fact alone dwarfs the year's invention, it also points up the importance, in industrial design as in everything else, of scientific development and of research so basic that its relevance in design cannot immediately be seen. For that reason we have included in this issue a rather full treatment of pre-product technological developments.

Thus, the most technologically aware Annual Design Review is also the first to recognize a growing esthetic awareness in American design. Maybe it's a good omen.—*THE EDITORS*

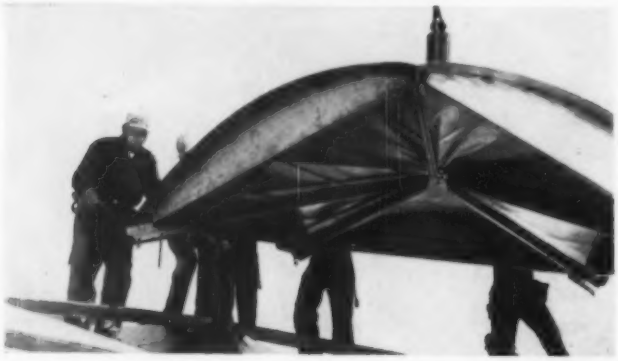


BUILDING & HOME

Building components—a new product type is introduced, including curtain walls, new kinds of building block in glass, tile and cement . . . plain and fancy finish materials, ready-made partitions, louvers and ceilings . . . lighting and air conditioning systems that look like built-ins.

Furniture, for home and office: modular with interchangeable parts . . . and a contrast of sculptural and richly patterned pieces. *Lamps*: a wide variety in shape and purpose. *Appliances*: new straight-line pieces that sell off the floor to function like built-ins . . . appliance walls and cooking centers . . . some major appliances shrunk to portable proportions . . . revised cleaning tools . . . an array of small housewares and personal items . . .

BUILDING: SYSTEMS



1 Aluminum dome
Product Development Dept.
Kaiser Aluminum & Chemical Co., Oakland

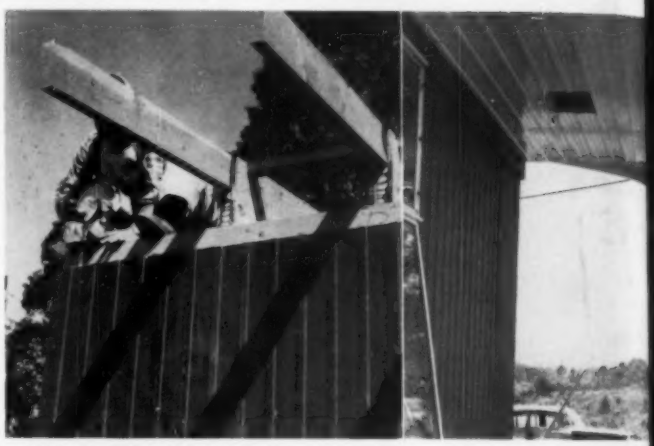
Stressed-skin aluminum panels in 10 sizes are rapidly erected into clear span enclosure 145 feet diameter.

Ready-made, pre-mixed, and plug-in are standard terms in the American market place, and fully assembled clothes, cookies, appliances, funerals, mortgages, and greeting cards are intrinsic to our economy. Yet in one major industry the ready-made is exceptional: generally speaking, our houses, factories, and office buildings are not prefabricated, but custom-built of materials ordered by the foot or ton. It is important news that this year, for the first time, the building industry provides a large group of actual products for our Annual Design Review.

The ready-made house has always been haunted by questions: how do you manufacture, stockpile, finance, distribute, and transport it economically? And then how do you overcome the customer's prejudice against standardized building? Recently an obvious, radical answer has appeared: while mass-produced buildings are still a problem, there is a growing market for mass-produced components.

Although the development of prefab components is a major economic step for the building industry, its importance is not entirely financial, and the trend is not limited to the building industry alone. In major appliances and furniture, the concept of products as components is esthetically as well as practically based. In business machines, and in communications, the ability to mass-produce circuit components and to conceive whole machines as components of systems is of great importance.

The building products shown on these pages should be of refreshing interest to the designer for several reasons. Many, just by virtue of their simplicity and perfect adaptation to purpose, look more like custom design than marketed products. What accounts for their simplicity? Several, like the curtain wall opposite, were conceived by architects to fit a particular need and later adapted to mass production. Others, like the roof tiles, resulted from a supplier's earnest effort to give a product a wider usefulness. All of these products are pioneers; their selling point is not a gimmick or a styling change but some element of real progress.

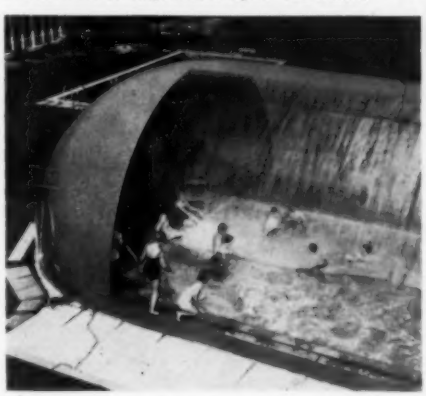


2 NAHB Research House
NAHB Research Institute, Kensington, Md.

Preformed tempered 3/8" Masonite ribbed panels nailed to base plate and studs form both sheathing and siding; battens form weatherproof joint.

3 Air-supported dome
Birdair Structures, Inc., Buffalo

Pool Enclosure of transparent plastic 58' by 24' x 13' is kept rigid by blower with 1/6 h.p. motor. Door in end sections of vinyl-coated nylon (Du Pont).

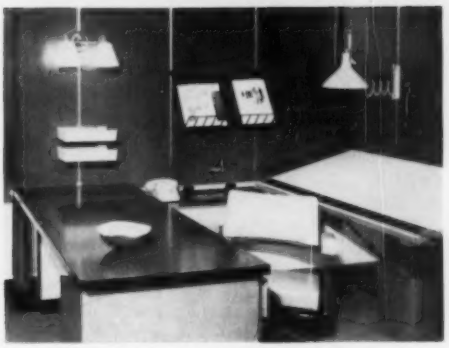


4 Bermuda roof tiles
Zonolite Co., Chicago

Lightweight aggregate concrete cast into tapered tiles; may be applied directly over shallow pitch roofs covered with any cement coating.

5 PC Colored Glass Block
Pittsburgh Corning Corp., Pa.

For curtain wall installations. New method of firing a translucent ceramic finish on glass blocks adds color, allows 25% light through.

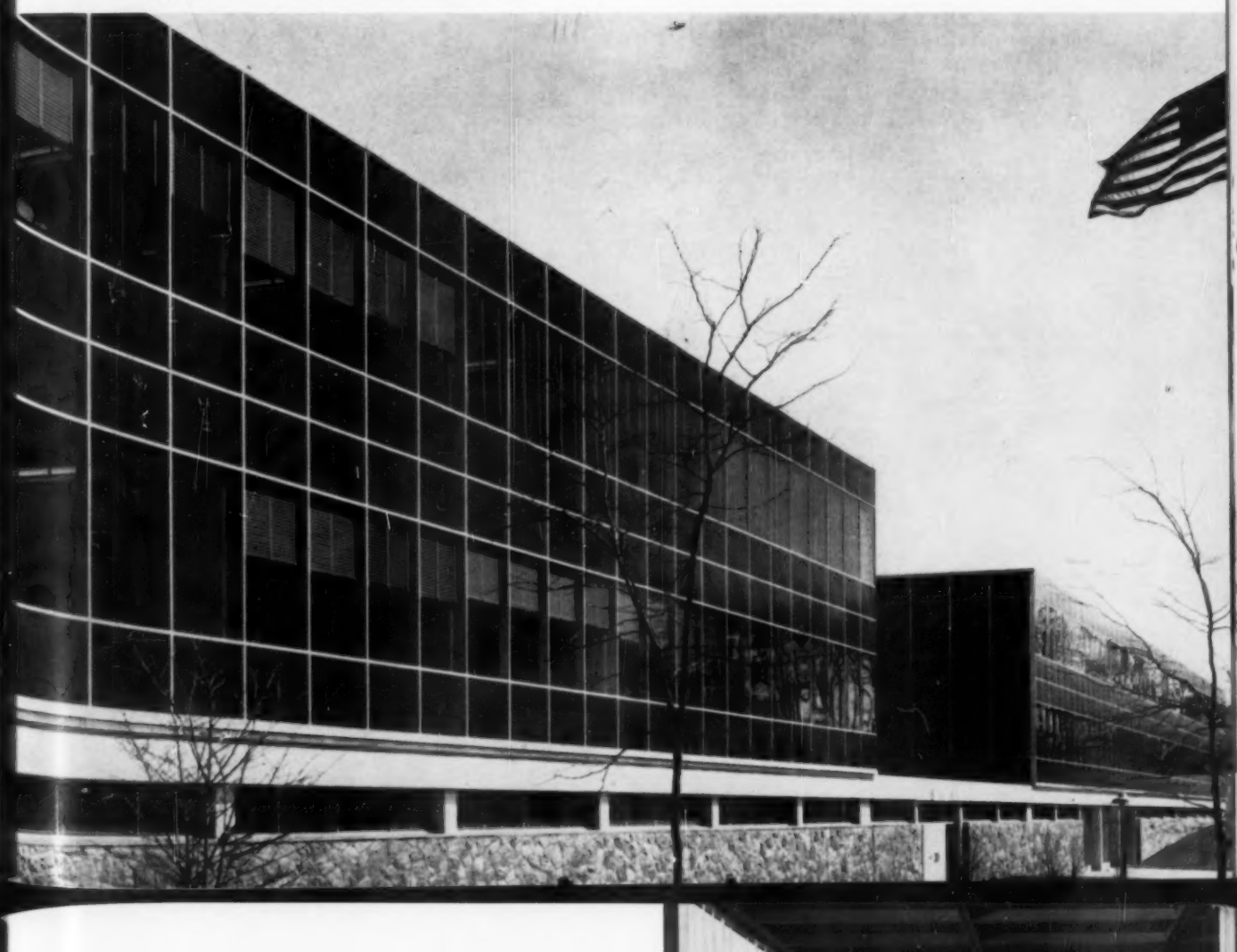


6 Workwall movable partitions
L. A. Darling Co., Bronson, Mich.

Grooved anodized aluminum uprights hold Marlite panels (5 heights, 4 widths). Brackets screwed to strips hold desks, cabinets, shelves, lamps, trays.

7 Curtain wall grid system
E. K. Geyser Co., Pittsburgh

Sash and mullion in one extruded section becomes continuous; horizontal bars run outside line, variety of fenestrations possible.



NEW BUILDING PRODUCTS *are by-products of two building masterpieces*

The House of Seagram, by Mies van der Rohe and Philip Johnson, is a master architect's explanation of principles often misunderstood by his imitators; the products within also demonstrate fresh solutions to problems that have stumped lesser men. The window wall, for instance. Mies uses more glass than anyone else has yet dared, solving problems of heat and height with a weathermaster in a new proportion, which controls temperatures and forms a solid base to the invisible wall. Interior partitions, too, were created around rigid specifications for appearance and flexibility. The architects worked with fabricators on numerous special designs from hardware, mail chutes, and lavatory fixtures, to a luminous ceiling that, dimmed at night, will turn the skyscraper into a tower of light.

9 "Horizon" movable wall
E. F. Hauserman Co., Cleveland

Components based on 4" module in thickness and height allow designer or tenant to choose panel surface, wall style, visible or concealed joints. Base and top recessed, back and front of each panel may differ.

8 Modular weathermaster units
Carrier Corporation, Syracuse, N. Y.

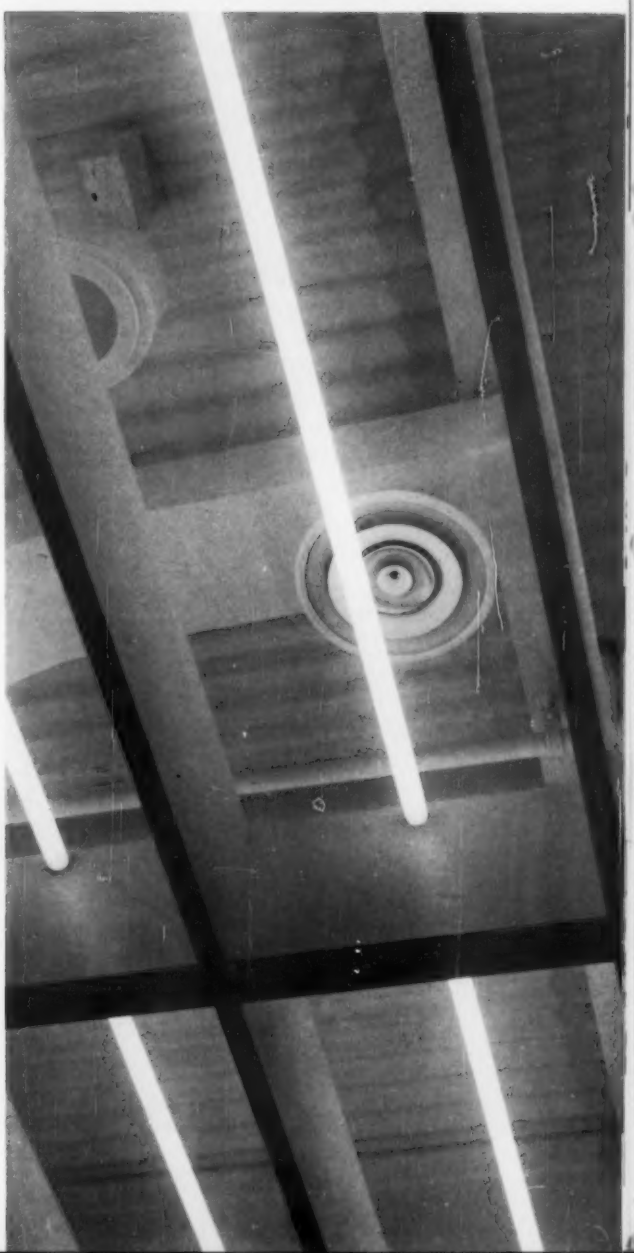
Compact 12" x 11" units, specially designed to rim glass walls of House of Seagram, provide central heating and cooling with individual room control. Conduit system sends air at high velocity through small ducts to units in rooms, where air draws additional room air over coils in which cool or warm air is circulated.

Ezra Stoller

10 Vertical blinds
Designed and fabricated for Connecticut General Life Insurance Building by Simon Ventilator Co., New York; Skidmore, Owings & Merrill, architects.

Wide-slat (7") blinds control illumination and retain window visibility, acting as vertical elements of facade and interior. Heavy gage aluminum permits flat slats, hung without bottom track.

Connecticut General Life Insurance's new home, by Skidmore, Owings and Merrill, sprawls on the Connecticut countryside. Its airy interiors are a stellar example of the way components designed for architecture can stand alone as products. The elements—louvered window walls, freely arranged partitions, and a ceiling grid—are so simple as to escape individual notice; yet each one, developed for the problem at hand, is now being broadly marketed, with the special attractiveness of products designed both for new features and for harmony with an architectural whole.



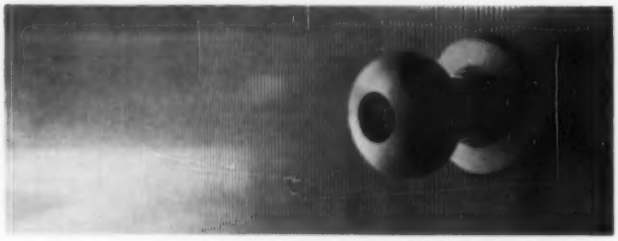
11 Open baffle lighting ceiling
Smithcraft Lighting, Chelsea, Massachusetts
Developed with Skidmore, Owings & Merrill

Overhead system incorporates lighting, acoustical control and structural supports into large gridwork, forming dropped ceiling. 6' tubes (1/3 normal brightness) shielded by baffles; cavity becomes reflector, conceals sprinklers, diffusers, loudspeakers.

12 SOM partition
E. F. Hauserman Co., Cleveland, designed by Gordon Bunschaft of Skidmore, Owings & Merrill

Rear panels of Formica, inter-office walls of obscure glass, are held by extruded aluminum posts (Reynolds) of natural finish. Spring clip gives fast positive lock of panels to posts.

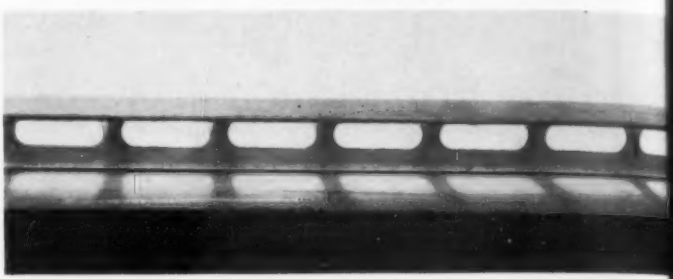
NEW PRODUCT IDEAS *are planned results of research houses*



These three demonstration structures—two sponsored, significantly, by material suppliers — are for public view, yet they are basically serious experiments in new ways to use materials in building. Alcoa house contains aluminum applications that point to new components. The Monsanto and Nelson houses *are* the product, with mass production as the objective. Within these techniques, full use is made of the freedom of design that is implied—and made possible—by construction from large-scale components.

13 Fascia strip
Alcoa Carefree House
Charles H. Goodman, architect

Smooth outer edge of aluminum fascia rims eaves of aluminum roof. Openings and cross bars diffuse water flow. Door (left) made of aluminum honeycomb, anodized gold.

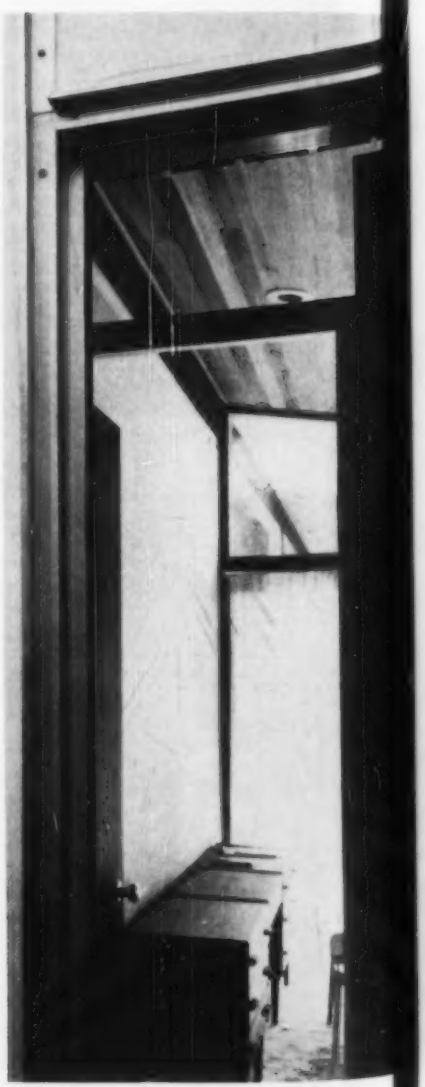


14 Exterior panels
Alcoa Carefree House

Purple textured aluminum panels 8' x 12'; blue anodized grilles clip on over fixed glass areas.

15 Door trim
Alcoa Carefree House

Aluminum extrusions, used as moldings and trim, hold Formica bathroom panels.

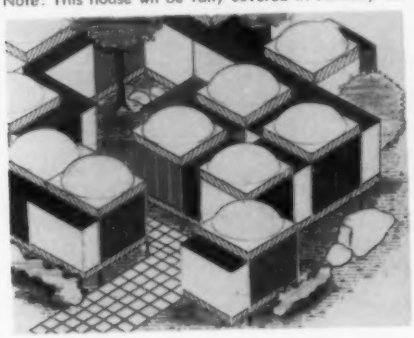


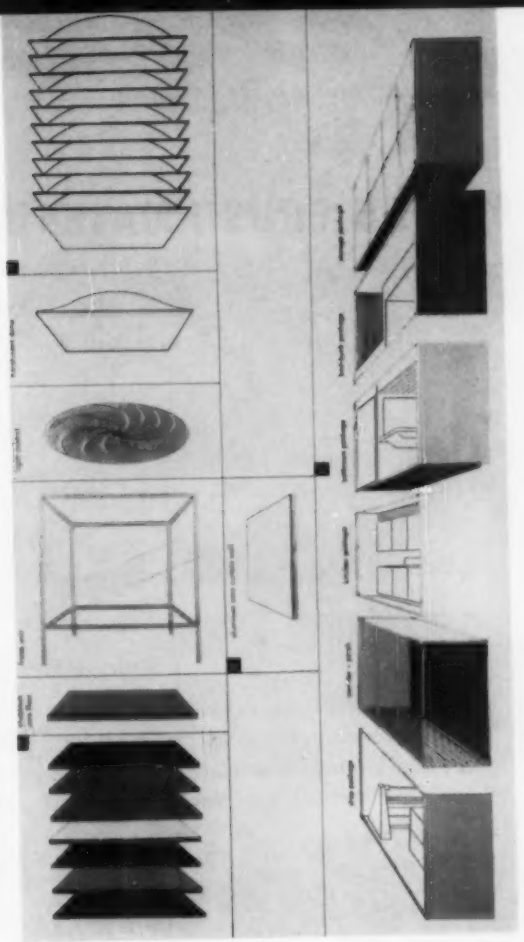
16 Family area
Alcoa Carefree House
Interiors, Georg Jensen, Inc.

Textured aluminum used as wall cover (center); main structural beams faced in aluminum, natural wood panel (left) framed in aluminum.

17 Experimental House
George Nelson & Co., architects
Originally designed for Homestyle Center, Grand Rapids

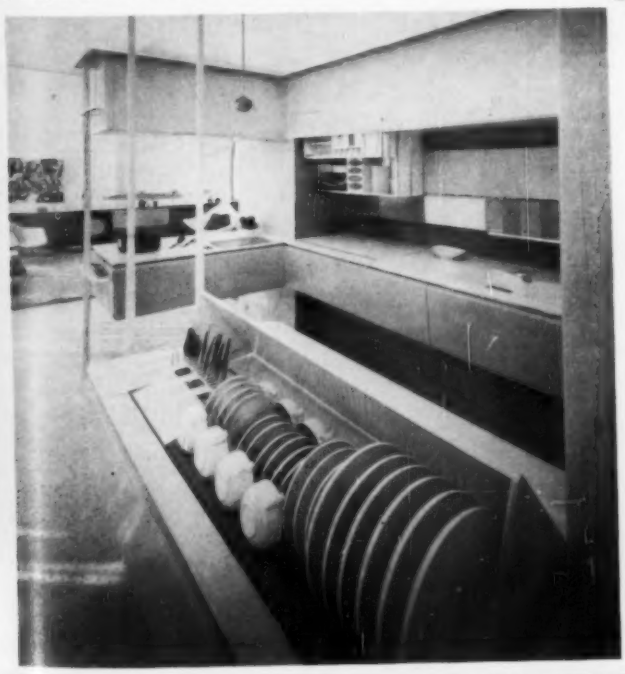
New concept for wholly modular and infinitely variable structure from mass-produced parts is based on a single structural cage 12′ square, 12′ high, of extruded aluminum. Attached by joint that is part of extrusion, cages may be strung together into any floor plan. Second element is open-sided box attached in series as corridor, or fitted out as packaged bathrooms, kitchens, furnished alcoves. Wall panels may be solid or glassed; lighting is provided by translucent shaded dome roofs.
Note: This house wil be fully covered in January ID.





18 "House of the Future" displayed in Disneyland, Cal.
Developed by Monsanto Chemical Co. and MIT Research Group

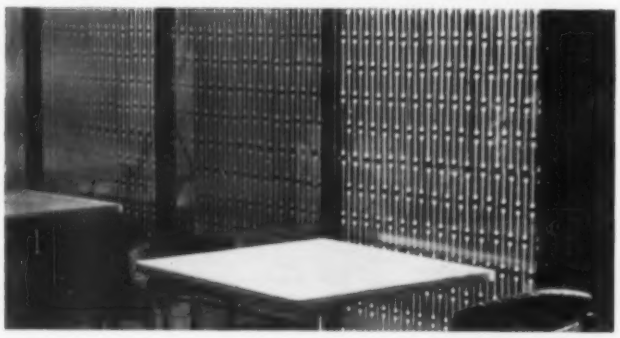
Demonstration house is molded of reinforced plastic U-sections. Each wing is formed from four 8′ x 16′ bents (which nest for shipment) attached to central core and foundation. House may consist of 2, 3, or 4 wings, or be enlarged to include second core and patio. Kitchen project, developed by Kelvinator, includes experimental appliances (irradiated food refrigerator, rear, ultrasonic dishwasher that stores dishes) and new applications of plastic in the kitchen. All overhead cabinets are concealed behind curved plastic valence. Base cabinets, built on aluminum frame, also have molded fronts, and sink is integral with plastic countertop.



19 Prefabricated bathroom in "House of the Future"
The Crane Company, Chicago, fabricator
Henry Dreyfuss, designer

As a major experiment in plastic prefabrication, bathroom is molded in two parts. Walls, floors, and ceilings, 5′ x 13′, fuse into two shells that lock at shoulder height. Back of walls contain plumbing connections, enclosed by outer walls. Children's section (below) has shower, adjustable sink.

PREFAB FINISH MATERIALS



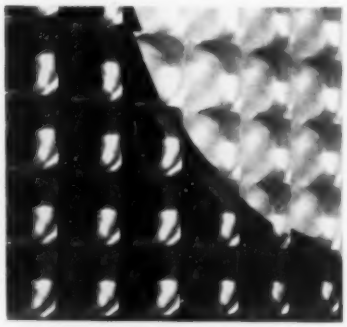
Patterns that enrich the cleanest architecture, once a matter of custom work, are provided in prefab form by these materials. Tile is a natural in this trend, a curtain wall material with "planular" but not flat surface and color, shown here in three adaptations (23,26,28). Glass, plastic, and a once-industrial product are also added to the architect's catalog of decorative components (20, 21, 22).

20 Decorative safety glass
Monsanto Chemical Co., Springfield, Mass.
George Nelson & Co., consultant designers

Pattern silk screened on butyral plastic, sandwiched between glass sheets, forms safety glass with architectural uses.

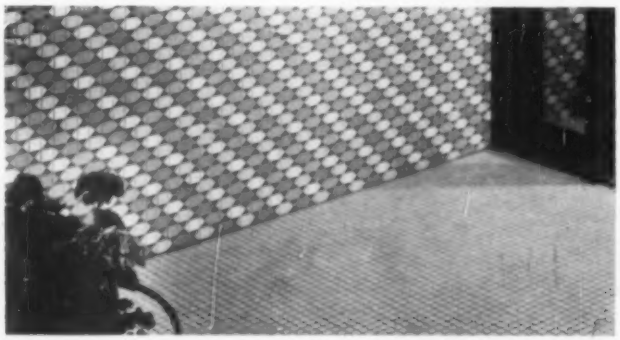
21 "Translusion" plastic film
Elm Coated Fabrics, New York
Arno Scheiding, consultant designer

30-gage calendered vinyl film embossed with prismatic pattern achieves depth effect.



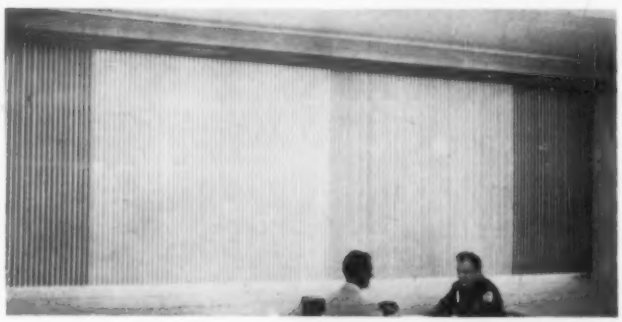
22 "Security Junior" panel
Resolite Corp., Zelienople, Pa.

Aluminum mesh (R) between reinforced polyester sheets makes stronger lightweight panel that is decorative, may be colored.



23 Byzantile
Mosaic Tile Co., Zanesville, Ohio
Kenneth Gale, Design Director

Ceramic mosaics in diamonds, squares, and diagonal halves, in 7 colors, combine in unlimited flat and 3-dimensional patterns.

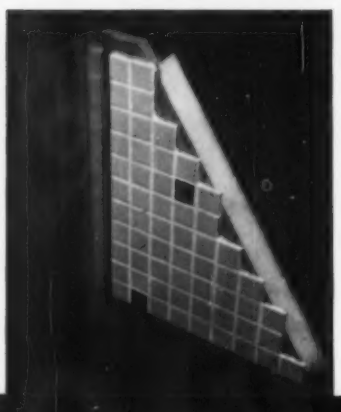


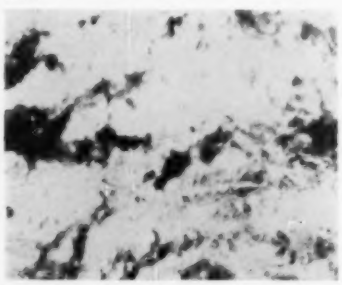
24 Flexalum blinds
Hunter Douglas Aluminum Corp., Bridgeport
Research Development Department

Vertical aluminum louvers stack flat, rotate to control window wall light. Molded nylon bottom linkage keeps slats aligned.

25 Pressure-sensitive tile
Robbins Floor Products, Tuscumbia, Ala.

"Pompeiian" vinyl tile, in translucent marble texture, has pressure-sensitive adhesive backing allowing replacement or reuse of tiles.





26 RS ceramic tiles
Ceramic Tile Panels, Inc., Canton, Ohio

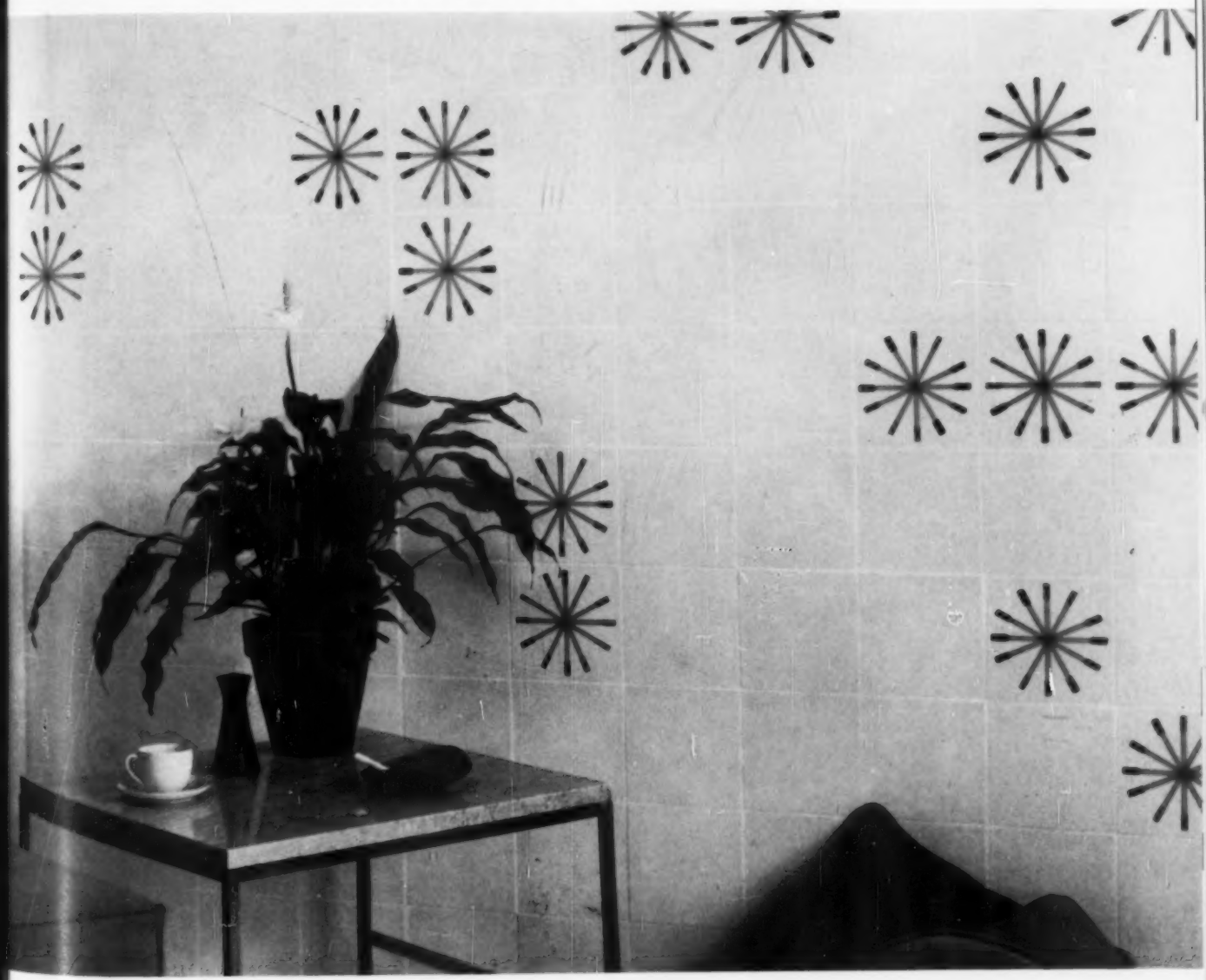
Insulated curtain wall panels up to 5' x 10' formed of aluminum skins on styrofoam core, faced with frost-proof colored tile.

27 "Coil Wal" partition
Dubuque Products, Dubuque, Iowa

Partition of narrow slats (Douglas Fir) linked by steel cables, coils into its own storage box, permits flush ceiling and wall installation of straight or curved walls.

28 "Roulette" tiles
Pomona Tile Co., Pomona, Cal.
Paul McCobb, consultant designer

One of designers' series of new decorated and 3-dimensional interior tiles.



BUILDING

LIGHTING: QUIETLY ELEGANT

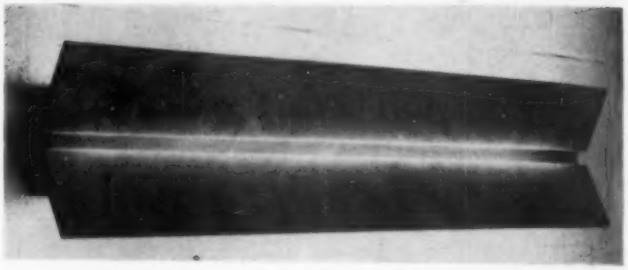
A number of lighting devices marketed this year offer all the elegance of built-ins found in expensive custom homes. Like numerous other products for building, these are remarkable for their modesty; they resemble full-fledged products even less, because they are designed without end: you can put them together to go on and on to fit whatever space is required.

31 Shallorama fixtures
Sunbeam Lighting Co., Los Angeles
William S. Rosenfeld, Design Director

Alzak-finished aluminum reflectors provide even illumination through Plexiglas diffusers 1" away from lamps.

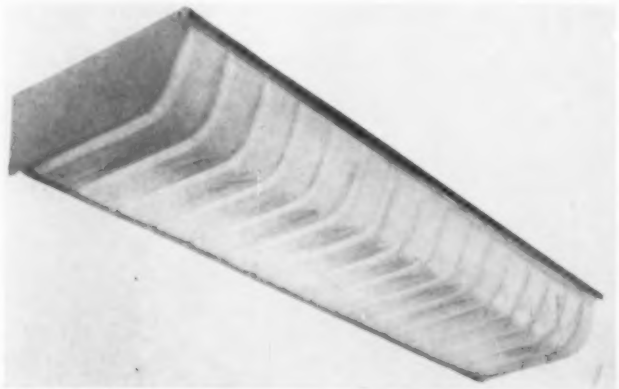
32 Panelescent switchplate
Sylvania Electric Products, New York

Illuminated switchplate demonstrates application of electroluminescence.



33 Lyteline fixture
Lightolier, Inc., New York
Harold A. Edelman, designer

Twin birch baffles conceal two 4-watt fluorescent bulbs for wall or hall use.

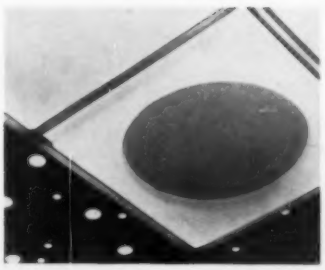


29 Molulume
Lamp Workshop, Wakefield, Mass.
Bill Lam, designer

Prefab lighting system provides flexible built-in solutions in various shapes. Parts lock without screws, rigid vinyl cover can be cut to wall or fixture length, fitting corners.

30 Dim-a-lite
Minneapolis Honeywell Regulator Co., Minneapolis, Minn.

Clear Plexiglas mount holds selector providing four light levels. Color inserts may match walls. Circuit breaker built in.



34 "Sylvalume" system
Sylvania Electric Products, New York
Peter Muller-Munk, designer

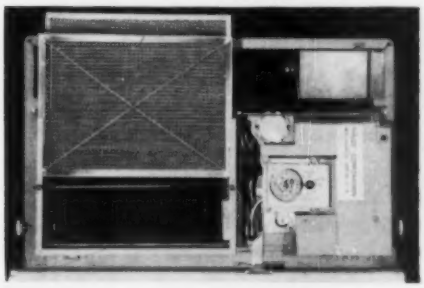
6 components make variable wall-to-wall ceiling lights: aluminum track, 3" vinyl diffusers in several designs, acoustic baffles, flat steel perimeter units, "outrigger" fixture

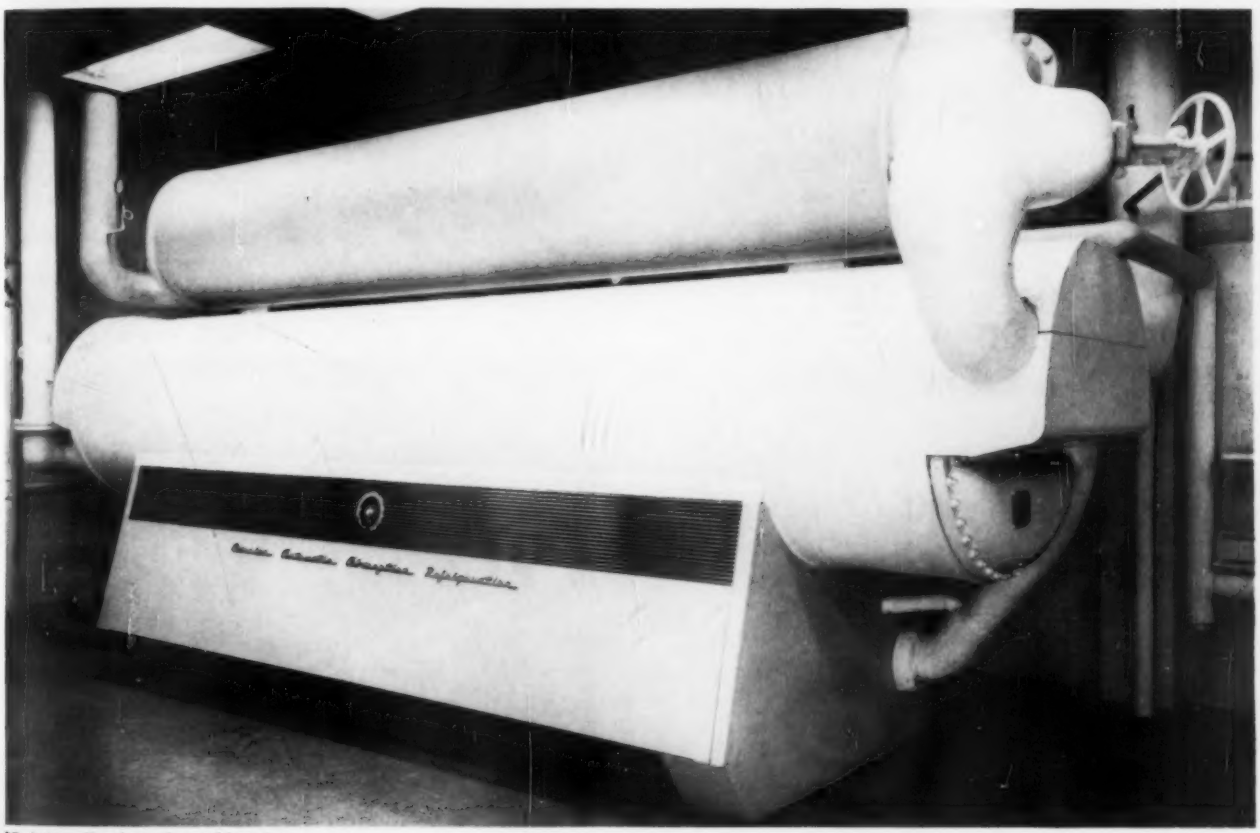
HEATING: CENTRAL, SIMPLE

The modular under-window unit (39) is next of kin to the run-on lights opposite, designed as it is with a continuous and functional case to make it one with the office interior. It is offered by a firm that espouses design widely in a range of usually by-passed building products: Carrier redesigned its large commercial unit (35), for instance, with awareness of the fact that such apparatus is often in places open to public view. In another direction of technical achievement, heating and cooling is now accomplished with a single independent unit (36), or a central system easily installed (38).

37 "Ionitron" air conditioner
Philco Corporation, Philadelphia

Ionitron system negatively ionizes air to aid hay fever sufferers, cleanse air of odors, smoke.



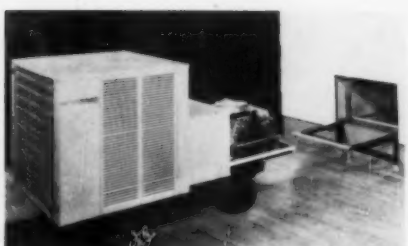


35 Automatic absorption refrigerator
Carrier Corporation, Syracuse, New York
Walter Hoyle, project engineer and designer

Redesign of commercial unit simplifies shell, supports, piping, focuses on simple control dial.

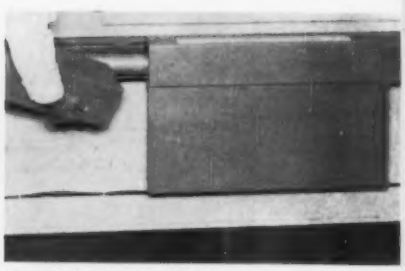
36 Portable air conditioner—heater
Carrier Corporation, Syracuse, New York

First portable multipurpose unit weighs 60 lbs., is window-mounted air conditioner; reversed, serves as heat pump, on floor as dehumidifier. Uses household current.



38 Experimental home air conditioner
for NAHB Research House
Frigidaire Division, G-M, Dayton

Economic year-round system has 2-ton air-cooled condenser and cooling coil, factory fabricated, inserted through wall, linked to furnace.

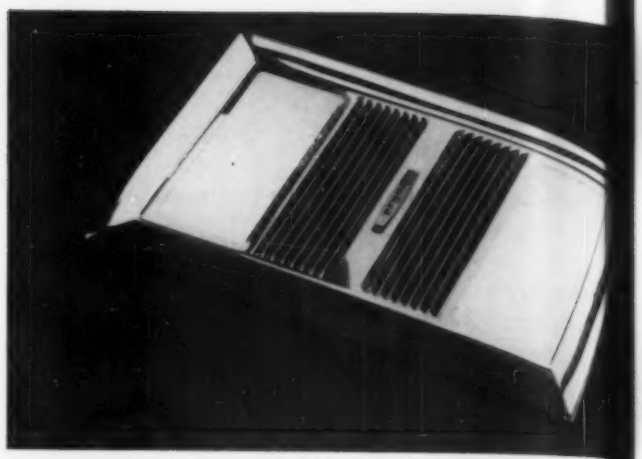


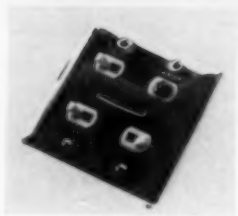
39 Modular weathermaster
Carrier Corporation, Syracuse, New York

Simple enclosures on mounting strip conceal conduit "runouts" in multi-story central system with shelves, storage space, covers.

SOME HARMONIOUS HARDWARE

The architect or builder finds in his catalog a growing number of unobtrusive products that fit such functions as heating and drying (44) and ventilating and lighting (41) right into the structure of the house. The bath fixtures (40) seek color integration of sanitary fixtures by integrating matched color into the knobs. The new Crane bidet (42) continues a trend toward squared forms in the American bath with a geometric base and crisp edges. Sears' free standing fireplace does what many predecessors have not dared: it takes a simple rectangular shape and gives it sufficient refinement, in its detailing, to fit any kind of interior space.





41 Exhaust fan—light—heater
Emerson Pryne Co., Pomona, Cal.
Harold Harrison Ford, staff designer

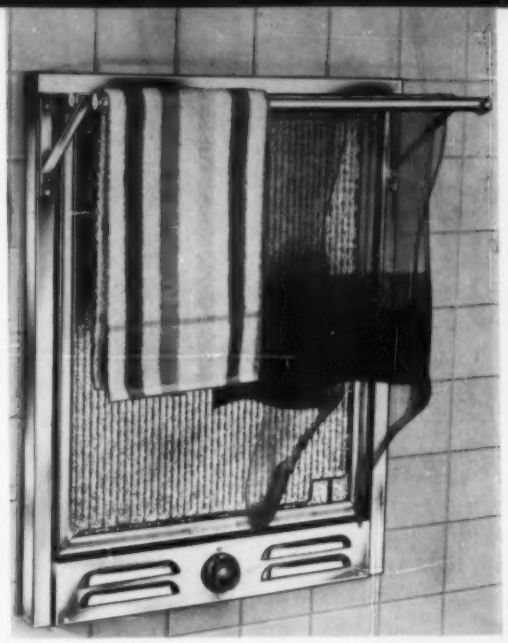
Recessed 3-way unit has radiant heat coil synchronized with blower; 2 lamps, exhaust fan operate separately. Grille snaps on by patented mechanism.

40 Bath hardware
Briggs Manufacturing Co., Warren, Mich.
Harley Earl, Inc., designers.

Chromed brass fittings for tub, basin; valve handles have molded plastic inserts to match Briggs sanitary ware.

42 Bidet
The Crane Company, Chicago
Henry Dreyfuss, consultant designer

New Crane product, aimed at export, simplifies traditional form with geometric lines. Ceramic and chromed brass.

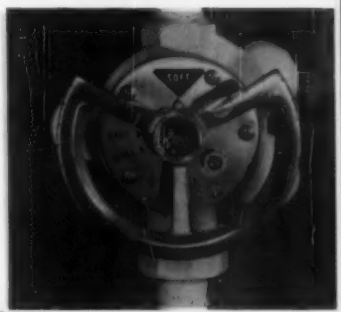


44 Glassheat heater-dryer
Continental Radiant Glass, New York
H. LeRoy Whitney, design engineer

Surface-mounted or recessed chromed panel has element fused to glass panel.

45 Water softener controls
Rheem Manufacturing Co., Chicago
Paul Daugirda, Project Engineer
Stowe Myers, consultant designer

Open segment denotes correct position after operation, permits view of dial.



42 Tension door
Pittsburgh Plate Glass Co., Pittsburgh
George L. West, engineer

First use of glass under tension utilizes inherent strength for light plate glass door. Leaf springs in horizontal frames put ½" plate under compression, vertical stile in tension.

46 Free-standing fireplace
Sears Roebuck & Co., Chicago
Allan J. Alvaney, staff designer

Insulated sheet steel box in satin black baked enamel firebrick base, brass fire screen.

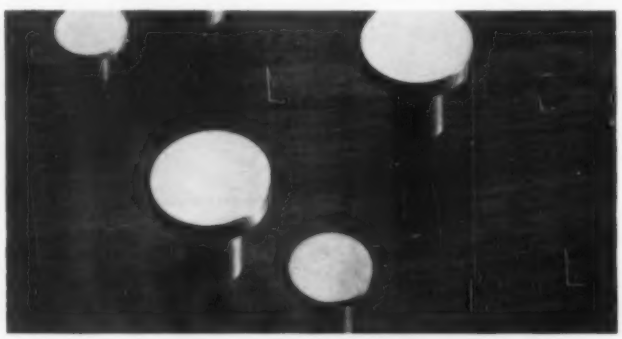
HOME: THE NEW LYRICISM

The furnishings here display two trends that are at once opposite and interdependent. First is the design of furniture that is not only modular—capable of being re-arranged into new pieces because of the common dimensions of its components—but by its nature so basic you can make of it what you want from the start. "Variations" (55) efficiently breaks a roomful of furniture into tinkertoy-like parts. The divider (51) is eminently practical in its flexibility, yet decorative.

This suggests point two: the emergence of furniture that leaves the logic of post and lintel, becoming a romantic complement to the geometry of today's architecture. Saarinen's chairs (54) are designed, like porcelain, with clear emphasis on a sculptured line. The screen (50) and chair (48) show with what skill designers can express a lyric line.

48 Chair
Baker Furniture Co., Grand Rapids
Tadao Inouye, designer

Ebony with teak plywood back panel, cane seat.

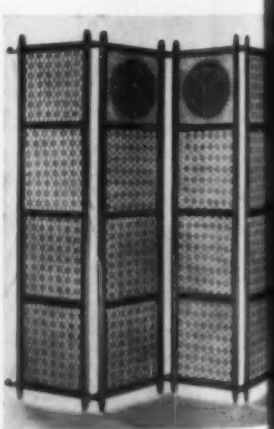


47 Cast brass hardware
Morrison Imports, Los Altos, Cal.
Matt Kahn, designer

Brushed brass or brushed nickel, lacquered. First of series.

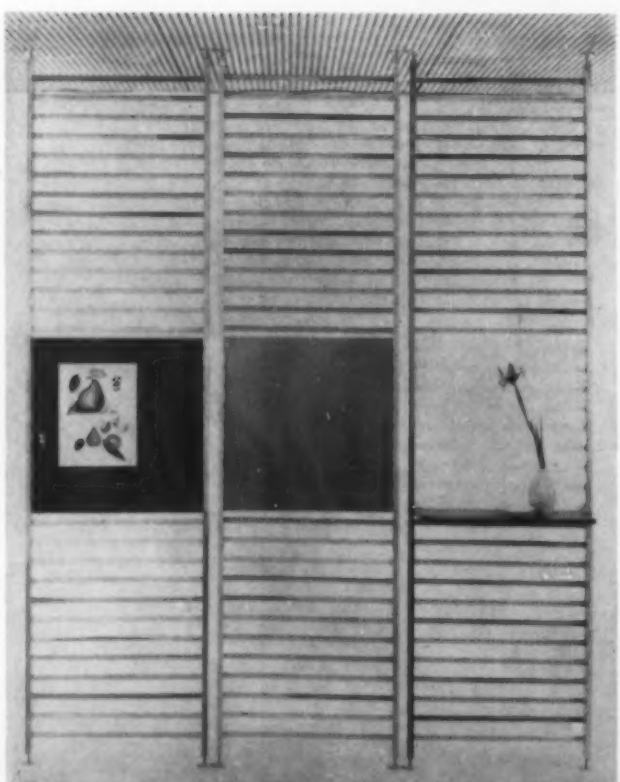
49 Flair chair
Thayer Coggin, High Point, N. C.
Allan Gould, designer

Six plywood segments, each upholstered, hinge together with slight play. Cradle base of cold-drawn steel wire controls movement.



50 Screen
Arch Gordon Company, Chicago
William Taylor, Will Martin, designers

90-lb. Kraft paper honeycombs between sheets of fiber-glass-reinforced plastic are framed in walnut and ebony.



51 Room divider
Howard Miller Clock Company, Zeeland, Mich.
George Nelson & Co., designers

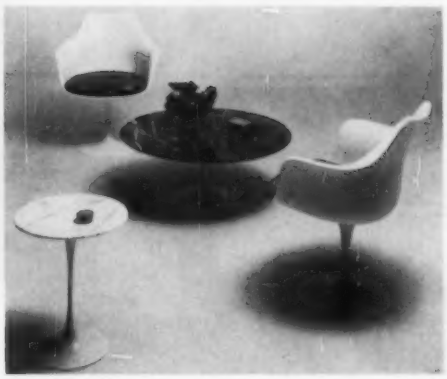
Cork-surfaced discs on swivel legs form contact fastenings to hold divider between floor and ceiling. Dowels of birch or walnut; shelves, panels of Masonite, cork and Plexiglas are attachable.

52 Molded plastic drawer
Knoll-Drake Products, Inc., New York
Knoll Associates, designers

Single piece phenolic molding (Bakelite) in uniform depths, 3 heights. Metal slides easily attached to cabinetwork suspend drawers from molded top lines.

53 Table
Knoll Associates, Inc., New York
Isamu Noguchi, designer

Angled steel rods on cast iron base make airy but strony pedestal for melamine top.

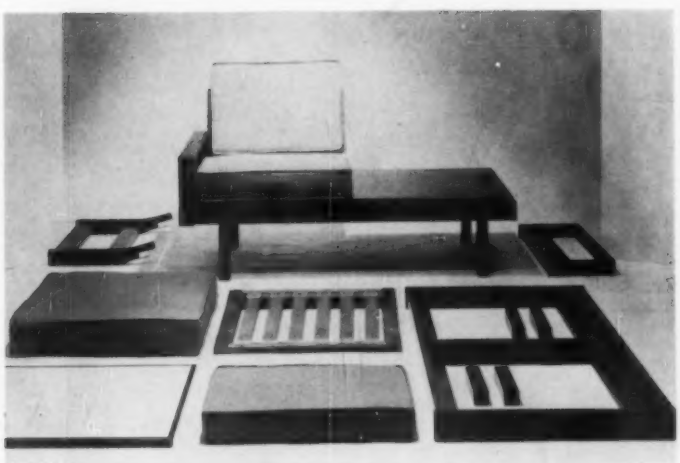


54 Stem chairs and tables
Knoll Associates, Inc., New York
Eero Saarinen, designer

Replacing legs, single aluminum pedestal holds stationary and swivel arm side chairs of molded Fiberglass; or tables.

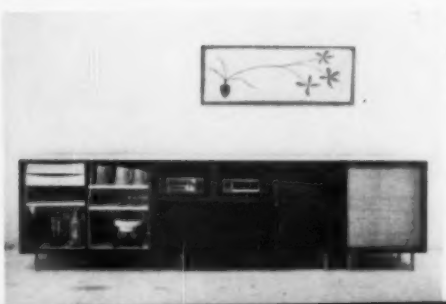
55 Portable bar
Harvey Probber Inc., New York
Harvey Probber, designer

Mahogany cabinet on brass-trimmed wheels has beige Carrara top, plastic-lined drawer.



56 "Variations"
Brown Saltman, South Gate, Cal.
Martin Borenstein, designer

Flexible walnut components on 24" module may be arranged into benches, sofas, tables, storage units.



57 Music and storage unit
Colby Associates, New York
Paul Colby, designer

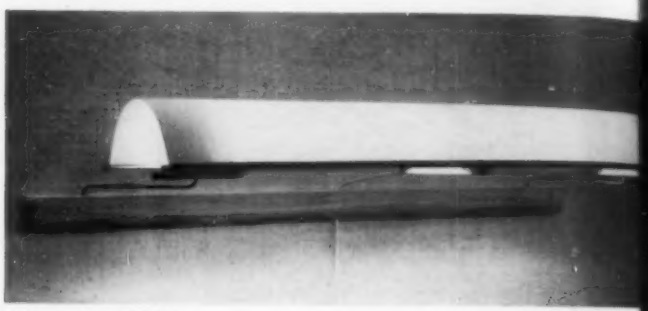
Teak or walnut case on white-finish steel legs lines up with matching speaker cabinet.

LAMPS: VARIETY OF FORMS

Lamps have been attractively designed this year in as many styles as there are purposes. The Lytespan pole uses the principle of modular furniture to make a marketable product out of something often custom built—and to give the customer great variety. The wall lamp (64) is a new version of an old classic, using the traditional and practical lampshade in an ageless form. Some lamps are designed to be decoratively prominent (58, 65), others to do their jobs of directing or diffusing with individual flare.

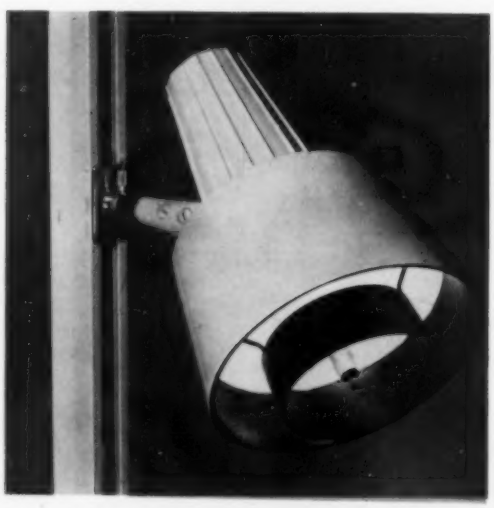
58 Globe lamp
Habitat, Inc., New York
Paul Mayen, designer

Opal glass on chrome base.



59 Moveable wall light
Jason Harvey, New York, designer and manufacturer

Light wood frame holds two 60-watt lumiline bulbs, shaded by lacquered Japanese paper laminated to vinyl.

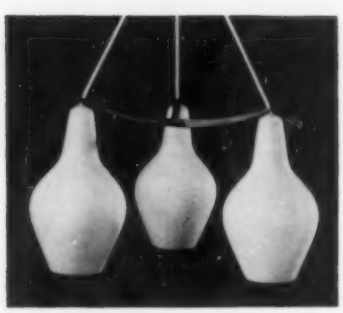


60 "Lytespan" system
Lightolier, Inc., New York
Gerald Thurston, designer

Electric raceway within extruded aluminum floor-to-ceiling shaft fastens fixture and makes electrical contact at any point. Three lamp types, planters or trays may be attached.

62 Stem lamp
Koch and Lowy, Inc., New York
Ernest Lowy, designer

Brass or enameled aluminum perforated lamps fastened to brass bar have a directional swivel.



61 Ceiling lamp
Koch & Lowy Inc., New York
Ernest Lowy, designer

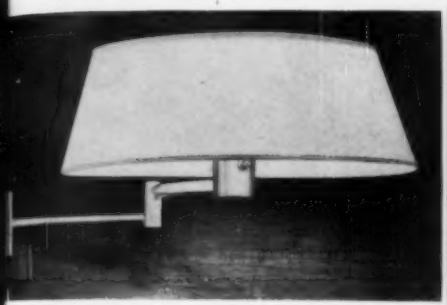
Swedish glass globes on walnut frame, spun brass canopy.

63 Floor lamp
Lightolier, Inc., New York
Gerald Thurston, designer

Swing-arm lamp has rotating ribbed metal reflector. Brass stem adjusts up to 51½".

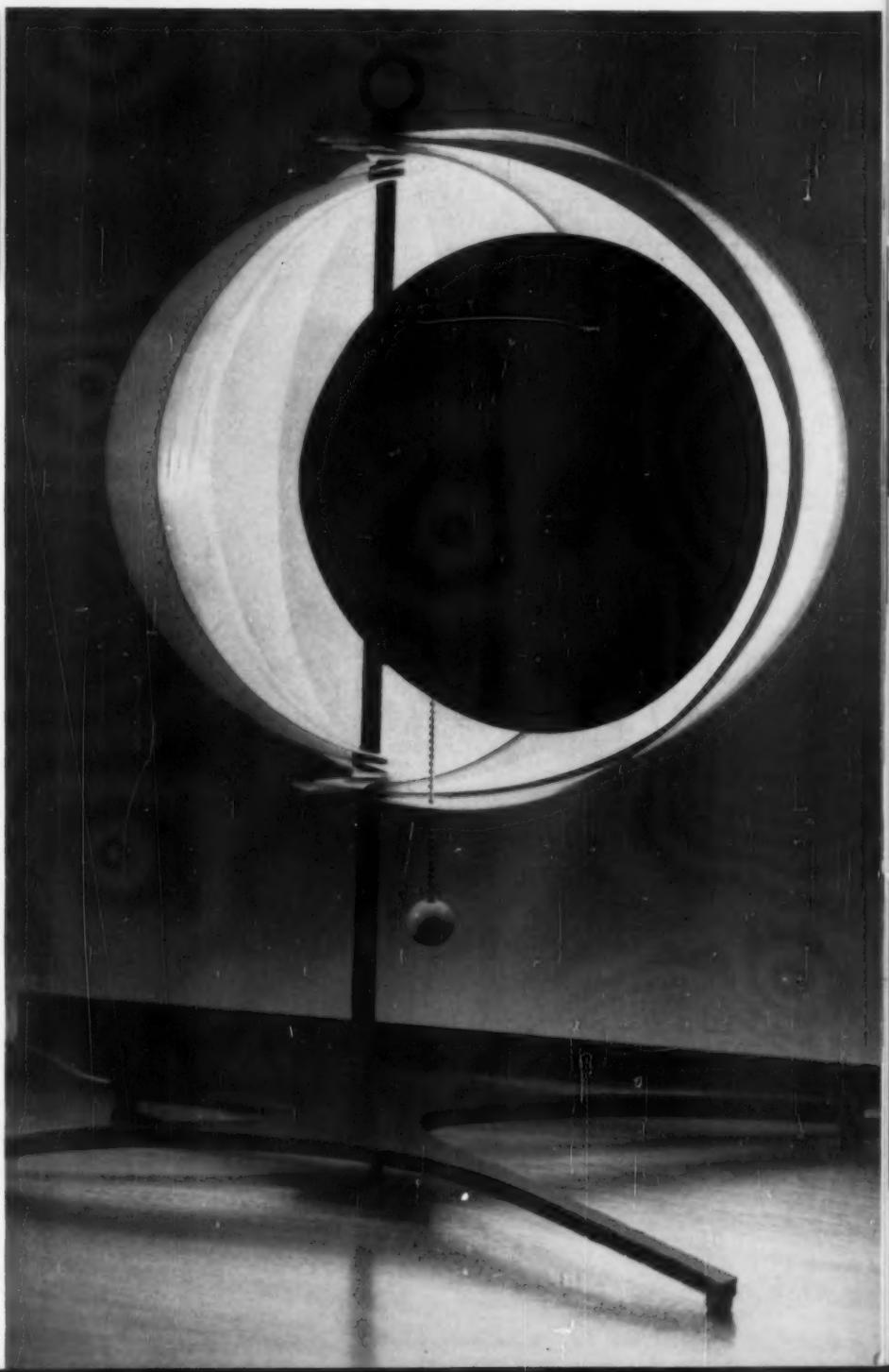
64 Swinging arm lamp
Nessen studios
Stanley Wolf, designer

Drum shade has metal disc for down light. Solid brass socket and arm, walnut wall block. Arm swings at elbow and wall.



65 Fan-finned desk lamp
Martin-Taylor, Chicago
Jo Mead Designs, designers

Colored plastic fins may be closed like lantern, opened to show diffuser in black aluminum, matched by stem and base.



OFFICE: PLANES AND FANCIES

66 All-purpose cabinet
Jens Risom Design, Inc., New York
Jens Risom, designer

Small flexible unit has pull-out dictation slide, verticle and horizontal storage. Walnut or birch, brass legs, with or without casters.

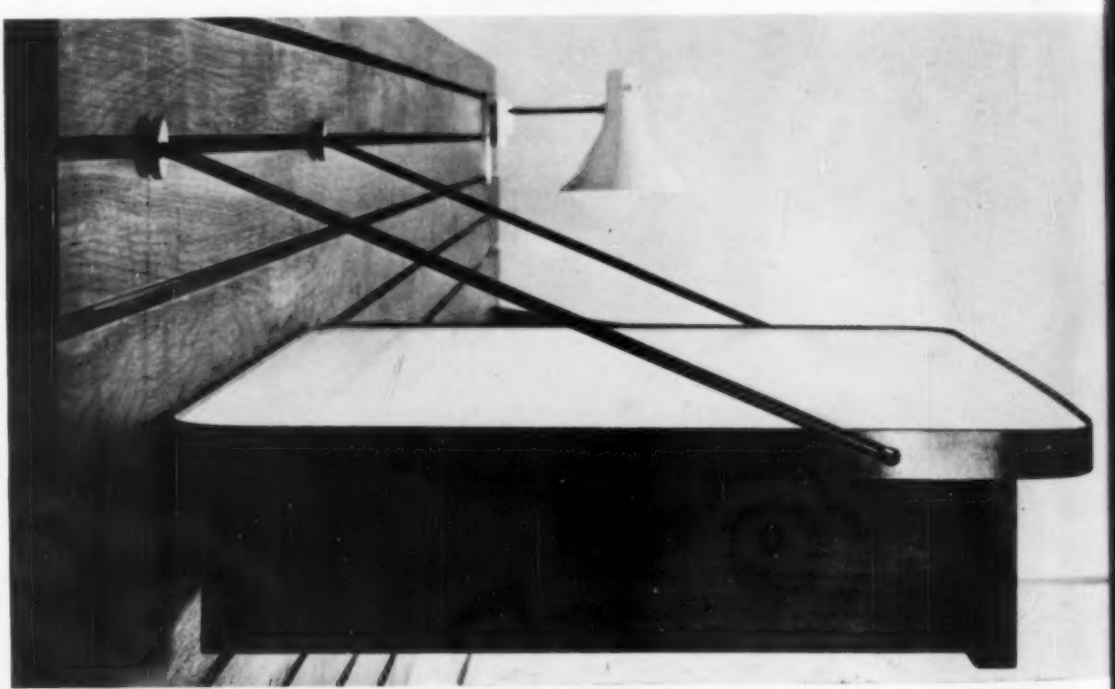
67 Plywood chair
Thonet Industries, New York
Joe Adkinson, designer

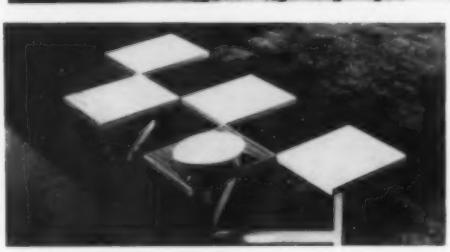
Molded plywood shell of birch or maple, available upholstered.

Clean lines and expressed structure, an office and institutional idiom now well known, is still capable of refinement and variation, as Lehigh's desk (75) and other examples on this page (66, 68, 69) indicate. But most noteworthy this year is a group of counterparts to the strict idiom of planes. The circular closet (73) is a rational form contrasting decoratively with office furniture, a kind of esthetic component that enlivens the square components it lives with. The accessory tables (70, 71) and storage unit with colored inserts (72) are other ornaments to the serious office style.

68 Slimline chest and chair
Simmons Furniture Company
Raymond Spilman, designer

Die-formed sheet-steel case with integral frame makes sturdy chest for institutional use; metal drawers, Textolite top (GE). Chair has welded steel frame, removable seat, back.



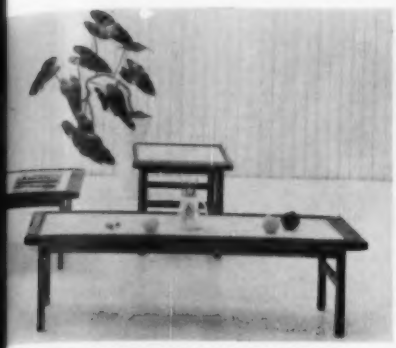


69 Bed-box and Bed-rax
Architectural Furniture Components, Princeton, N. J., Leo J. Fischer, designer

Wall-hung headboard in any length for institutional use supports components: night table, writing table, bed lamp.

70 Office accessory table
Macey-Fowler, Inc., New York

Zig-zag magnesium base holds Formica or walnut squares.



71 "Endowment" occasional tables
Sheldon Furniture Co., Van Nuys, Cal.
Merendino-Greene, consultant designers

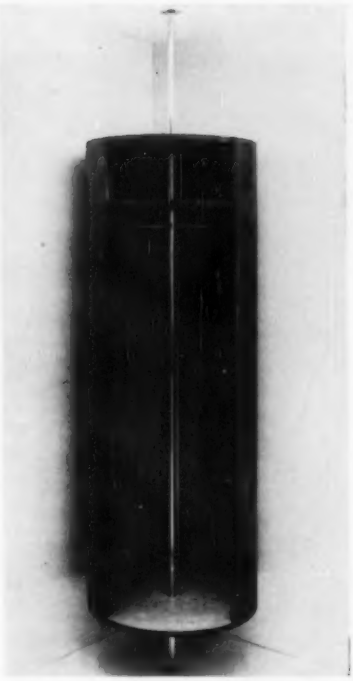
Companion coffee, end and corner tables with solid color Formica insert tops complement office desk group.

72 "Endowment" office furniture
Sheldon Furniture Co., Van Nuys, Cal.
Merendino-Greene, consultant designers

Flexible case serves as desk "L," pedestal, or side storage. Colored modular inserts behind tambour doors make right or left "facing."

73 Revolving office wardrobe
Lehigh Furniture Co., New York
Von der Lancken & Lundquist, designers

Walnut cylinder 24" in diameter holds 6 coat hangers, pivots on chrome stem to "closed" position.



74 Posture chair
Lehigh Furniture Company, New York
Von der Lancken & Lundquist, designers

Chromed steel rod base and back supports, foam upholstery; 5 back and seat adjustments.

75 Desk
Lehigh Furniture Co., New York
Gerald Luss, designer

Luxury Line desk has curved walnut-edged top with Formica or leather insert, square brass or chromed legs.

MAJOR APPLIANCES: *Built-ins for everybody off the showroom floor*

Appliances, too, have made steady progress toward becoming prefab components; this year they are no longer bulky furnishings for a kitchen but *pieces* of it, in some cases supplying the walls as well as the appliance. Even more important than greater flexibility in kitchen planning, these boxy, linear units bring built-ins, historically part of the custom-built house, down to mass production price levels. GE, first to put several appliances under one top, has squared off its self-supported storage, added useful cubicles, creating a free standing kitchen at the right height for a room divider (76). Another solution to building in without actual construction is the K frame which integrates cabinets with appliances in free standing units (77). Frigidaire accomplishes continuity in the range area with a tall, straight back panel that becomes one with adjoining shelves (79).

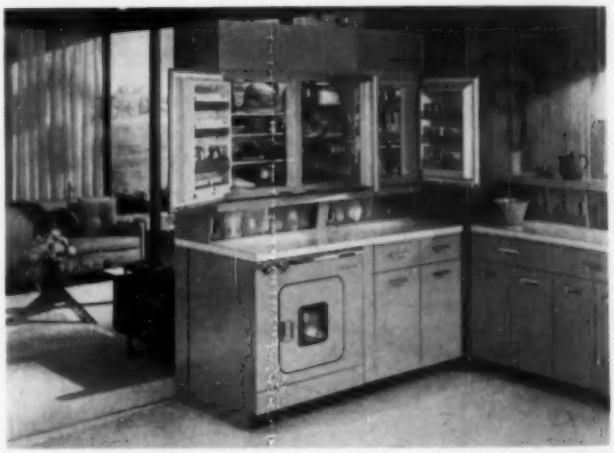
Another major plus of the built-in look is esthetic. Clear proportions, contrasts of materials and subdued styling give these boxes great elegance.

76 Kitchen Center
General Electric Co.
Appliance and TV Div., Louisville, Ky.
Appearance Design staff

New back-of-counter shelf has cupboards, open shelves, fits around control panels for portable appliances, stainless steel counter.

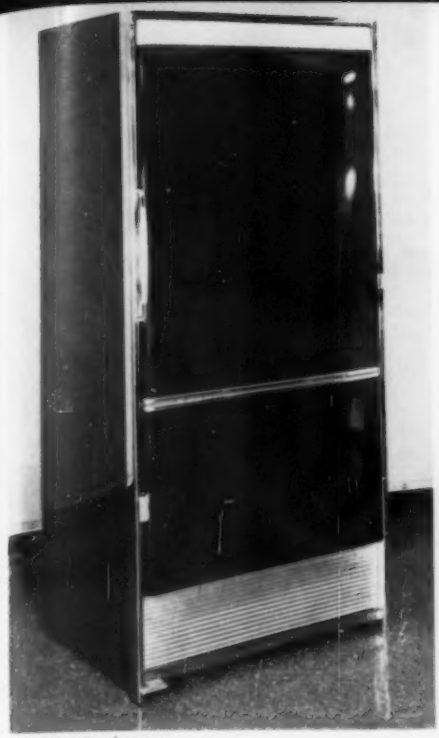
77 Angle iron "K" frame
General Electric Co.
Appliance and TV Div., Louisville, Ky.
Appearance Design staff

Supporting steel structure acts as backbone to combine refrigerator-freezer with wall cabinets in free-standing unit.



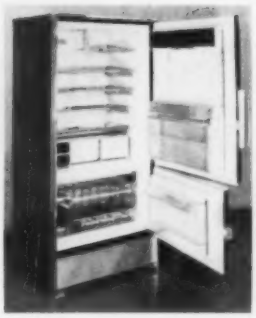
78 Kitchen storage units
St. Charles Mfg. Co., St. Charles, Ill.
Staff designed

Off floor steel cabinets rest on 10⅛" or 16⅛" base pedestals; steel or wood fronts.



80 Refrigerator-freezer
Frigidaire Div., GM, Dayton, Ohio
Staff design

Two doors inset in chromium frame have 180° flush hinges. Storage door plan (right) has adjustable components.

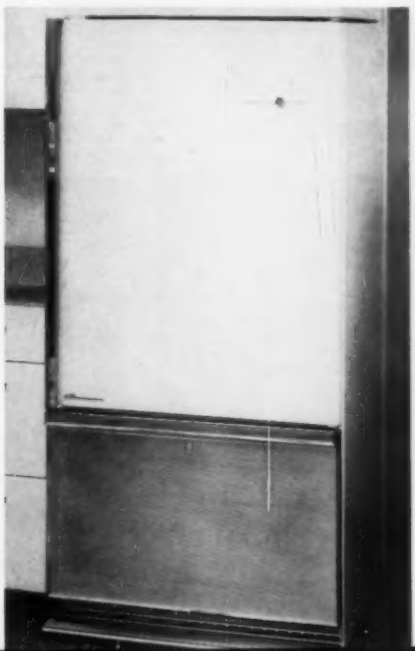


79 Electric range
Frigidaire Div., GM, Dayton, Ohio
Staff design

Two-oven 40" range, handles set on chrome frame of doors, offset control panel framed in chrome against back-lighted glass. Smaller model (left below) has one oven, French doors.

81 Refrigerator-freezer
General Electric Company
Appliance and TV Div., Louisville, Ky.
Robert E. Munz, Project Designer; Arthur N. BecVar, Manager of Industrial Design

Pivot-hinge door, fan-type front vent condenser allows flush installation on sides, back, top.



82 Range
General Electric Company
Appliance and TV Div., Louisville, Ky.
E. W. Harrison, Project Designer; Arthur N. BecVar, Manager of Industrial Design

Pedestal-mounted control panel, piano key controls, 23" wide oven, removable door.

83 Cabinet kitchen
General Air Conditioning Corp., Los Angeles
James Kercheval, staff designer

Combination range, sink, refrigerator, freezer; also available with oven, broiler, garbage disposer; in 29" cabinet. Either gas or electric.

Even in the more minor appliances the insistence on lines that will recede into the wall prevails. These manage to be inconspicuous without a total loss of personality. Two new ones (86), (87), make a full scale job of some standard subsidiary functions.

84 Kenmore range
Simpson-Sears Ltd., Canada
Alan W. Duncan, staff designer

Chrome-framed backsplash, silk screened decoration, lighting and control identification on glass.

85 Range
Westinghouse Electric Corp., Mansfield, Ohio
F. Walter Perl, Design Director; Peter Muller-Munk Associates, consultant designer

One-piece welded body, porcelain bonded to Ti-namel steel finish; chrome handles.

86 Ice Maker
Whirlpool Corp., St. Joseph, Michigan.
Sundberg-Ferar, designers

Straightforward design for both household and commercial uses.

87 Dehumidifier
Whirlpool Corp., St. Joseph, Michigan
Sundberg-Ferar, designers

Mounted on casters; controls odors as well as humidity.

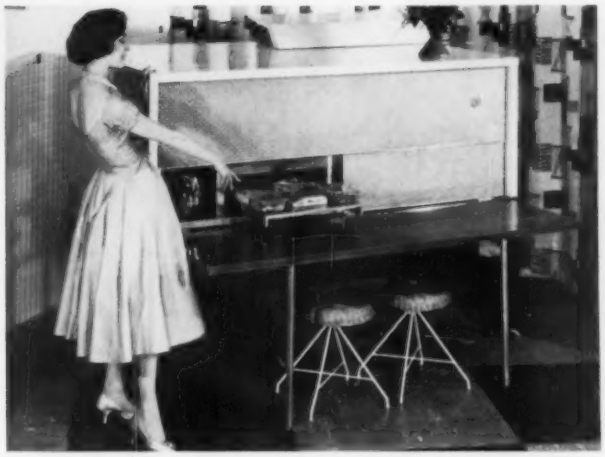
88 Portable dishwasher
American Kitchens Div., Avco Mfg. Co., Connersville, Ind.
L. L. Burke, chief engineer; Me Boldt, consultant

Porcelain tub, vinyl racks.

INDEPENDENT COOKING CENTERS

89 Experimental programming cooker
General Electric Co., Appliance and TV Div., Louisville, Ky.
F. Clark Stephens, Wesley Pattison; Arthur N. BecVar, Manager, Industrial Design

Food selector buttons time transfer of food packed in Pyrex containers from freezer to electronic oven to produce complete meal.



Although portable appliances can free the cook from the kitchen, chances are she still spends most of her time there—surrounded by the electric cookers she chose for their special abilities. To provide storage, adequate outlets and make order out of the dispersal of cooking areas, pre-packaged cooking centers became important this year. First to design a portable appliance center, Westinghouse now introduces a successor (90), reduced in depth so it can be installed in the average four-inch wall. Western-Holly (91) provides a complete cooking package, ready to be slipped into place, that recognizes a need for storage and outlets for electric cookers in addition to regular gas range. Total cooking centralization is, of course, represented by GE's experimental cooker (89), which combines food storage and cooking in one automatic unit, cooks foods "modularly." Spectacular as it is, the ultimate influence of this idea on the kitchen remains to be seen. What frees the housewife from work on one hand might encumber her with a complicated filing routine to fit an established system.

House Beautiful

90 Appliance control center
Westinghouse Electric Corp., Appliance Div., Mansfield, Ohio
W. F. Perl, Manager of Appearance Design

Designed to be built into standard 4" walls; 2 retractable cords, 2 outlets, timer.

91 Cook Center
Western-Holly Appliance Co., Culver City, Cal.
Staff design

Boxed cooking unit fits flush with cabinets to look built-in without construction; contains ventilating fan, fluorescent lights, 2 electric outlets, gas oven.

INDEPENDENT COOKERS

92 Portable grill
Dormeyer Corp., Chicago, Ill.
Burton Kelly, Jack Morgan Assoc., designers

Heat-resistant vented phenolic handles, cast aluminum grill. Surface height allows continuous grinding.

93 Black Angus Traveler
Marlun Manufacturing Co., Woodside, L. I.
Staff design

Portable infra-red broiler also serves as top burner. Bakelite legs, 3 cooking levels.

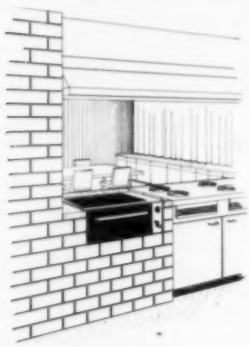
Changing patterns of entertaining have brought the outdoor charcoal grill inside with civility (96), while the electric cooker prepares to go out (93). Increased sociability, no doubt, has focused new attention on the act of food preparation and on the equipment that accompanies it. With cooking so much less a private operation than it used to be, one recent innovation civilizes it by eliminating smoke, odors, grease. It's done by a catalytic element that oxidizes the by-products of cooking. Housed in the lid of a fry pan (94) this year, it could be made part of almost any cooker. GE, in turn, has refined the form of a traditionally obtrusive item, by reducing the rotisserie's bulk and forsaking decoration to arrive at a compact, efficient machine. If other portables are not radical in concept, they show the results of an increasing concern with clear organization. GE's saucepan (95) is a simple, honest statement of a frankly bulky item as are the Regal (99) and Dominion (101) coffee makers.

94 Catalytic lid
Kamkap, Inc., New York
Oxy-Catalyst, Inc., developer

Catalyst-coated wire in enclosure oxidizes cooking fumes, odors and grease. Lid is chrome finished spun aluminum, handle Bakelite.

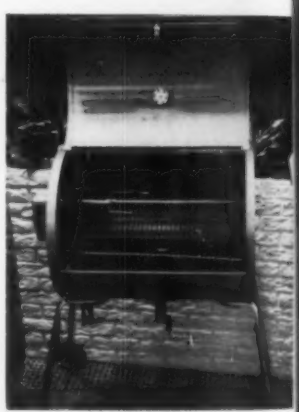
95 Two-quart saucepan
General Electric Company
Housewares & Radio Div., Bridgeport
W. E. Moore, P. O. Rawson, R. H. Koepf, Staff designers

Drawn aluminum body, handle, feet and knob of plastic; cover has steam vent, removable temperature control.



96 Built-in barbecue grill
The Majestic Co., Huntington, Indiana
Good Design Assoc., designers

Grill sized for installation in modular or custom-built kitchen cabinets. Stainless steel and enamel, heavy steel fire pan.

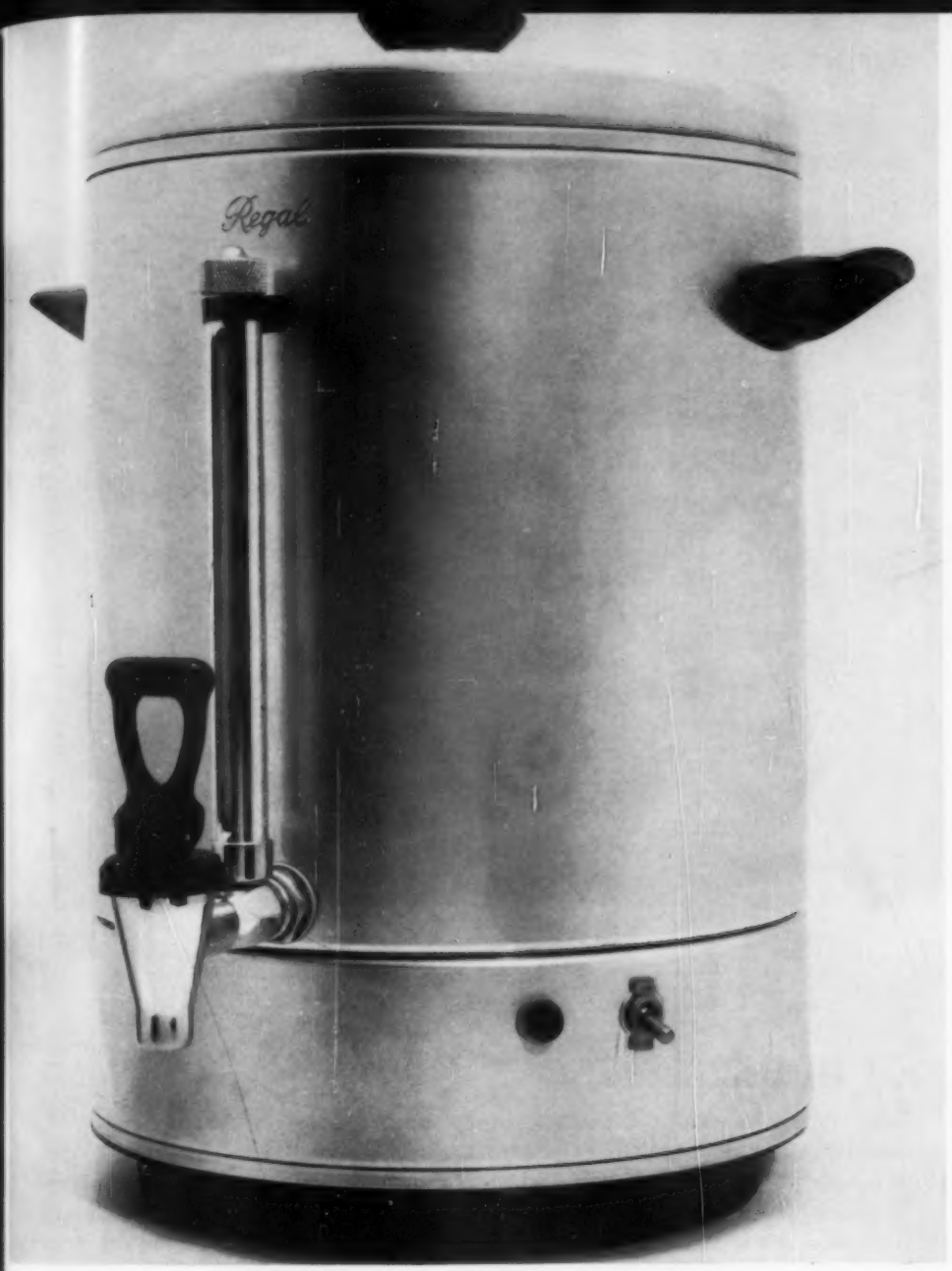


97 Outdoor smoker-grill
Arvin Industries, Inc., Columbus, Ind.
Staff design

Barrel-shaped smoker has motor-driven spit, vents at either end of barrel, thermometer in door.

98 Portable rotisserie-oven
General Electric Company
Housewares & Radio Div., Bridgeport
Carl N. Johnson, R. H. Koepf; Donald L. McFarland, Manager of Industrial Design

Aluminum (Reynolds) tilt-top lid, Bonderized baked enamel on steel lower shell, nickel-chrome-plated steel inner liner.



99 Coffee percolator-urn
Regal Ware, Inc., Kewaskum, Wisconsin
Nolan Rhoades, designer

Seventy-two cup electric coffee maker comes apart for easy cleaning; when cover removed, flat knob becomes non-tip base. Aluminum components, Bakelite (Plastic Engineering Co.) handles and knob.

100 Tealectric
Chemex Corp., New York
Peter Schlumbohm, inventor

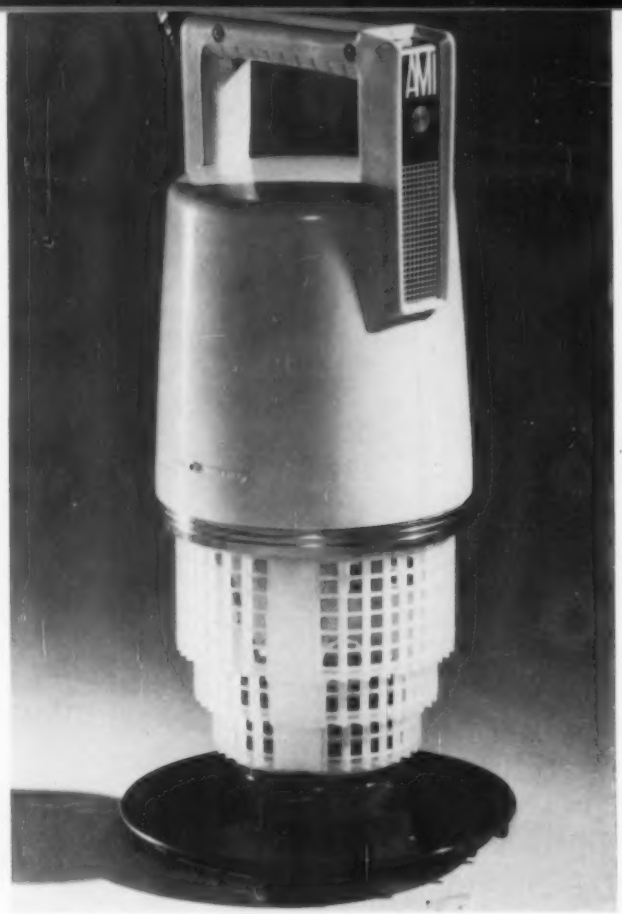
Water heated with 115 volt immersion heater, tea made by pumping Pyrex glass cylinder holding tea leaves in Pyrex kettle.

101 Percolator
Dominion Electric Company, Mansfield, Ohio
Waltman Associates, consultant designers

New 6-to-8 cup percolator adapted from base, lid and body of larger one. Stamped aluminum, compression molded plastic.

102 Salton Hotray
Salton Manufacturing Co., New York
Peter Quay Yang, designer

Extruded aluminum frame (United States Extrusion) holds electrified glass top (Blue Ridge Glass). Bow shape holds frame taut.



103 Portable washer
AMI, Inc., Chicago
Mel Boldt & Associates, designers

Suction-cup base, nylon ribs, centrifugal pump; 14½" high, 5" in diameter.

104 Portable disposal
Free Sewing Machine Co., Los Angeles,
Staff design

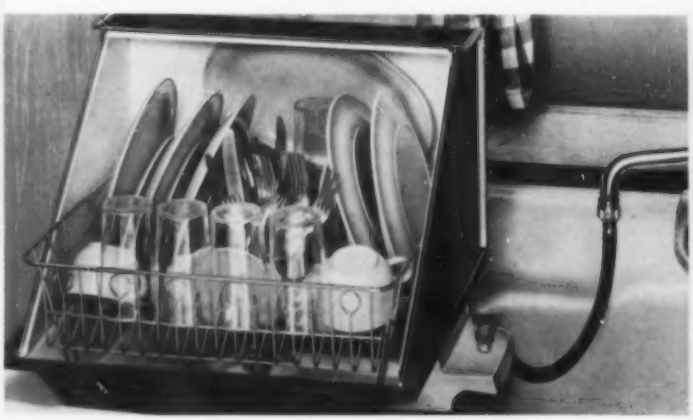
Stainless steel exterior; needs only electrical outlet, tap water and sink drain, 10" high.

ELECTRIC-POWERED HOUSEWARES

This year brought some new product types—innovations that enlarged electricity's applicability or reduced a normally portly appliance to its work-saving essentials. The clothes washer (103), disposer (104), and dishwasher (105), are obviously addressed to a special market and not intended to replace full-size appliances. Nonetheless they appeal to everyone cramped for space. New uses for power in small appliances make for quicker and neater can opening (107), and meat grinding (113), and for aerated drinks (106). Vacuum cleaners were picked out this year for major revisions in shape (109) and compactness (110).

105 Portable dishwasher
Chico General Products Corp., San Francisco
Channing Wallace Gilson, consultant designers; D. W. Brundage, project head.

Non-electric dishwasher works by water force which propels rotary washer-spinner under dish rack. Requires no installation.



106 Electric drink aerator
Burgess Vibrocrafters, Inc., Grayslake, Ill.
Dave Chapman, designer.

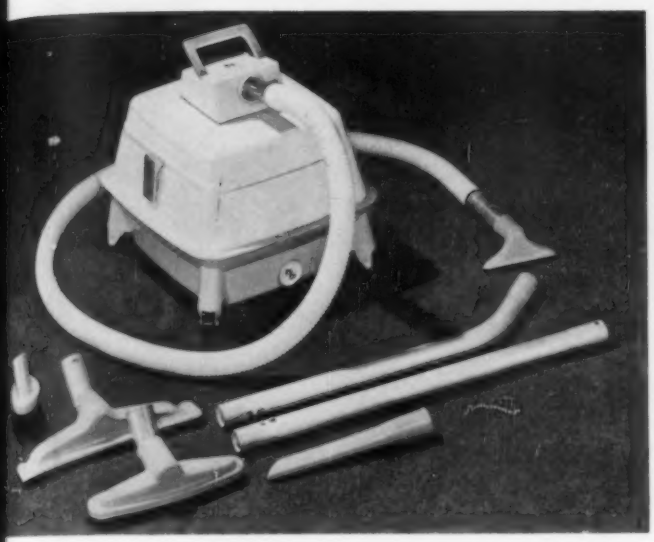
Double hinging permits removal of container without tilting. Molded plastic cup, (Blackhawk Molding Co.), zinc die cast stand and housing (Precision Casting Co.).

107 Electric can opener
Cory Corp., Chicago
Staff design

After cutting can opener shuts off, holds can until user unlocks it. Magnet holds can top, steel cutting wheel is removable.

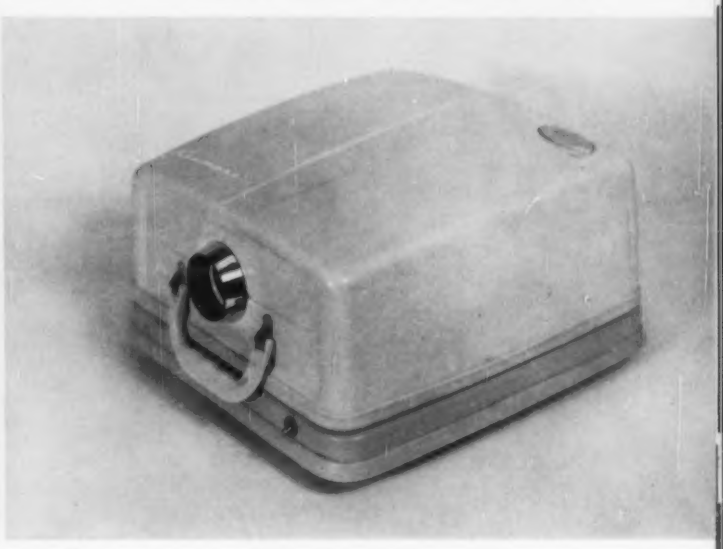
108 Carpet sweeper
Bissell Sweeper Co., Grand Rapids, Mich.
Harley Earl, Inc., consultant designers

Stamped steel housing with chrome trim replaces traditional wooden sweeper. Handle separates into four parts for storage, shipping.



109 Cannister cleaner
Hamilton Beach Co., Racine, Wisconsin
Dave Chapman Industrial Design, designers

Constructed of three stampings and a plastic molding, cleaner has 4 swivel wheels, swivel top mounting, air vents on 4 sides.

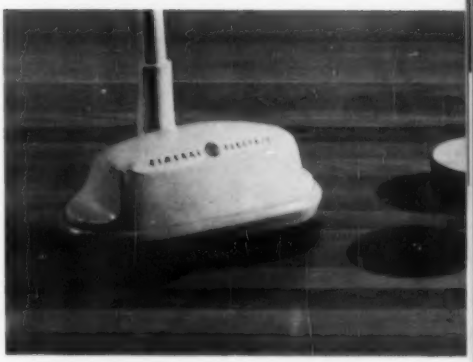


110 Kenmore vacuum cleaner
Sears, Roebuck & Co., Chicago, Ill.
Philip S. Egan, staff designer

Compact cleaner with luggage handle, cord stored on underside, rolls on 3 casters. Low enough to store under beds, on shelves.

111 Floor polisher
General Electric Company
Housewares & Radio Div., Bridgeport
R. J. Reading, W. C. Anderson, staff designers.

Vinyl bumper and handle grip, 22-ft. cord, weighs 12 lbs., rests on bumper for storage to protect brushes, 350 watt G. E. motor.

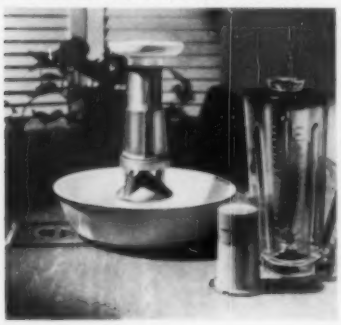


112 Blendal blender
National Blenders, South Pasadena, Calif.
H. A. Dewenter, designer

Special blade assembly for faster cutting; container and top of Tyril (Dow).

113 Meat grinder
NuTone, Inc., Cincinnati, Ohio
Walter Spear, chief engineer

Vertical meat grinder is new attachment for built-in motor. Acrylonitrile (Meridian Plastics) bowl, steel plate and blades.



114 Convertible floor care machine
S. C. Johnson & Son, Inc. Racine, Wis.
Walter Dorwin Teague Assoc., designers

Waxes, polishes, scrubs floors, also cleans carpets. Tenite II (Tennessee Eastman) and embossed aluminum housing.

115 Durabilt travel iron
Winsted Hardware Mfg. Co., Winsted, Conn.
C. A. Johnson, Jr., Gerald Stahl Assoc.

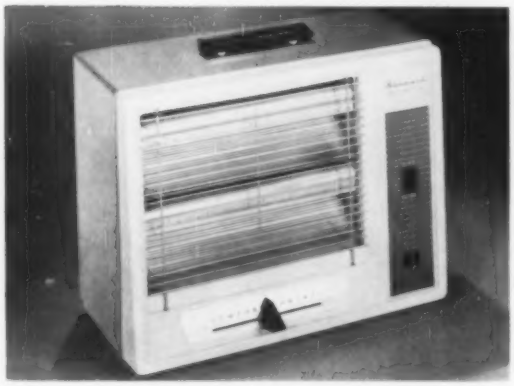
Cast aluminum sole plate, phenolic handle, held up by spring-loaded lock, folds down.

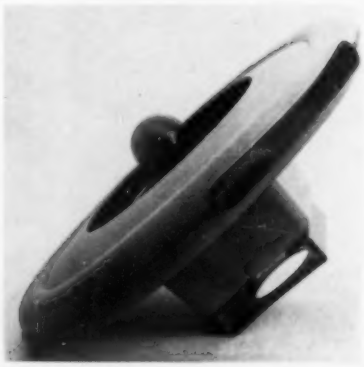
116 Steam and spray iron
General Electric Co., Housewares and Radio Receiver Div., Bridgeport, Conn.
W. E. Moore, P. O. Rawson, R. H. Koepf

Cast aluminum sole plate, chrome-plated steel shell, 8 ft. cordset. Weighs 3¼ lbs. Offers new moisture spray feature.

117 Kenmore electric heater
Sears Roebuck Co., Chicago, Ill.
Roy Clough, A. W. Duncan, staff designers

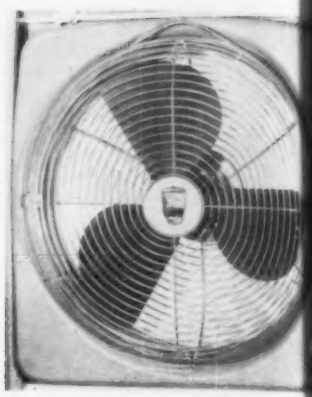
Enameled steel shell, triple chrome-plated grill, molded phenolic handle.





119 Filterjet fan
Chemex Corp., New York
Peter Schlumbohm, inventor

Rotating filter-paper discs replace fan blades; cowl and base of Royalite (U. S. Rubber Co.).

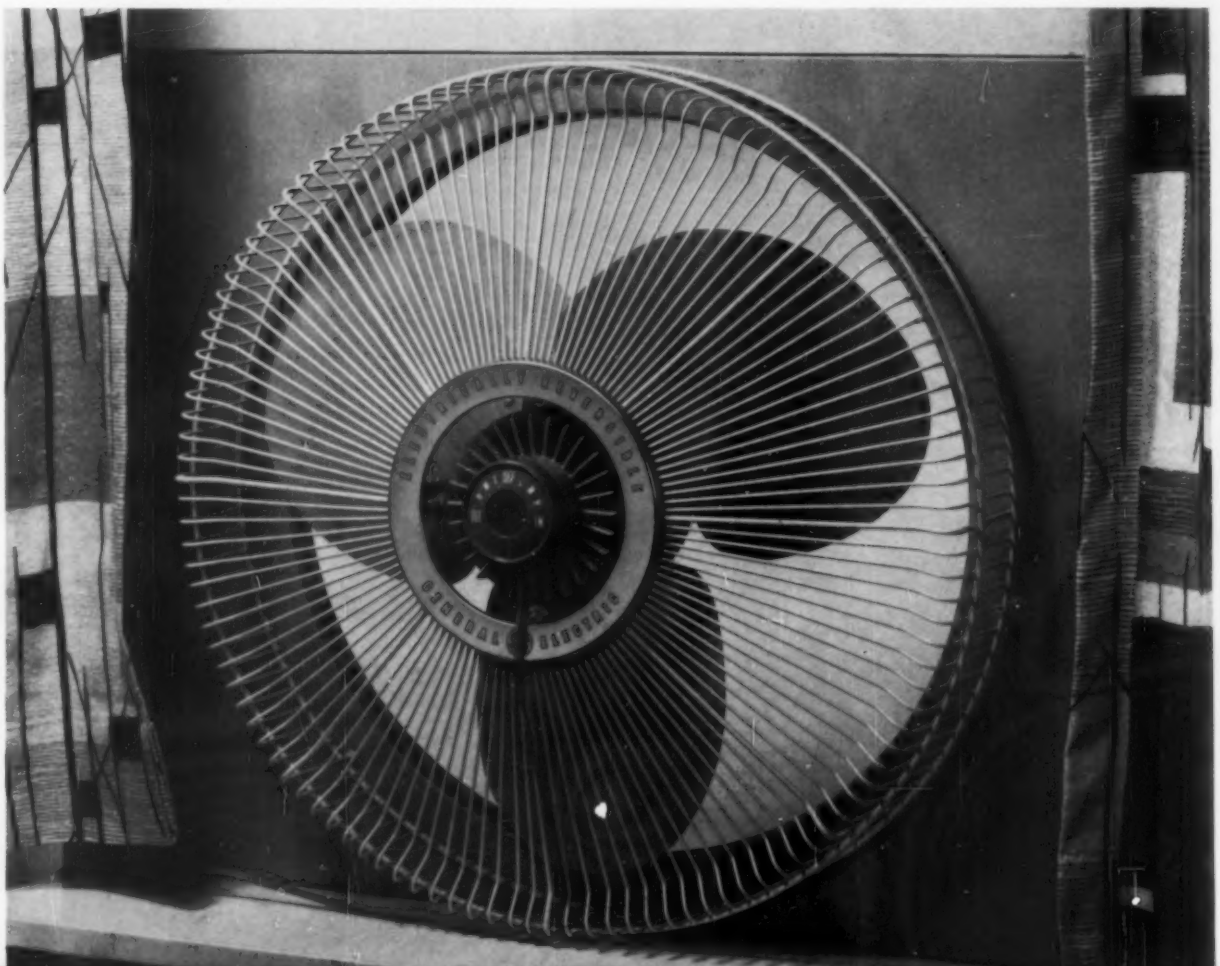


118 Window fan
General Electric Co., Housewares and Radio Receiver Div., Bridgeport, Conn.
W. E. Moore, R. J. Reading, staff designers

White wire grill, reinforced steel panel; electrically reversible motor delivers 2100 CFM.

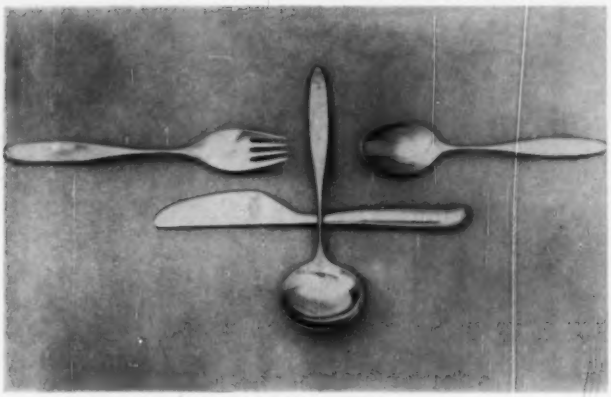
120 Electric fan
Emerson Electric Mfg. Co., St. Louis, Mo.
Russell Hughes, staff designer

Basic fan fits three mountings: floor stand with wheels, table supporter, low floor stand in which fan is tilted.



121 Design 2 flatware
H. E. Lauffer Co., New York
Don Wallace, designer

Forged 18/8 chrome-nickel stainless steel with satin finish. Forming possibilities of forging exploited to create sculptural forms.



ELEGANT KITCHEN TOOLS

A marked concern with quality and appearance, always a hallmark of dinnerware and flatware design, is this year very much a part of the approach to more humble housewares—even those which may do nothing more elegant than strain out vegetable juices (122). Undoubtedly, the product that bridged the gap is the stove-to-table cooker, which this year relies less on figured enamel and more on clean-cut contours and polished surfaces for its acceptance at table (126). Sun Glo skillets achieve the aspect of a table casserole by virtue of the cover treatment (127). Among the many attractive pots and pans on the market, the new Duncan Hines line stands out as a well balanced and expressive solution of the tricky relation between pan and handle and how they are joined.

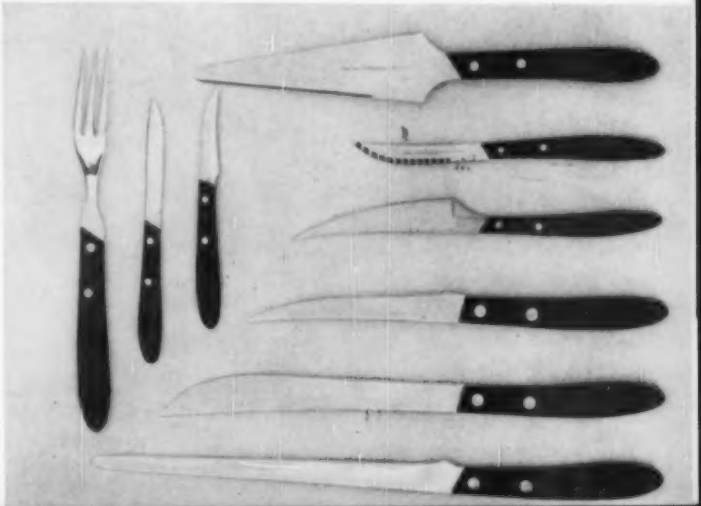
Even small plastic items reflect a growing sensitivity to the possibilities of the material and a willingness to work within its limitations. An exemplary case is the pickle picker (133) which utilizes plastic's natural resiliency to seize items without piercing them. Molded lips (129) and pouring spouts (132) are natural plastic developments, difficult to achieve in other media.

122 Fri-Dri
Fred Roberts Co., San Francisco, Cal.

Stainless steel strainer-pourer also serves as frying pan cover for greaseless cooking, surface for draining fat-fried foods.

123 Household cutlery
Robeson Cutlery Co., Inc.
Jerome E. Moberg, chief designer

"Emerson Edge" on knife second from top, made by photo-engraving, gives long-lasting edge.



124 Duncan Hines cookware
Regal Ware, Inc., Kewaskum, Wisc.
Nolan Rhoades, designer

Oversize, sculptured handles, 3-ply steel shell and covers, Bakelite handles and knobs (Plastic Engineering Co.)

126 Presto-Pride cookware
Norris-Thermador Corp., Los Angeles, Ca.
Staff design

One of 6 basic items, 3-ply armor-clac stainless steel, copper bottom heat cradle. Heat-resistant plastic knobs and handles.

125 Wear-Ever fry pan, bacon grid
Aluminum Cooking Utensil Co.,
New Kensington, Pa.
Staff design

Square aluminum (ALCOA) pan, cover, grid; grid holds bacon flat, eliminates turning.

127 Cook-and-serve ware
Sun Glo Studios, New York
Staff design

Porcelain enamel on cast iron, trivet base; colors match GE appliances.

128 Table Chef
International Silver Co., Meriden, Conn.
Edward J. Conroy, designer

Chafing dish, components also usable separately. Stainless steel (Wallingford Steel Co.) brass stand.

129 Rubbermaid mixing bowl set
Wooster Rubber Co., Wooster, Ohio
J. Clyde Breneman, Product Development Mgr.
Smith, Scherr & McDermott, consultants

Wide pouring lips on linear polyethylene (Phillips Petroleum, Celanese bowls, rubber bowl anchor.

130 Flip-cover pail
Victory Manufacturing Co., Chicago
Edward Klein, consultant designer

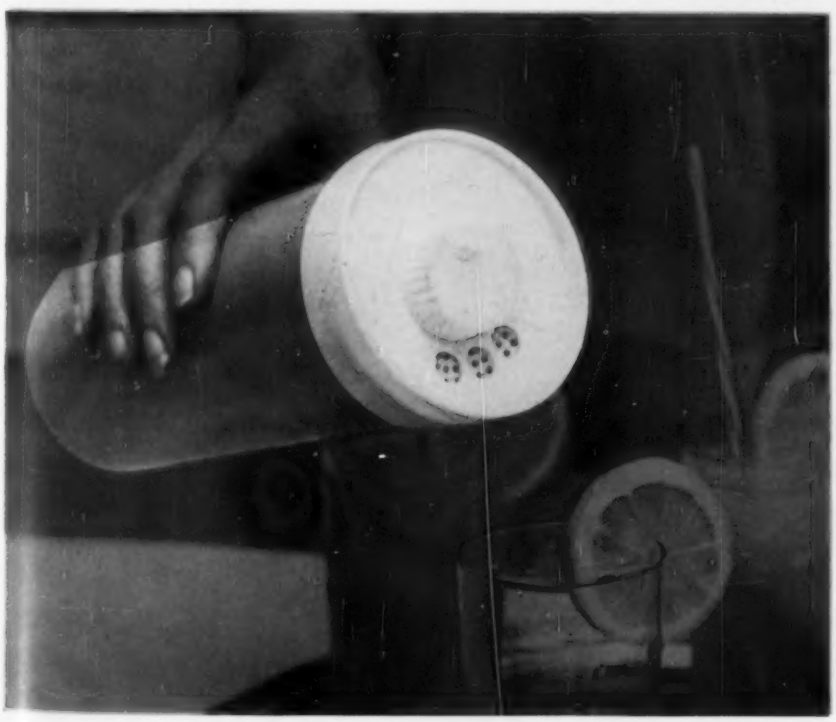
Plastic-hinged pail cover, snaps closed airtight. Injection molded polyethylene (Spencer Chemical Co.).

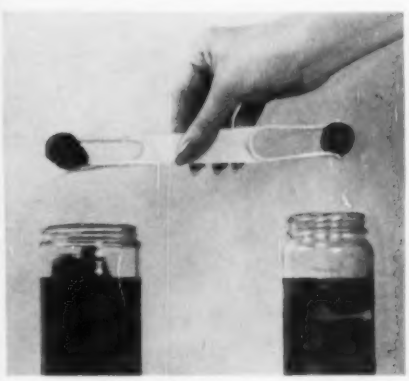
131 Dial-it dispenser
Wooster Rubber Co., Wooster, Ohio
J. Clyde Breneman, Product Development Manager

Polyethylene (Dow) container and screw top, dials open, closed and straining positions.

132 Two-cup measuring bowl
Victory Manufacturing Co., Chicago
Edward Klein, consultant designer

Translucent white molded polyethylene (Spencer Chemical Co.) with sharp spouts for liquids, soft for dry solids.



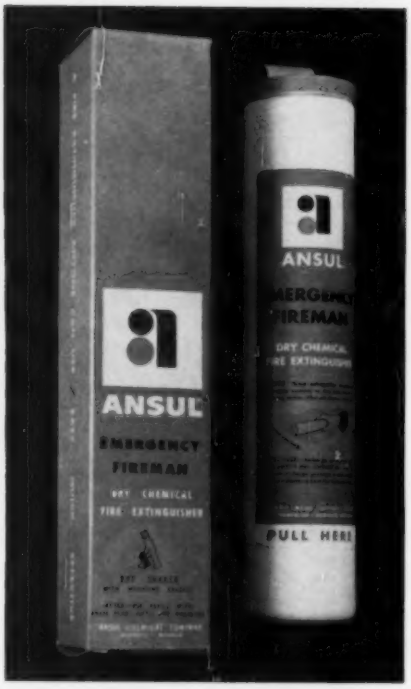


133 Pickle picker
Brown & Bigelow, St. Paul, Minn.
John J. Olson, chief designer

75% polystyrene, 25% high impact polystyrene (Koppers) injection molded.

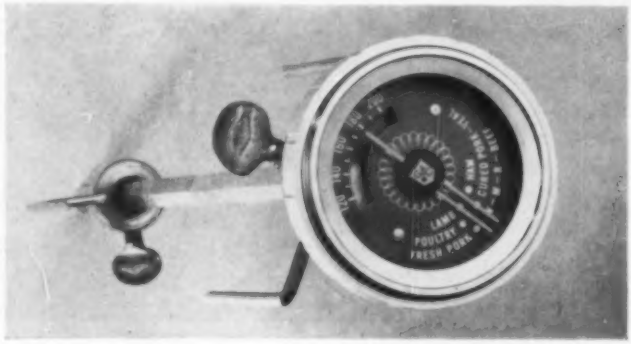
134 Sugar dispenser
Dispensers, Inc., Los Angeles
Henry Keck, Burnie Craig, Thomas Hale, designers

Separately replaceable flap and cover of chrome plated zinc die casting (L. A. Die Casting Co.); glass container (Owens-Illinois Glass).



135 Fire extinguisher
Ansul Chemical Co., Marinette, Wisconsin
Staff design

Dry chemical extinguisher has bracket and cap in one piece for instant cap removal when extinguisher pulled from bracket.

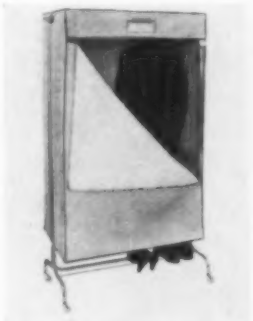


137 Meat thermometer
General Controls Co., Glendale, Cal.
Merendino-Greene & Assoc., Inc., consultants

Thermostatic fuel shut-off or alarm, activated electrically by internal temperature of meat.

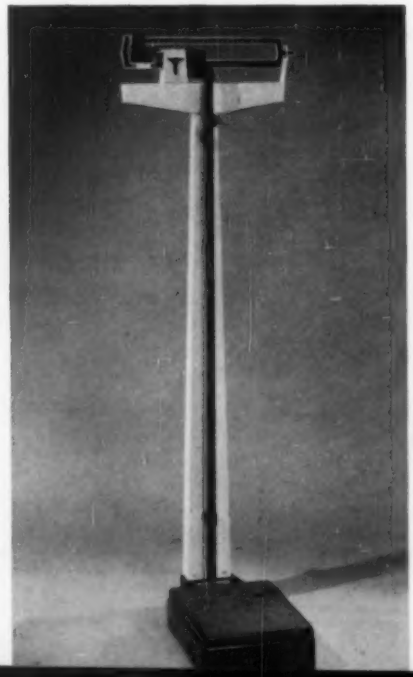
136 Bowl brush holder
National Brush Company, Chicago
Jon W. Hauser, consultant designer

Three injection molded styrene (Keihl Engineering) pieces clip into slots for assembly.



138 Portable closet
Queen Manufacturing Co., Chicago
Don Doherty, staff designer

Chrome finished steel tubing rack, 4-gage vinyl plastic film bag.



139 Physician's scale
Continental Scale Corp., Chicago
Reinecke & Associates, consultants
James K. Gerrie, supervisor

Sheet steel wrap-around shaft, base and cross piece; beam is one-piece zinc casting, oven baked enamel finish. Composition mat on platform.

PERSONAL ITEMS

140 Eyeglass hearing aid
Malco Co., Minneapolis
Clayton Mullin, chief engineer,
John Rose, project engineer
Emy Lou Brayley of Harold W. Darr Assoc., consultant designers

Tenite II (Booker-Wallstad) frames; contoured to achieve normal-size look.

141 Wrist watch
Elgin Watch Co., Elgin, Ill.
Emory C. Lee, chief designer

Watch crystal is bent over edge of case, eliminating metal rim.

Fresh design and innovations in personal items this year seemed to favor either men (this page) or children (overleaf). Part of the reason lies in the fact that men take seriously the items they use, and are notoriously intolerant of frills. In the rugged pistol handle (145), the refined shaping of pen and holder (143) the sturdy, slip-proof razor handle (142) is evidence of the many pleasing forms utilitarian objects have taken. The Elgin watch (141) contrasts textures of dial and marker area to make decorative sense and aid legibility, nowise hampered by the lack of numbers.

With more children around than ever before, designers (and parents) are taking a more measured, less sentimental view of them. The folding crib (150) brings bright colors—red, blue, yellow—to the nursery, can be washed, collapses for travel. The collapsible playpen also simplifies the parent's job.

142 Injector razor
Eversharp, Inc., New York
Martin Glaberson, designer

Brass frame, blade seat, spring (American Chain & Cable Co.) Styrene ribbed handle (Atlantic Plastics).

144 Ball point pen
Scripto, Inc., Atlanta
Walter Dorwin Teague Assoc., designers

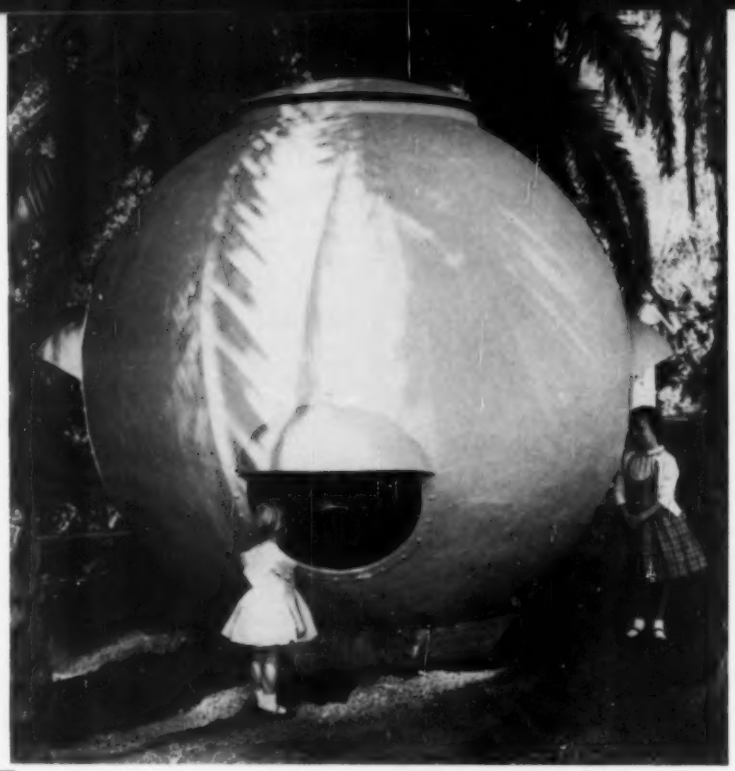
Molded nylon and satin-finished chrome-plated brass body.

143 Ball point desk set
Esterbrook Pen Co., Camden, N.J.
Harold E. Steinberg, designer

Base: compression molded Bakelite (Martindell Molding); holder: Styrene (Dow); cork and rubber pad.

145 J. C. Higgins pistol
Hi Standard Corp., Hamden, Conn.
Anthony J. Carsello, staff designer, Sears, Roebuck & Co.

Barrel, receiver and frame of polished and dulled blued steel; handle is satin finished synthetic rubber compound.

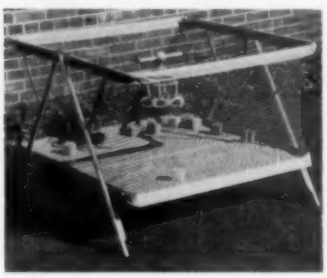


146 Children's zoo aquarium
Livesay Mfg. Co., Santee, Cal., for the San Diego Children's Zoo
Gilbert Watrous, designer

Fiberglas-reinforced plastic sphere (resin: Reichold Chemical Co.; glass roving: Ferro Corp.), concave acrylic blisters (Swedlow Plastics).

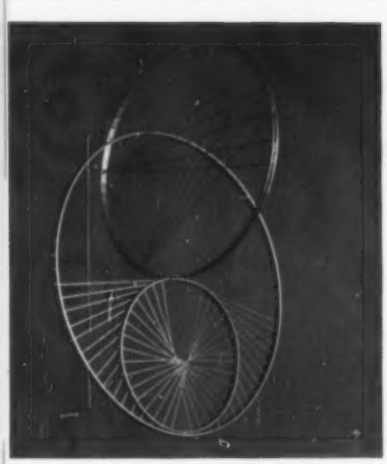
147 Conveyer truck
Childhood Interests, Inc., Roselle Park, N. J.
Schnur-Appel, consultants
David Wachter, designer

Side panels of particle board are non-warping, non-splitting; flexible vinyl conveyer belt.



149 Folding play yard
Trimble, Inc., Rochester
Harley Earl, Inc., consultants

Alum.num (ALCOA) tubing frame, nylon-vinyl net, vinyl (Goodyear) pad, steel floor supports, hardboard floor.

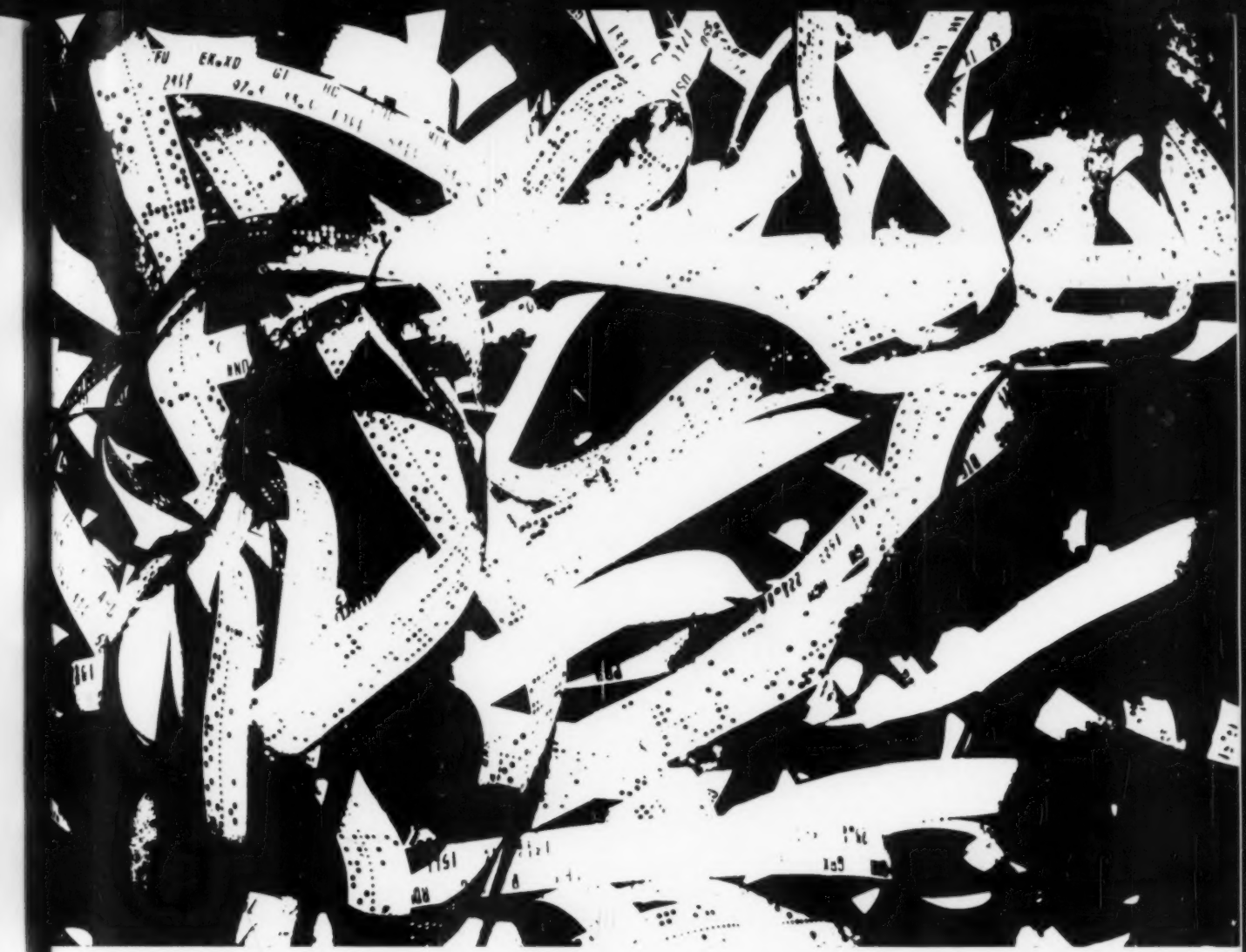


148 Space rings
Walker Products, Berkeley, Cal.
Robert Walker, inventor
Walter Landor & Assoc., consultants
Donald Short, project director

Four anodized aluminum (Kaiser) rings with carefully spaced perforations, metallic elasticized cord (Rawley's, Inc.) and brass wire hoop may be combined in many ways.

150 Cherub crib
Tigrett Industries, Jackson, Tenn.
Roberto Mango, prototype designer

Washable and collapsible crib of cotton fabric, Masonite bottom, suspended by nylon rope on frame of wooden legs.



COMMUNICATIONS & SELLING

Equipment for business—a summary of research and development behind the year's progress in communication . . . computers scaled to office size and small office machines with new importance . . . professional audio equipment and counterparts in consumer products . . . radio and tv, easier to carry and conceal . . . cameras and projectors and a sound-slide system . . . *Designs for selling*: trademarks and insignias that communicate corporate personality . . . packages that communicate the pleasure of edible contents, the purpose of hardware and specialty items . . . products that dispense cosmetic aids and paint and food and even information . . . one system that displays nearly everything in an apparel store.

RESEARCH AND DEVELOPMENT *nourishes the sales potential of many products. The ultimate goal of the research departments of the business machines, audio and video equipment industries remains the same — refining information-transfer by more effective devices* **IN COMMUNICATIONS.**

Ever since science introduced mechanical and electrical means for transmitting facts, figures and pictures over varying distances, the aim common to the scientists and engineers who continue to refine the elements of these forms of communication, has been to convey *more information with greater accuracy.* The second objective, arising soon after a technological discovery has been made, has always been *to make new products practical.* This year, the trend toward smaller products of equal if not more efficiency continued—along with the basic intention to improve communication—as the main direction of development in the industries producing tools for information-transfer: business machines, audio and video equipment, photography.

On these pages are shown some of the significant technical innovations that will affect the future of communication-product categories. Some of these devices are still in an experimental stage, while the influence of others can be seen in products already on the market.

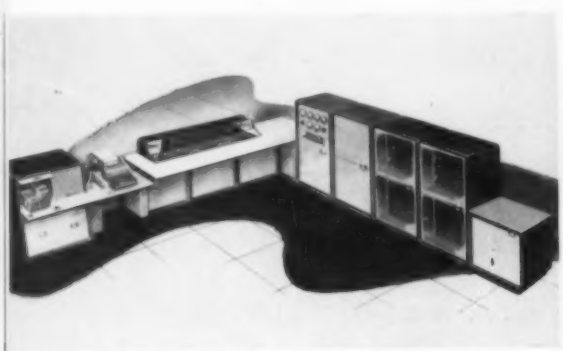
COMPUTERS, LARGER AND SMALLER

The computer—essentially an "informant"—has become the advanced communications product of the modern business office. Sale of computers used by business and government for data-processing and for calculating engineering and science problems, rose to 350 million dollars in 1957 and is expected to reach the billion mark by 1960. Two factors are responsible for this sharp increase: the availability of new components and greater know-how within the computer field.

An example of the first is Philco's fully transistorized *Transac S-2000* (A). As a result of the tube replacements, reduction in heat dissipation and power requirements has eliminated the need for air-conditioning the interior of the equipment; consequently the new computer, made available this year as an aid for the planning and operation of large businesses, can be housed in a room 20 ft. by 25 ft., which is small compared to earlier systems (which sometimes occupied a full floor) matched by the S-2000 in performance versatility. Still, however simplified, the smaller big computers are at this point limited for a wide market by their expense and complexity of programming and operation; they still belong in the "computer room" and require the attention of a trained operator.

Increased know-how in computer design has enabled large-computer manufacturers to eliminate these obstacles. Burroughs, IBM, Royal McBee, among others, have put on the market small, desk-size computers that are limited in performance scope—compared to their big brothers—but can still be programmed for a large variety of functions. Relatively inexpensive, they can be operated directly by the engineer, accountant, or chemist using the computer to solve problems.

Programming the desk computer is easy. The latest refinement of the small *Burroughs E-101* (B) is programmed by indicating the desired performance on a pin board which fits into the cabinet. The new *IBM 610* (page 72) featuring an automatic decimal point con-



A Philco's transistorized Transac S-2000 computer.

B Burrough's desk-size E 101 computer.

C Bell's data subset for long-distance data feeding.

trol, can be operated by any office member after an hour or so of instruction.

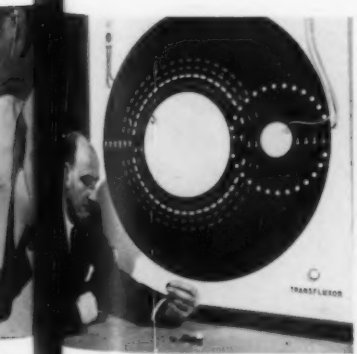
Research this year continued to expand the versatility of data handling systems. Still experimental, although fully operative, is Bell's *data subset* (*C*) which uses telephone lines to directly transmit data between widely separated information processing machines. RCA's *Transfluxor* (D) a ceramic component now in production, is a solid state device whose small size and increased "memory" make it a useful random-access component for electronic control systems.

AUDIO AND VIDEO DEVICES

Radical changes in radios, tv sets, tape recorders, and intercoms available to the consumer, always follow fundamental improvements in components and operation principles. None of the miniaturized audio products shown in this section could have been possible were it not for the transistor—the tiny "sensing" device whose operation requirements differ drastically from that of the tube. It was a big year for transistors (see ID August 1957), but the device still has drawbacks (poor response at high frequencies, high manufacturing costs for all but the most standard types); electronic research scientists have been busy trying to overcome them or to develop other devices that are strong where the transistor is weak. Important among this year's new technological devices in this area is Raytheon's *spacistor*, and the *solion* (the U. S. Naval Ordnance Labs in collaboration with University of Texas scientists.) The spacistor overcomes the transistor's poor response at high frequencies, and will be manufactured (not for a few years, however) at a greatly reduced cost: it is not necessary to put spacistor basic materials through the stages of purification necessary for transistors. The solion, on the other hand, works particularly well at low frequencies, has power requirements that are even less than those for the transistor, but is especially significant as an invention: it is the first device permitting electronic signal amplification through a chemical solution.

Among other audio components announced in 1957, Hycon Eastern's high frequency *crystal filter*, and Du Kane's *Ionovac* will bring improved performance to transmission-receiving circuits and hi-fi speakers. Both are greatly simplified products: replacing conventional coil-condenser filters, the Hycon crystal filter permits military, industrial and civilian set-ups to function on high frequency bands for which previous filtering requirements (for proper tuning) have been too bulky. Replacing speaker coil and diaphram with ionized air, the Ionovac (E) an ultrasonic device, cuts down speaker distortion; it also has wide industrial application due to its ability to generate frequencies across the entire ultrasonic range (ultrasonic wave producers in use so far do not swing across a wide frequency and need adjustments for every different task.)

In video equipment too, the stress in newly marketed products as well as in new research developments has been on simplified product make-up and improved clarity for picture transmission and reception. The wide angle deflection tube introduced by Sylvania, Westinghouse and other companies gave rise to the slim tv sets shown on page 81, and Sylvania's tiny, brighter TruFocus projection lamp and GE's subsequent shorter version have had a major effect on the design of new slide-projectors (see page 82). Most startling industrial video development (for radar detection and air traffic control) was Sylvania's *Sylvatron* (G), a flat image-producing panel that converts electric data into dots of light and may well be the starting point for developing flat-screen home tv. Greater accuracy in image transfer was indicated by GE's *Penetron*, a two-color tv tube that can reproduce lines two or three times thinner than previously possible. This device, as well as another image-reproducing apparatus—RCA's *Electrofax* (F), a high speed electronic set-up for printing information on any solid surface—are so far limited to industrial applications. But they suggest that designers should be alert to their conversion to consumer use, and to the new product potentials created by them.



D Diagram of RCA's "memory" unit.

E Du Kane's Ionovac ultra-sonic generator.

F RCA's electronic high speed printer.

G Sylvania's flat image panel.

BUSINESS MACHINES

As the mechanics of our economy become more complicated the data reduction computer complex gets bigger. But precisely because of its growing importance to all kinds of businesses, the computer itself is likely to get smaller. The advent of the transistor made digital computers that needed less power and less room possible; the surface barrier transistor, comparable in speed to vacuum tubes, made them practical. The Transac S-1000 (152), which uses approximately 7000 transistors, operates as fast as vacuum tube computers.

Now that computers are office equipment, they tend to be more like office machines in simplicity of operation (IBM boasts that a high school graduate can learn to run the deskside in an hour) and in appearance: the IBM deskside (151) has the same smart, crisp mood found in the Monroe 10-key (155).

In certain business operations copying is as important as calculating, and copying machines are more versatile and more stylish than ever. The Dick photocopy duplicator (158) makes permanent copies, under regular office lighting, of anything printed, duplicated, typed, written, drawn or photographed. The Thermo-Fax (159) Stenafax (160) and the Ditto D-70 (161) all do their jobs in a style befitting a pivotal office apparatus, and they all look the part.

151 610 Auto-point computer
International Business Machine Co., Endicott, N. Y.
Eliot Noyes, Director of Design
W. H. Harkins and L. Sedaris, staff designers
E. R. Stillwell, in charge of engineering; W. Furlani, in charge of design.

Sand cast from matched plate patterns (Elmira Pattern Works) in Almag alloy. Variable data entered through control keyboard shown.

152 "Transac" S-1000 computer
Government and Industrial Division
Philco Corporation, Philadelphia

Computer, mechanized with direct-coupled transistor circuits, uses double-address instructions with 36-binary digit word length. A 4096-word magnetic core memory is used for high speed storage.

153 High-speed electronic printer
Stromberg-Carlson, division of General Dynamics, San Diego
G. A. Watrous and William Noonan, consultants

Combines Charactron shaped beam tube and Xerox Copyflo printer (Haloid Co.) for receiving data direct from computer or from magnetic tape.

154 Electronic bank posting machine
National Cash Register Co., Dayton, Ohio
Paul Koons, Director of Design

Machine electronically determines whether correct account has been selected, picks up and verifies old balance, determines whether account is overdrawn.

155 Monroe "600" 10-key adding machine
Monroe Calculating Machine Co., Inc.
Orange, N. J.
Raymond Spilman, consulting designer
Richard Hollerith, Jr., staff designer

Die-cast machine housing, upper case, lower case; pull-out platen knob permits removal of upper case.

156 Portable calculating machine
Monroe Calculating Machine Co., Inc., Orange, N. J.
Sundberg-Ferar, designers; Raymond Spilman, color

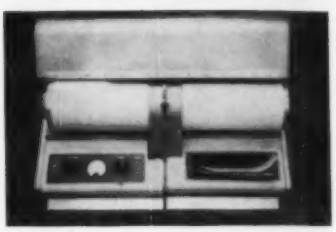
Drawn sheet metal keyboard cover plate combines with die-cast magnesium alloy base to provide two-piece cover for briefcase-size machine.

158 Photocopy Duplicator
A. B. Dick Co., Chicago
Herbert Watts, staff designer

Steel frame and cover; developing trough and related parts of plastic and stainless steel; nylon gears; 41 pounds; frost green finish; flat bed accommodates very thick magazines and books.

159 Thermo-Fax electric copying machine
Duplicating Products Division, Minnesota Mining & Manufacturing Co., St. Paul
Harley Earl, Inc., designers

"Secretary" model takes material up to 8½" by 11", makes copy in 4 seconds.

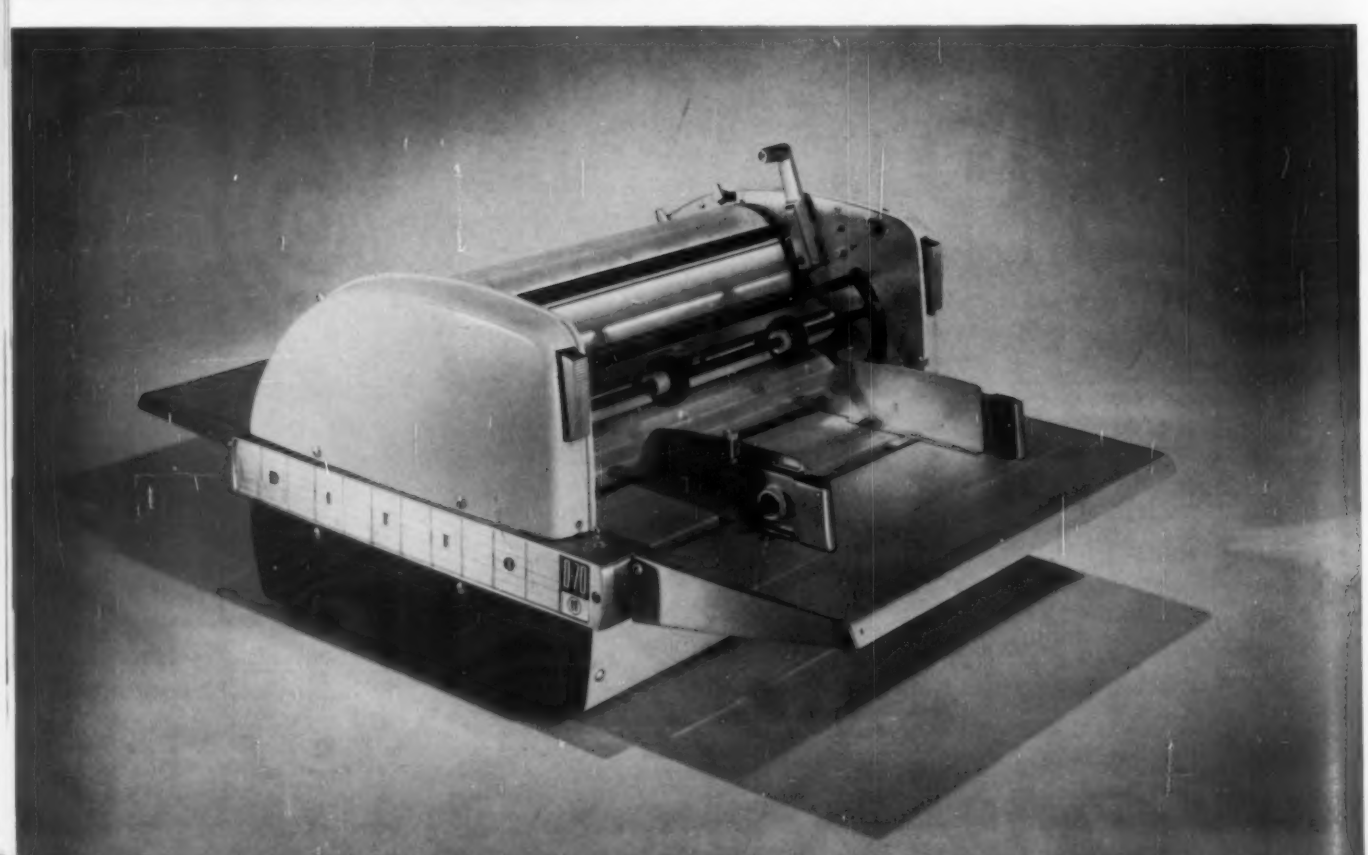


160 Stenafax duplicating machine
Times Facsimile Corp., New York

Electronic process uses two drums turning at same speed. Original placed on one drum is scanned photo-electrically and image recorded on electro-sensitive material on second drum. Copies up to 8½" by 14".

161 Ditto D-70
Ditto, Inc., New York
Palma-Knapp Associates, designers

Side covers die-cast aluminum, top sand gray, bottom green; trim strip zinc; feed and receiving trays aluminum; structural side frame nickel-plated steel.

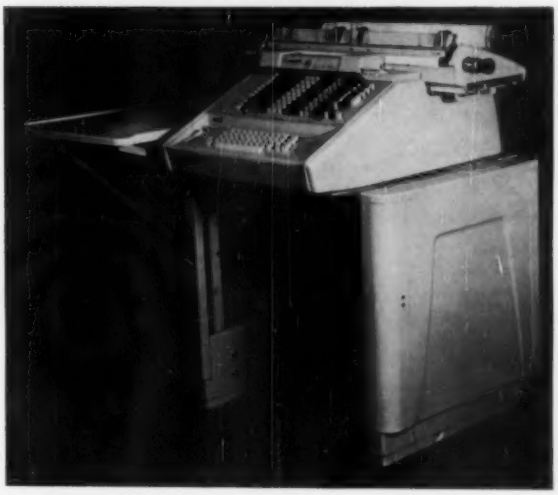


163 Rollafold portable folding machine
Benson-Lehner Corporation, Los Angeles

Machine produces accordian folds in long strips or rolls of paper at rate of one fold per second. Fold spacing continuously adjustable from 6.5 to 12.5 inches.

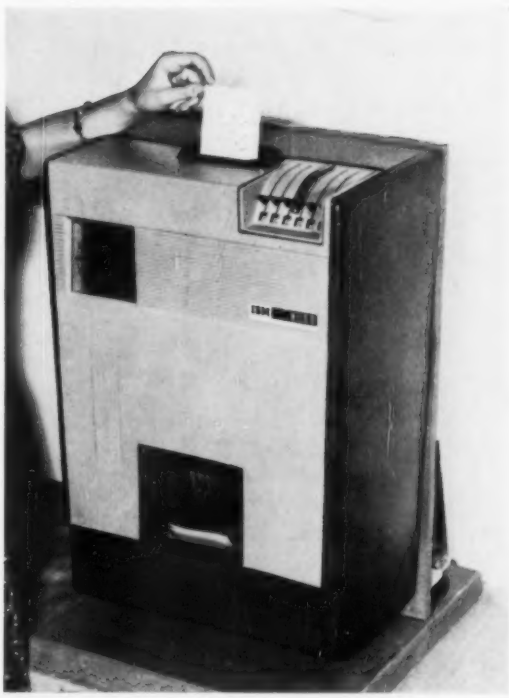
162 Typing Sensimatic accounting machine
Burroughs Corporation, Detroit
George Connor, supervisor appearance design
Lawrence H. Wilson Associates, consultants

Die-cast case; double injection-molded plastic keys; sheet metal and tubular steel stand.



164 IBM 8200 time punch
International Business Machine Co., N. Y.
Eliot Noyes, Director of Design
J. W. Stringer and W. H. Harkins, designers
O. L. Hibbard, in charge of engineering
W. Furlani, in charge of design

Fiberglas R cover mat-process molded (Molded Fiberglas Co.); gray textured vinyl spray finish.



AUDIO-VISUAL EQUIPMENT

165 Sigmacon
Veri-Tech, Inc., Grand Rapids, for Executive Furniture Guild, New York
George W. Reinoehl, designer

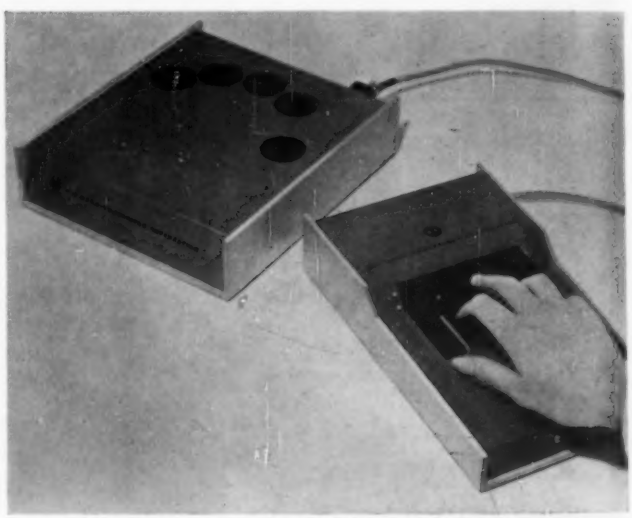
TV set at left; next to it an AM-FM tuner amplifier radio, and beneath it a voicewriter; cabinet at right houses remote control panel and both "hands-free" and conventional phones.

The design of audio-visual equipment for professional use must meet, in addition to the functional demands of industry, the rigid requirements of human engineering. Many of the products in this category this year proved to be seriously designed, and their seriousness did not preclude attractive forms. For while superficial luster has not the importance here that it has in the consumer marketplace, items on this spread demonstrate that sturdy efficiency can look good. Professional instruments (as in the case of the office equipment shown here, 165, 167) have a glamour of their own, appropriate to the changing concept of the office from just a work space to an agreeable interior.

Most glamorous is the Sigmacon (165), which may be the ultimate concentration of business communication devices into a luxury unit, suggesting the possibility of their some day becoming part of basic office furniture.

The products on page (77) are all "human engineered": their operating parts are organized for clarity and simplicity, sometimes in a way that seems to defy the genuine complexity of the instrument. A few are absolutely new, devised to do jobs that there has never been a machine to do before. The videotape recorder (171) is such an instrument, and so is the additive color printer (170). Both, despite the polish of their appearance, are "pioneers"—perhaps the forerunners of even more complex devices.

Ramo-Wooldridge's teletac (166) breaks new ground in another area. It is nothing less than an attempt to make tactility a formalized method of communication.

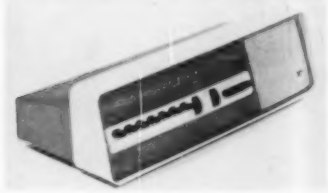


166 Teletac tactile communicator
Ramo-Wooldridge Corp., Los Angeles
Joseph Hirsch, design engineer

Apparatus has 10 black anodized aluminum vibration-sending keys and 5 corresponding receiving diaphragms to provide deaf with instant communication. Transistorized oscillator generates tone signals.

167 Six-station intercommunication system
Fisher-Berkeley, Emeryville, California
John Crane, designer

Steel and aluminum with two-tone finish.

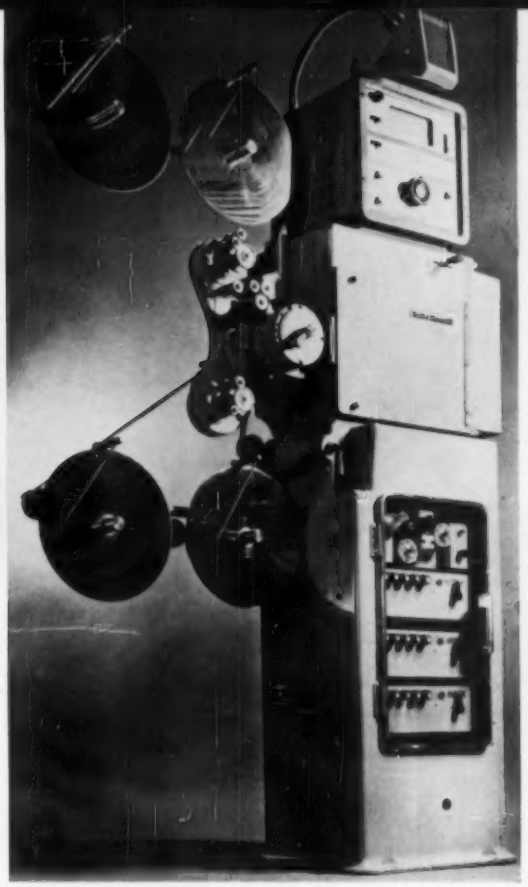


168 Ship-to-Shore telephone transmitter
Hudson American Corporation
Gerald Stahl Associates, designers

Housing of sheet steel blanked and formed, finished in brown stippled enamel; brass grill finished in enamel and satin brass.

169 Radio-telephone
Applied Electronics Co., San Francisco
Smith and Tepper Design Associates, designers

Steel case; enameled steel face plate; acylic detail plates; perforated metal.



171 Videotape recorder
Ampex Corp., Redwood City, California
Melvin Best & Associates, designers

Records 64 minutes of tv programming on single reel of two-inch magnetic tape.

170 Additive color printer
Bell & Howell Professional Equipment and Instrument Division
Staff design

Designed and engineered for additive method of color printing.

CONSUMER AUDIO SETS

172 High fidelity turntable and tone arm
Gray Manufacturing Co., Hartford, Conn.
Gordon Florian, consultant designer
Leo J. Aucoin, staff designer

Tone arm and turntable finished in satin aluminum and copper against black; wood cases finished in walnut or mahogany.

Consumer audio instrument design is characterized by two vastly different approaches: instruments that, under the influence of professional counterparts, look almost forbiddingly technical; instruments that try to be as simple and popular as possible. The products shown here take a position between those two poles. Sargent-Rayment's tuner and amplifier combine high styling with the look of professional performance standards. Because they must often be paired with components bred in other families, hi-fi components are best designed modestly. But they tend now to be attractively integrated, to look less like a random collection of parts. The turntables and arms by Gray (172) and Rek-o-Kut (173) each achieve harmony.

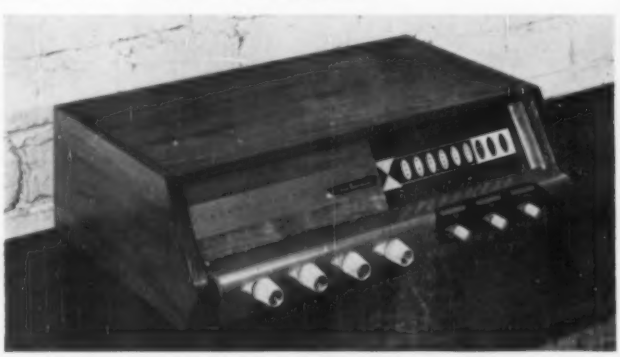
This year's consoles indicate a growing interest in making what is inevitably a large bulky object, unobtrusive yet interesting. This is done by giving attention to proportions of the rectangular facade (181), by elegant detailing (182), by giving the unit the distinction of a stylish storage piece.

173 Turntable and tone arm on new base
Rek-o-Kut Co., Long Island City, N. Y.
S. Simonson, project head
Walter H. Heintze, consultant designer

Internally rim-driven turntable cast from aluminum alloy; tubular aluminum arm with die-cast aluminum cartridge shell.

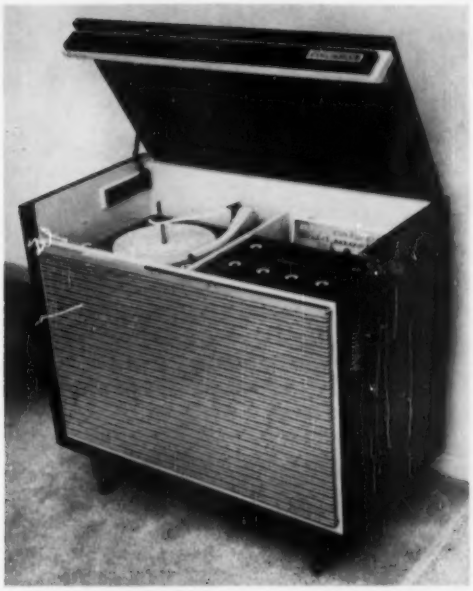
174 Hi-Fi set
Motorola, Inc., Chicago
Staff design, Herbert J. Zeller, Director of Styling Dept.

Cabinet is compression molded, glass-reinforced polyester resin (Zenith Plastics). Hinge permits opening case against wall.



175, 176 High fidelity tuner and control amplifier
Sargent-Rayment Co., Oakland, Calif.
Arnold Wolf, styling
L. W. Rayment, engineering

Amplifier (shown close up) and tuner both have cantilevered control panel and slanted slide rule dial. Finishes in walnut, mahogany, blonde.

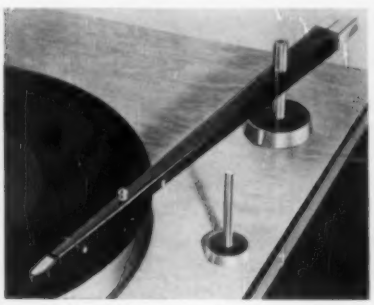


177 Phonograph
Columbia Records Co., New York
Peter Quay Yang, designer

Recessed white border to offset grille cloth. Black control panel with white knobs.

178 Complete amplifier
Herman Hosmer Scott, Inc., Maynard, Mass.
Victor H. Pomper, designer

Gold anodized aluminum panel has beveled edge matching cabinet edge; harmonizing knobs of machined gold anodized aluminum.



179 Tone arm
Shure Brothers, Inc., Evanston, Ill.
Palma-Knapp Associates, designers

Arm of mirror black anodized aluminum sheet; buffed black cast epoxy resin cartridge head; ruby bearing, cast counter balance, stylus control.

180 Hi-fi tape recorder
Wollensak Division of Revere Camera Co.
Staff design

Light weight die castings (by Precision Castings Co.) and miniaturized components help reduce weight to 18 pounds, size to 6½" x 10¼" x 11¾".

181 High fidelity unit
Westinghouse Electric Corp., Metuchen, N. J.
Seymour Silverman, Mgr. Industrial Design
Theodore Schriever, staff designer

Features include four matched speakers and four-position recording compensator.

182 Multiples Unlimited Hi-Fi cabinet
F. B. Arthur, Inc., New York
F. B. Arthur, designer

Walnut; one cane panel slides; other cane panel is stationery; 8" brass base.

RADIO AND TELEVISION

183 Short-wave portable radio
Zenith Radio Corp., Chicago
Mel Boldt and Associates, designers

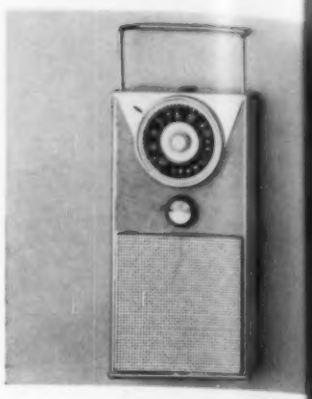
Exterior housing containing seven-band, all-transistor chassis, is chrome plated and covered with top grain leather. Unit has three built-in antennas.

184 All-transistor pocket radio
Radio Receiver Department, General Electric Company, Utica, New York
Staff design

Color anodized extruded aluminum (Park Nameplate) case with decorative ribs. Recharging element optional.

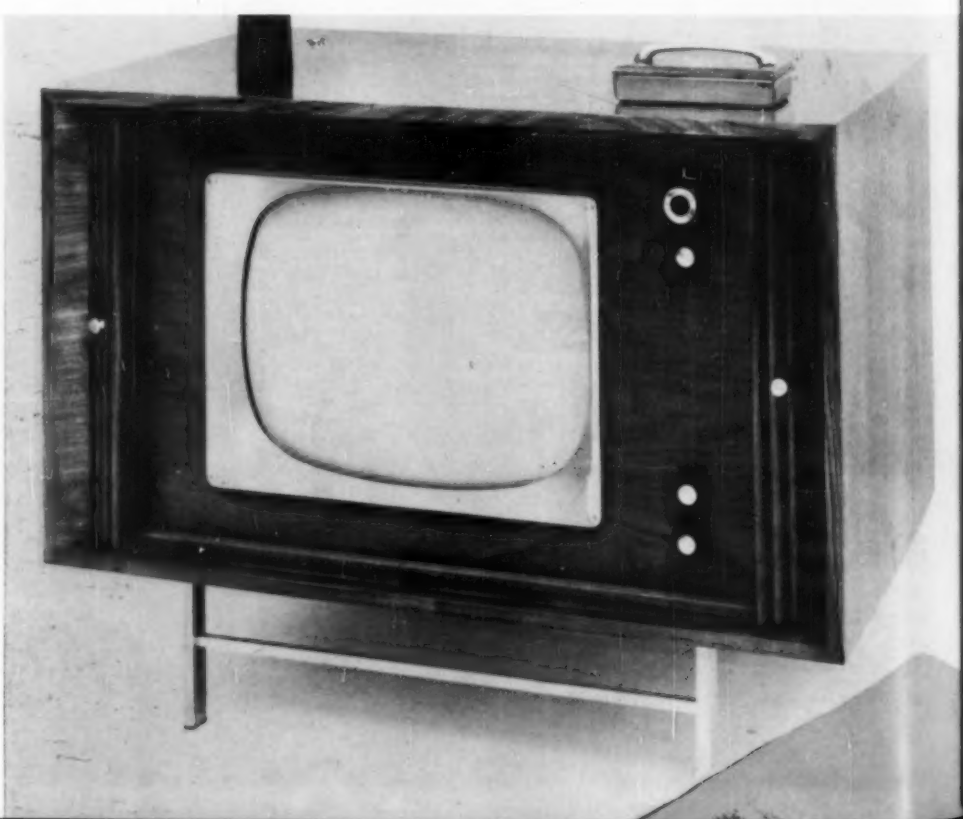
185 All-transistor radio
Radio Division, Philco Corp., Philadelphia
Jon W. Hauser Associates, designers

Cabinet wood and Survelon (Georgia Leather) hand die cast (Newberg Industrial Case).



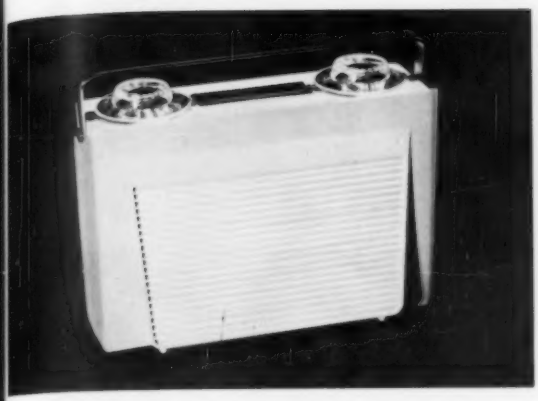
Portability is now new, but some portables are. The Solaradio, with solar recharging, is another step in bringing a new power source to market; and the design of the cordless portable (187) takes into account its appearance when it doubles as a table radio. While development of tv portables was modest compared to last year, the 110° tube made a thinner silhouette possible (192), and also influenced console models like the Sylvania (191), which heightens its slimness with an articulated screen.

How to make a tv set relatively unobtrusive is still a designer's problem. The tambour door (186) hides the vacant glaring eye of a standard set, and the quietly stated portable (193) and downgraded antennas (189, 190) minimize eye-catching detail.



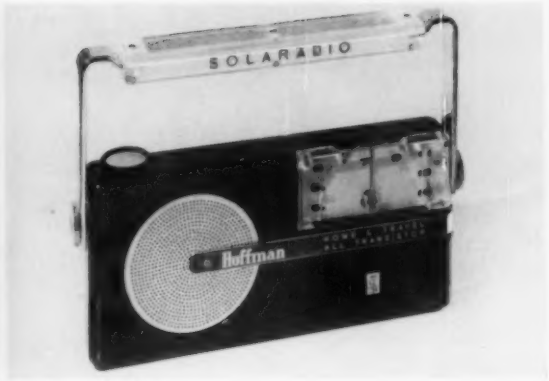
186 Television cabinet
F. B. Arthur, Inc., New York
F. B. Arthur, designer

Walnut cabinet stands on 8" brass legs, making total height 32". Tambour door; brass pulls.



187 "Cordless" radio
Westinghouse Electric Corp., Metuchen, N.J.
Bronislaw Zapolski, consultant

Cabinet injection molded (American Insulator Corp.) unbreakable polystyrene (Dow); knobs injection molded (Worcester Molded Plastics) clear polystyrene with brass inserts. Handle extruded and machined (Stolle) anodized aluminum.

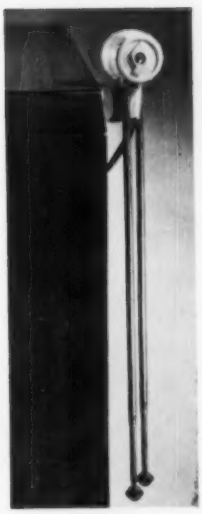


188 Solar radio
Hoffman Electronic Corp., Los Angeles
Joseph D. Portanova, Director of Styling
Staff design

Silicon solar cells convert sunlight into electricity to power radio. At same time solar cells recharge batteries for night operation.

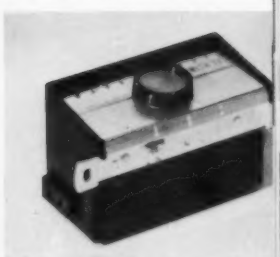
189 Indoor tv antenna
Snyder Manufacturing Co., Philadelphia
Roger Mark Singer, designer

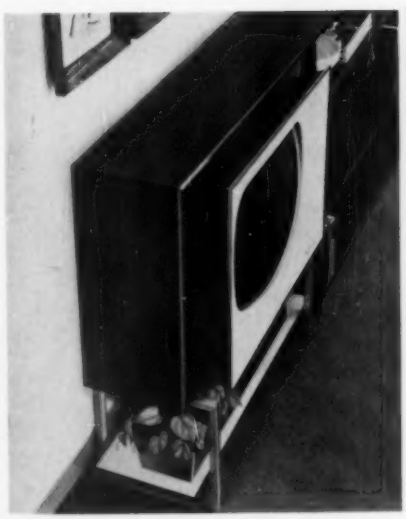
Double-staff antenna folds away completely when not in use; medium-impact polystyrene housing allows 360° rotation, vertically and horizontally.



190 Wave magnet antenna
Zenith Radio Corp., Chicago
Mel Boldt and Associates, consultant designers

Antenna housed in plastic with gold anodized trim, is mounted at top of tv set.





191 Console 21" TV
Sylvania Electric Products Inc., New York
Sundberg-Ferar, consultant designers

Cabinet depth is only ten inches, 110-degree magnetic deflection picture tube extends 4" from the cabinet as "floating picture."

192 Portable 17" tv
Philco Corporation, Philadelphia
Staff design; H. V. Gosweiler, Jr., Mgr., product design

Uses new germanium power rectifier and shortened 110° tube to reduce size. High-impact styrene back.

193 Portable 17" tv
Westinghouse Electric Corp., Metuchen, N.J.
Staff design; Richard Hassa, designer
Seymour Silverman, Mgr. Industrial Design

Cabinet of vinyl (Columbus Coated Fabrics) bonded (by Enamelstrip Corp.) to aluminum alloy. Front and handle injection molded Bakelite.

PHOTOGRAPHIC EQUIPMENT

194 Motion picture projection lens
Bell & Howell Optical Division, Chicago

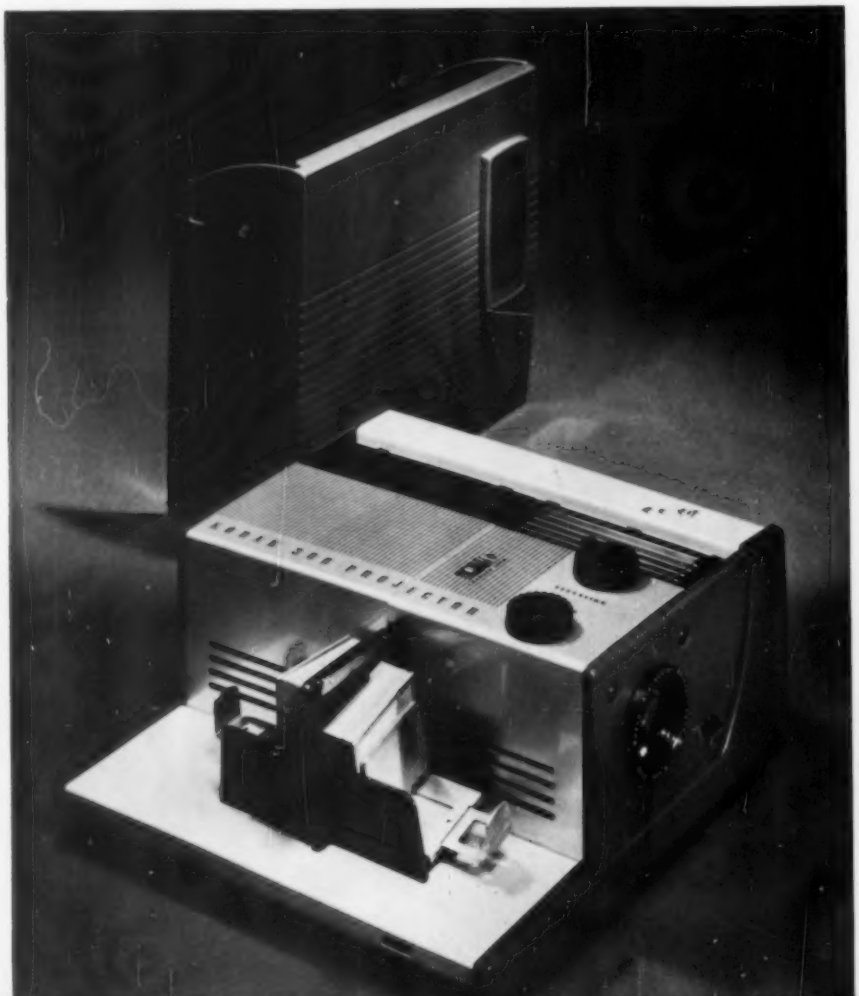
First amateur movie projection lens to afford variable focus.

Photography's popularity as a hobby, paralleled by its growing importance as a business and industrial aid, has upgraded the quality of cameras and projectors. In becoming more "instrumental," however, they have not always become more complicated. The Electric Eye (198) is a far cry from the box camera, yet amateurs can use it with confidence. And the 240 (199) combines a professionally competent look with simple and clear markings.

Projectors, thanks chiefly to the horizontal projector bulb, have been pared to a convenient size, and the Dualet (195) and Kodak 300 (196) achieve flatness, and formal unity. The Lectron (197), while strictly professional, is a compact projector-tape playback suggesting new possibilities in home entertainment.

195 Slide projector
Ansco Co., Binghamton, New York
Jack Collins, designer
David White Instrument Co., engineers

Horizontally mounted projection lamp; complete unit die-cast aluminum; gold anodized panels.



196 Kodak K-300 slide projector
Appearance Design Section,
Eastman Kodak Co., Rochester, N. Y.
Walter Dorwin Teague, design consultant

High-powered (300 watt lamp) projector housed in plastic case molded in two colors. Automatic slide changer.

197 Automatic synchronized sound slide system
Ken Cook Industries, Milwaukee
Ken Cook, designer

Audio-visual training and presentation tool combines slide projector with magnetic tape playback by means of mechanical-electric synchronizer.

198 8 mm electric eye camera
Bell & Howell Co., Chicago
Staff design

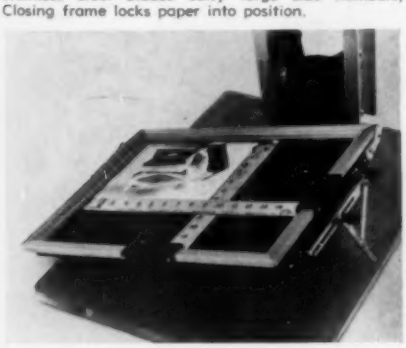
Solar rays set lens automatically; no batteries, motor or spring used for exposure control. Aluminum die-cast with satin finish trim.

199 16 mm movie camera
Bell & Howell Co., Chicago
Peter Muller-Munk Associates, designers

Features automatic film threading and long spring run at constant speed; aluminum die-cast, gray wrinkle finish, with satin finish chrome.

200 Photographic easel
Simon Brothers, Long Island City, N. Y.
Bruce Kamp Associates, designers

Aluminum extrusion frame anodized light gray; stainless steel blades carry large size numbers; Closing frame locks paper into position.



201 Electronic flash unit
Graflex Inc., Rochester, N. Y.
Peter Muller-Munk Associates, designers

Flash head housing molded of Styrene, and reflector of stamped aluminum. Power pack fabricated of sheet steel covered with textured Pyroxylin, and two aluminum end caps.

202 Illuminated table viewer
Argus Cameras, Inc., Ann Arbor, Mich.
Leotta & Parcher, consultant designers

Large lens accented through bezel and tapered housing treatment. Injection molded high impact Styrene case. Battery or A. C.

CORPORATE IDENTIFICATION

What's in a name? A lot. Very often a company's entire business policy is wrapped up in the symbol it presents to the public on its products, building fronts, wrapping paper, delivery trucks, letterheads. A graphics program is a corporation's most widely published expression of what it thinks of itself, and of the way it wants to be thought of by others. Because it is, directness and sincerity, as exhibited here, are especially important.

The desirability of legible type may seem too obvious to concern designers, but the fact is that a wish to appear "modern" has sometimes in the past trapped both companies and designers into using lettering that looked sleek and streamlined enough, but that labored under a singular disadvantage: no one could read it. The graphics on this spread reads like language, which it is. Even the sea horse (205) forms a clear S.

This year there appeared to be a strong trend toward logos of greater versatility, toward trademarks that are—like the IBM items opposite—equally appropriate and effective on cartons or curtains. The new Olin Aluminum designation (204) may be used separately as shown, or at the head of the name.

203 Aluminum door handle
Amerock Corp., Rockford, Ill.
Jack Morgan Associates, designers

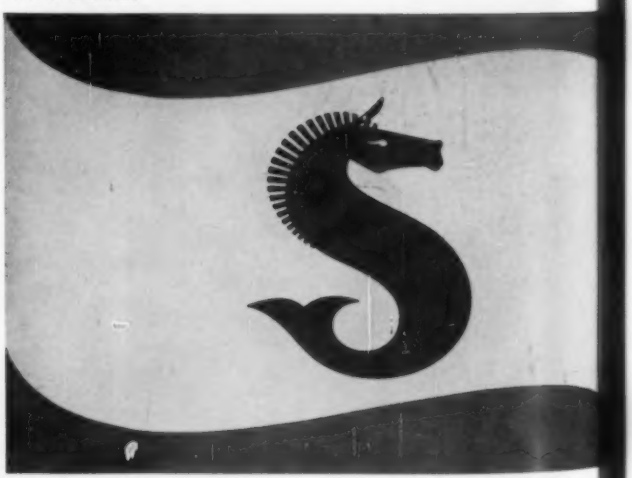
Black anodized aluminum insert sets off trademark in handle, attached to heavy plate glass with concealed mounting.

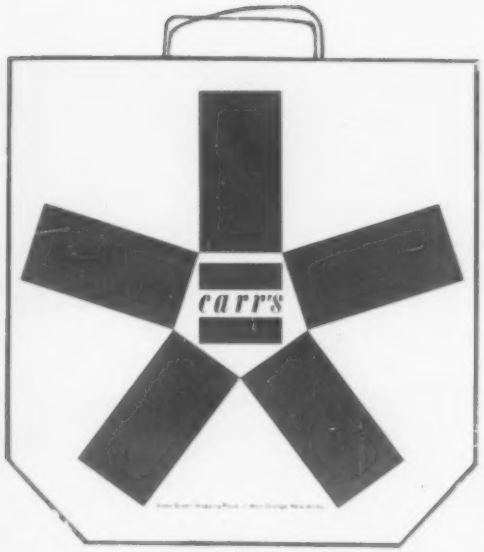
204 Trademark
Olin Aluminum Division
Olin Mathieson Corp., New York
Fred J. Brauer, designer

Enclosed areas of letters may appear in contrasting colors.

205 Corporate symbol
States Steamship Co., San Francisco
Walter Landor & Associates, designers

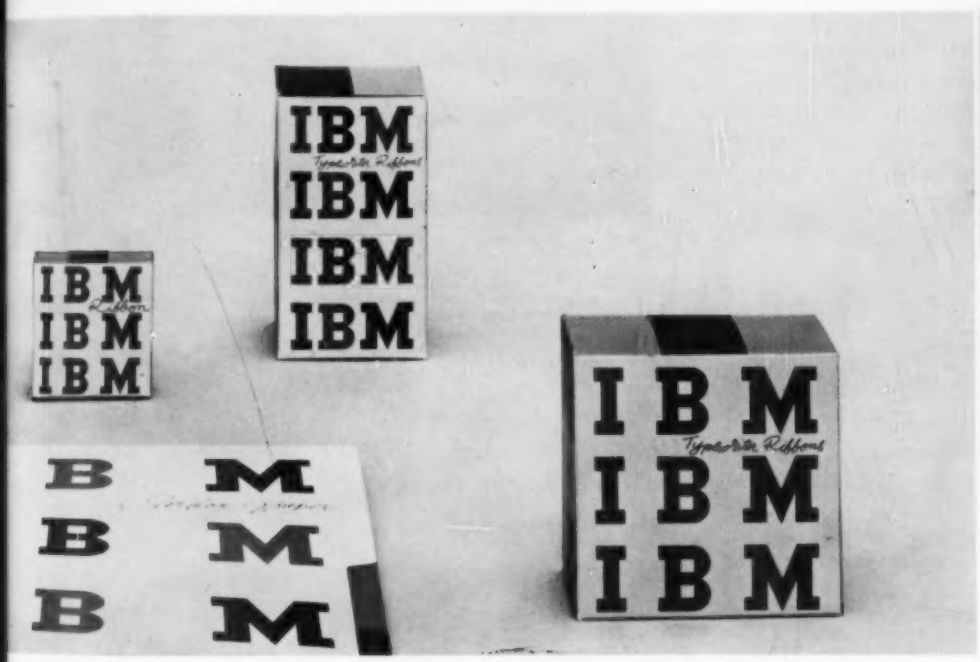
Red seahorse, universally recognized symbol of safe travel, is stylized to represent States Line initial.

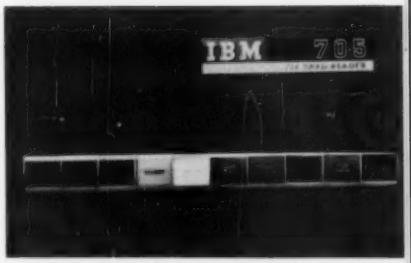


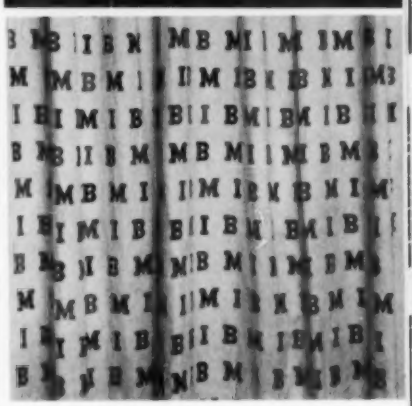


206 Shopping bag identification
Carr's Department Store, West Orange, N. J.
Ladislav Sutnar, graphic designer

Heavy colored blades suggest amplitude, sturdiness, with firm name at center between solid bars. Printed by Equitable Paper Bag Co.





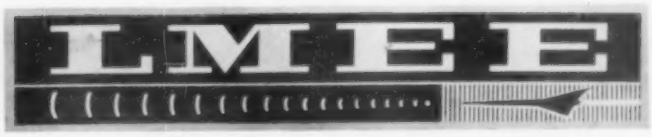


207 Logotypes
International Business Machine Co., N. Y.
Paul Rand, designer
Eliot Noyes, Director of Design

New IBM symbol is applied in cerise and slate gray to folding boxes and office draperies. Blue, black and white anodized aluminum nameplates by Chicago Thrift Etching Co.

208 Identifying forms
General Electric Company
Light Military Electronic Equipment Dept.
Staff design
George Beck, Manager, Industrial Design

Dollar sign and electronic waves are used to refer to cost improvement and electronic equipment respectively.



PACKAGING FOR PLEASURE

The food package designer may be said to stand on the highly competitive midway of the supermarket, saying, "And on the inside . . ." That hackneyed carnival phrase sums up the problem inherent in a form of design that must bring taste appeal to the surface and *show* what the unseen product tastes like. How is it done? One way is by presenting colorful and accurate pictures that convey the product (212, 213, 214) or (as in the case of spices, a "food accessory") (211) what it comes from.

Sometimes the problem calls for indirection. When it does, the designer may do what any creative artist does: develop character. Both the beer brandmark (210) and the ale carton (215) have this elusive quality in a measure that makes them an interesting contrast. One, with strong masculine symbols, is hearty, sturdy, unpretentious, suggestive of virile good fellowship. The other, delicately elegant, chic, implies fineness. The fact that you know, without further identification, which is plain, which fancy, shows how convincing they are. The whiskey package (218) has not only personality (or personalities: it's colored green for "preferred," rich bronze for bottled-in-bond) but mood: the look and feel of a festive season.

209 Cigarette package
Imperial Tobacco Co., Montreal
Lippincott & Margulies, designers

Light letterforms are used against white background to suggest "lightness" of product. Leaf motif is in gray and gold.

210 Brewer's brandmark and beer label
Bavarian Brewing Co., Covington, Ky.
Lippincott & Margulies, designers

Stylized symbols represent tradition (crown), time (hourglass) and skill (hand).

211 Spice jar labels
Albert Ehlers Inc., Brooklyn, N. Y.
Roy Madison Package Design, Inc., designers

Each label features prints of source or use.

212 Specialty food packages
General Foods Corp., White Plains, N. Y.
Josephine Von Miklos, designer
Color drawings by Lawrence Beall Smith

Labels (U. S. Printing & Lithography Corp.) show full-color products on white ground, apply design theme to 55 food items.

213 Cookie package
Burry Biscuit Co., Elizabeth, N. J.
Lippincott & Margulies, designers

Harlequin pattern of gold, blue, red, silver and black printed in transparent inks on aluminum foil emphasizes masquerade theme. Cookies speak for themselves.

214 Frozen food package
U.S. Department of Commerce exhibit
International Trade Fair, Bari, Italy
Raymond Spilman, exhibit designer
David Wurster, packaging director

American Can Co.'s tin plate end caps and waxed fibreboard lithographed wrap-arounds show American techniques.

216 Wine bottle label
Wine Grower's Guild, Lodi, Calif.
Walter Landor & Associates, designers

Die-cut arch shape; brand name in black stylized Beton lettering.

217 Beer label
Goebel Brewing Co., Detroit
Malt liquor label
Goetz Brewing Co., St. Louis
Lippincott & Margulies, designers

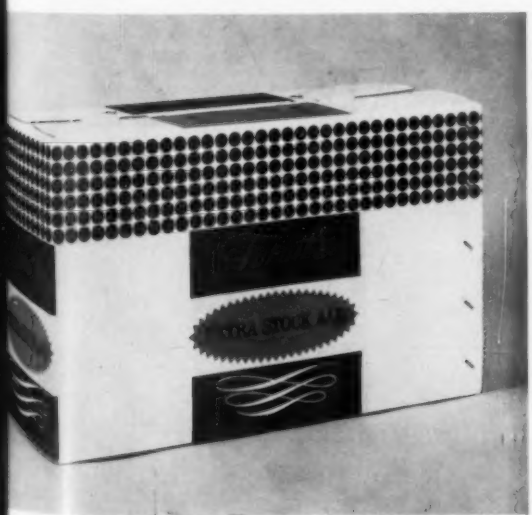
Light cool colors are used on both labels to stress coolness.

218 Christmas carton
Fleischmann Distilling Corp., Owensboro, Ky.
Robert G. Neubauer, Inc., designers

Cylindrical cartons are wrapped in gravure-printed solid color foil. Snowflakes repeated on metal bottom and friction-fit lid.

215 Ale carton
John Labatt Ltd., London
Lester Beall, designer

Abstract motif, handwritten name and "gold seal" designation imply quality product for discriminating buyers.



DISPENSING DEVICES

219 Pic a Puff
Johnson & Johnson, New Brunswick, N. J.
Donald Deskey Associates, designers

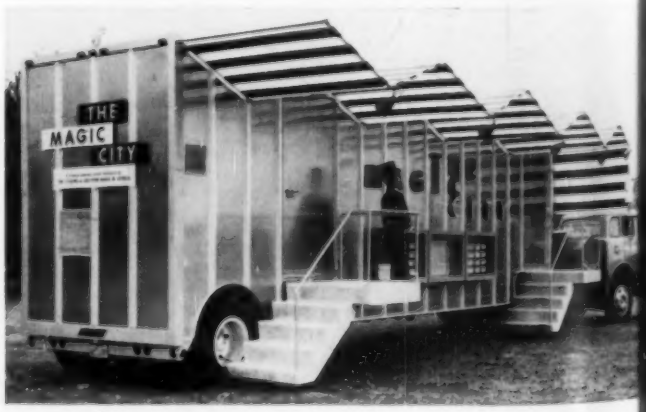
New dressing table item designed so cotton can be torn off as needs dictate. Drawing of woman establishes that product is for cosmetic use.

220 Cigarette vending machine
Continental Vending Machine Corp.
Monte L. Levin, designer

Machine holds 830 packs in 30 vending columns; dispenses king size, flip-top, flat, and standard packages. Selector buttons above main housing show transparency of cigarette packs.

221 Traveling exhibit
The Citizens and Southern Banks of Georgia
Design Enterprises, designers:
3-dimensional by Glynn Acree and Frank Stephens; graphics by James Harnsworth

Gold anodized aluminum trailer (Steel Products Co., Savannah) has self-contained power for lighting and animation (Atkins & Merrill, Sudbury, Mass.). Appointments by Product Presentations of Cincinnati.



Dispensing means giving out. And whether what's given out is tooth paste (222) or information (221), the design problem is twofold: to make what comes out easy to get, and to make the consumer want to get it. This year some fresh solutions have turned up. In packaged home items there has been a drive toward the elimination of messiness, and the cotton dispenser (219) and the new Ipana squeeze bottle (222) both replace less neat ways of dispensing cosmetic items.

The Colorobot (224) ingeniously organizes and simplifies the process of measuring and mixing paint. The same rage for order characterizes the vending machines (220, 223). The very term "vending machine" connotes cheapness (probably because of the once ubiquitous 1c peanut and gum machines) but designers strive to give them a look worthy of the prominent spots in which they are placed. The merchandising center (5) seeks to do this with a series of uncluttered, quality fronts. Sometimes the designer aids in merchandising ideas, rather than things. Designed to dramatize the relationship between bank and town, the traveling exhibit (221) also dramatizes what the designer can do to help facts speak for themselves.

222 Dentifrice squeeze bottle
Bristol-Myers Co., New York
Staff packaging group
Egmont Arens, consultant

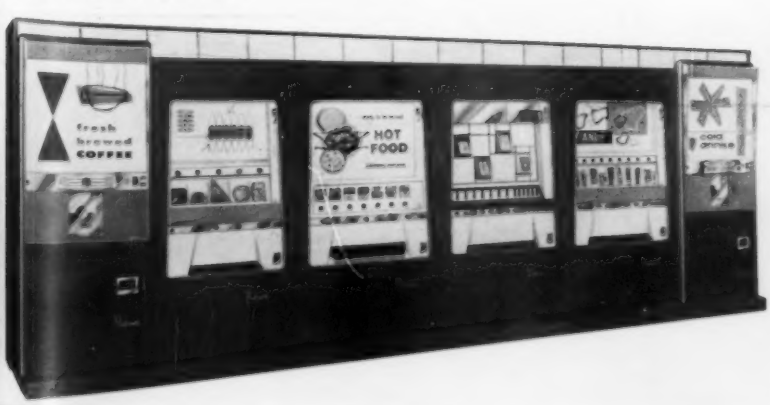
Plastic squeeze bottle (by Plax Corporation) dispenses new free-flowing dentifrice. Bottle is Wedgewood blue; logo appears in crimson against white background. Closure (Owens-Illinois) is white.

224 Colorobot
Martin-Senour Co., Chicago
Carl Foss, color consultant
Morton Goldsholl, designer
Arthur G. Russell Co., designers and builders

"Automated" paint mixing and dispensing unit reads punch-carded instructions and mixes and packages paint accordingly. Permits color modifications with as many as 3 colorants in given formula.

223 Automatic merchandising center
Rowe Manufacturing Co., Whippany, N.J.
Walter Koch, designer

Coordinated design incorporates sketches, brand labels, and exposure of items for sale. Machine doors serve as exposed bank, eliminating "false fronts" which previously accounted for 15% of costs.



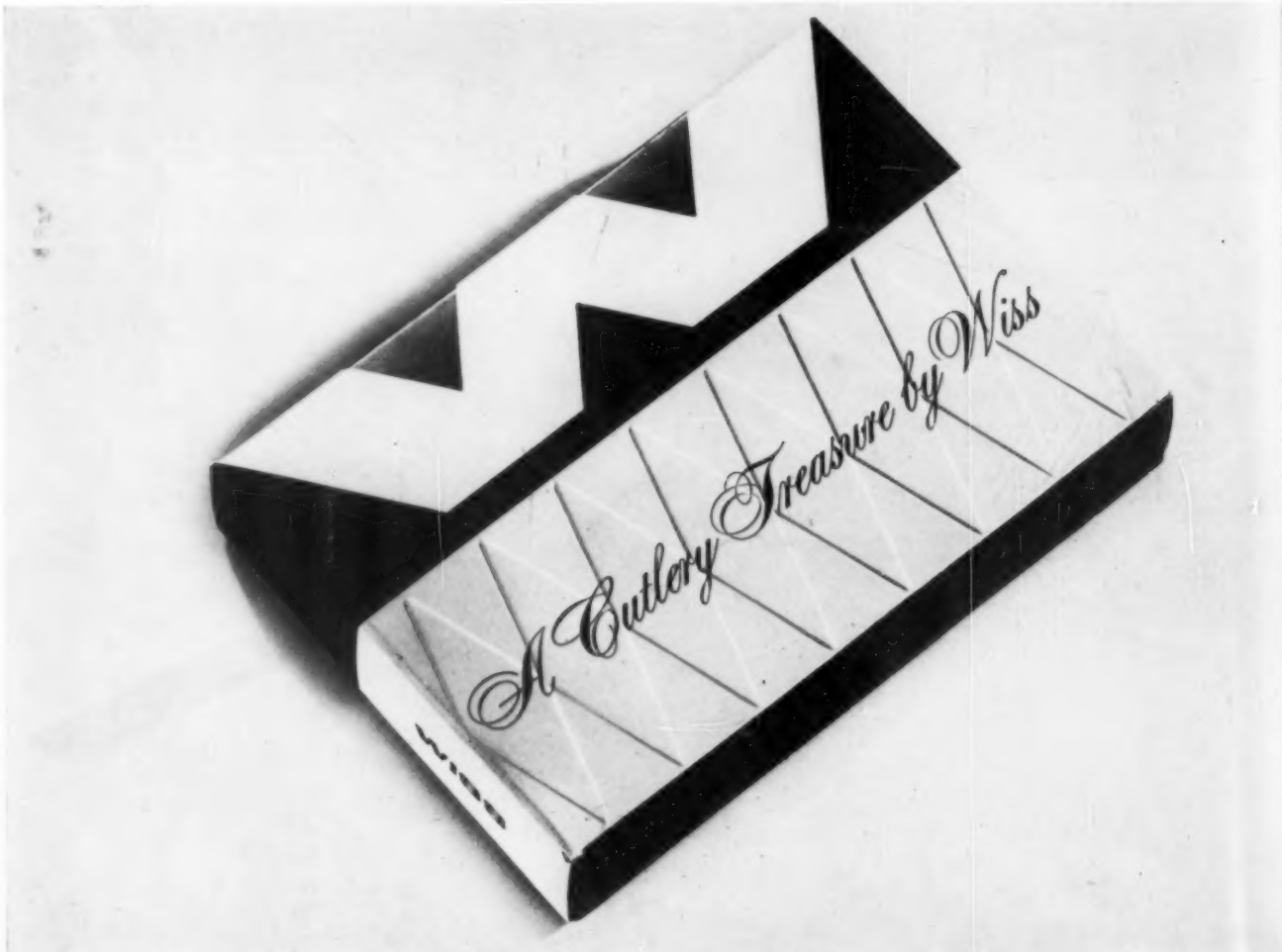
SPECIALTY PACKAGING

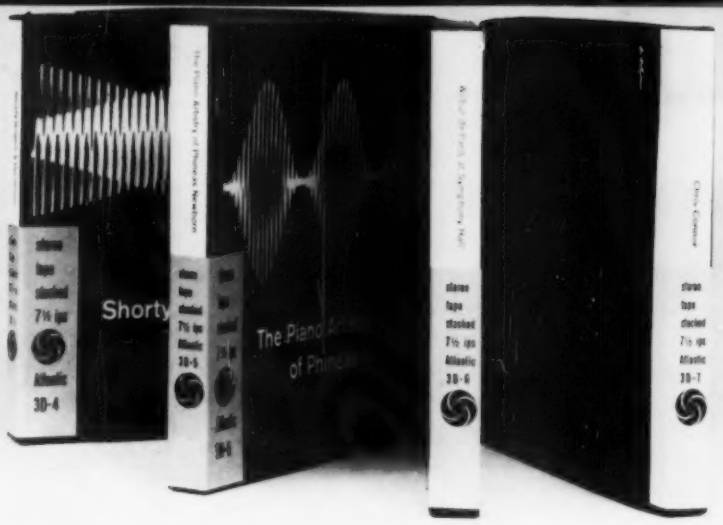
Although specialty packaging often involves novelty, it doesn't necessarily require gimmicks. Sometimes novelty is simply the most direct way to package a truly novel item. The Pow-R-Wrister (230), for example, is an unruly assembly of straps that won't lie flat, offering a problem that might most neatly be solved by putting it into a box. But its uniqueness requires that it be seen. The new use of acetate as a folding carton lets the device look reasonably compact without concealing it. The self-starting briquet box (229) is a novel and purposeful way to put a package to work: the consumer uses it by burning it up—perhaps thus making it the last word in expendability.

Packages on this spread reveal another sort of novelty—the use of abstract representations of purpose: sound waves, logo-like triangles, rug swatches. The stereo tape cartons (226) use abstraction as an answer to a question as new to design as it is old to the fine arts. Keats was praised for "making things sound like they look." The designer's problem here was to make things look like they sound. The solution was to show actual sound waves against a black background, suggestive of a sound pattern (different for each record) penetrating silence. The library look suggests "intellectual jazz," to be collected like books.

225 Flower shear package and cutlery package. J. Wiss & Sons Co., Newark
Lester Beall, designer

Image of shears clipping rose demonstrates what tool is for, and suggests pleasures of gardening. Cutlery package uses logo for purposes of identification and decoration. Embossed geometric shapes suggest precision, and also carry out logo idea





226 Magnetic tape cartons
Atlantic Records, New York
Arnold Saks & Marvin Israel, designers

Sound waves (different for each record) are used to visually represent music. Labels on spine provide "library look."

227 Rug cleaner package
Johnson's Wax, Racine, Wisconsin
Lippincott & Margulies, designers

Seven pastel swatches are grouped around granular center to remind shopper of both her rugs and the product. Air-tight cans prevent evaporation.

228 Mail box
Duraflex Co., Miami, Fla.
Harley Earl, Inc., designers

Five verticals with one horizontal cross bar in trademark ties in with other company products, which are for building trade.

229 Self-starting briquet carton
Diamond Match Co., New York

Molded pulp package of briquets has 4 ignition tabs on bottom. Vent channels and center chimney enable package to evenly ignite briquets.

230 Pow-R-Wrister and package
Dyer Products Co., Canton, Ohio
Smith, Scherr & McDermott, design studio
D. L. Craddock, package designer
Austin Cox, product designer

Package of 16 point carton-stock insert printed red and black, 7 point clear acetate sleeve. Insert is placed inside sleeve and insert ears fold up, sleeve ears fold down, to form pillow-shaped package.

HARDWARE PACKAGING

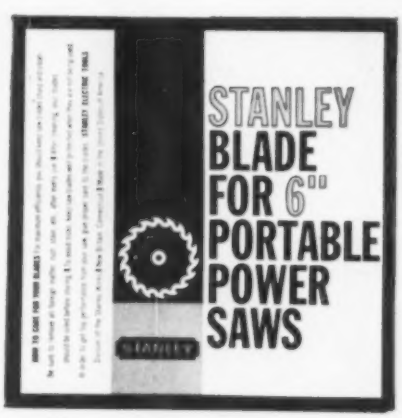
Hardware is more important than ever in a land where the plumber and repairman are being replaced by do-it-yourself home-owners, and as its importance increases, so does its pride in appearance. Lest this sound precious, notice how many well-designed hardware packages bring the workaday product to the surface. The steel wool pads (231) are fully exposed, and form a background for the lettering. The saw and blade boxes (232, 233) incorporate the product into the graphics, as do the nail boxes (235), thus supplying identification, information and decoration that is carried through the entire line. Just as straightforward is the abstraction of a putty knife used by DAP (234).

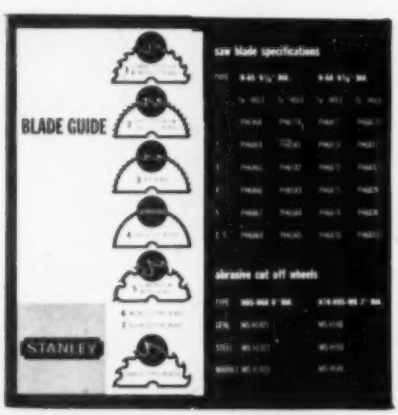
231 Steel wool package
Williams Co., London, Ohio
VIE Design Studios, designers
J. Budd Steinhilber, designer

Package for "household" consumer contains fine, medium and coarse grades of steel wool, and shows it off.

232, 233 Saw carton and saw blades packages
Stanley Electric Tools Division
Stanley Works, New Britain, Conn.
Lester Beall, designer

Stylized illustrations of saw and blades show product, and blade guide on back of blades package shows actual blade cuts.



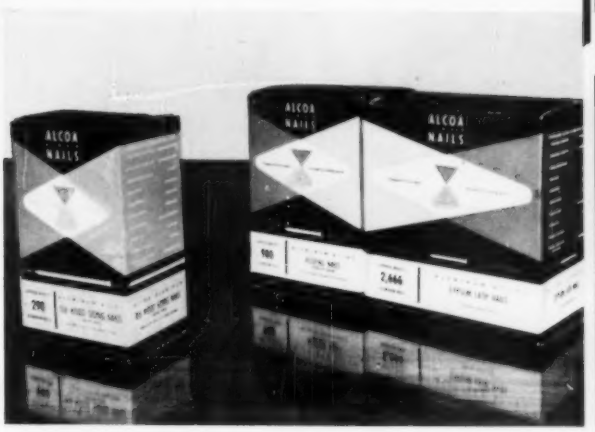


234 Putty and caulking compound packaging
Dicks-Armstrong-Pontius, Dayton, Ohio
VIE Design Studios
J. Budd Steinhilber, designer

Putty knife is basic symbol and bold red, white, and black color scheme is applied throughout design integration program.

235 Nail boxes
Alcoa, Lancaster, Pa.
Harley Earl, Inc., designers

Boxes show at a glance the size and shape of the nails inside, and also list and illustrate standard aluminum nail types.

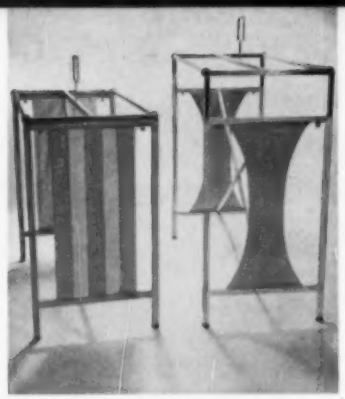


236 Package line
Norma-Hoffman Bearings Corp., Stamford, Conn.
Latham-Tyler-Jensen, designers
Robert Vogele, Manager of Graphics
Don Marvine, designer

Circularly arranged arrows point to four corners of package to make distinctive frame for company initials.

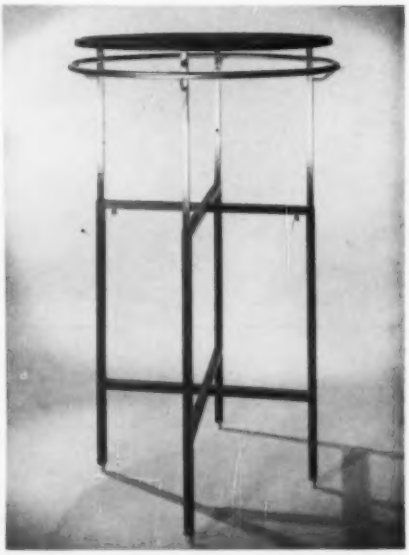
237 Automobile products package line
Johnson's Wax, Racine, Wisconsin
Lippincott & Margulies, designers

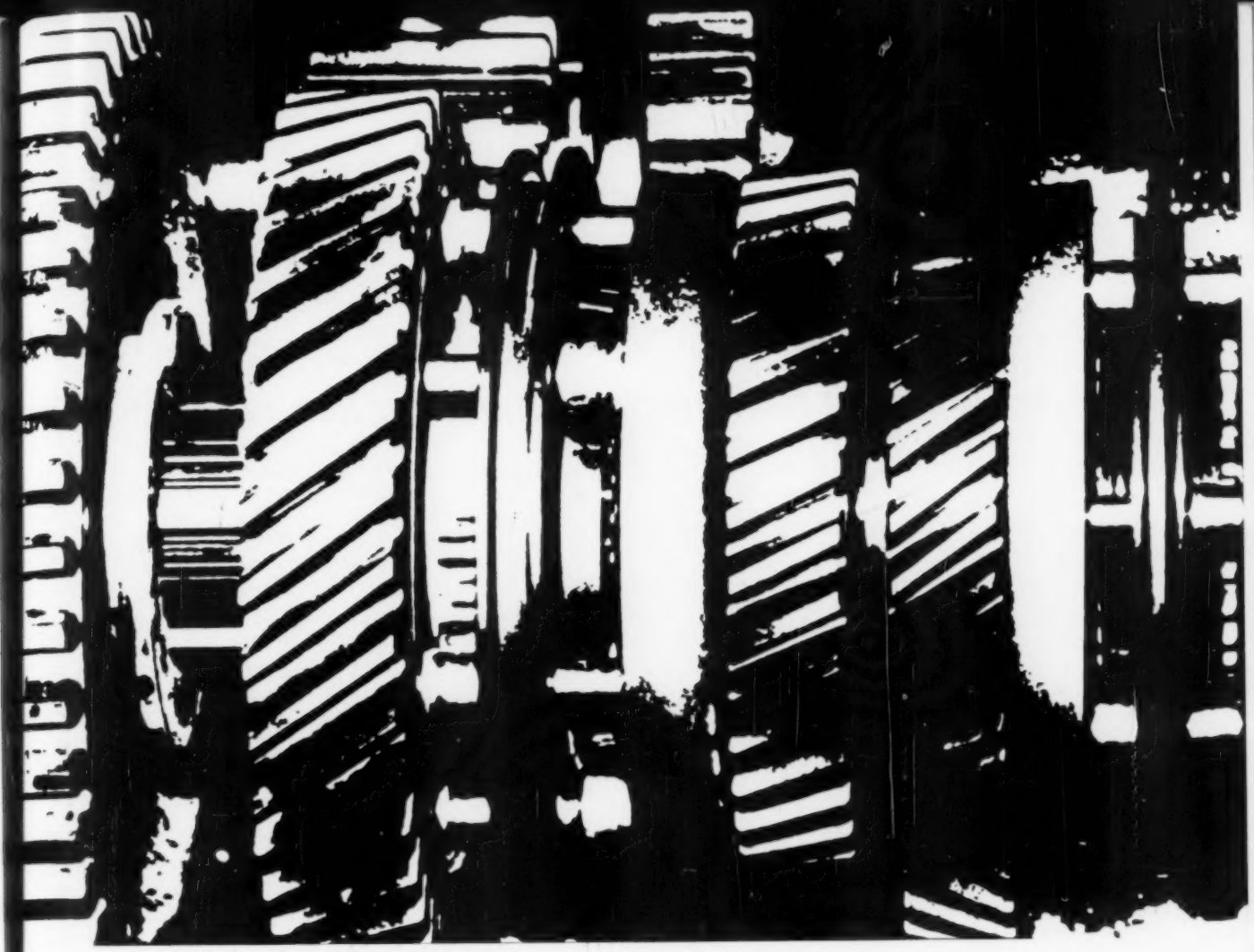
Four panels of color appear in geometric patterns on auto cleaner and Carnu cans. Since chrome cleaner also has household uses, the car is omitted but, for family resemblance, triangle device from front of car is used.



238 Telescoping garment racks
Frederic Weinberg Co., Philadelphia
Frederic Weinberg, designer

For the past several years the American public has been besieged with invitations to "buy your clothes right off the rack." This year the Frederic Weinberg Company has introduced a more versatile rack that is, in effect, a component for the retailer. The garment racks on this page, both square and round, all adjust telescopically to three heights, their position fixed by a spring-loaded locking mechanism attached to 7/8" diameter fingertip control fitting. The square racks (bottom) may be decorated with wood end panels, as seen at right. Base finished in Plextone and baked enamel colors; hangrods in satin chrome or satin brass.





TRANSPORTATION & EQUIPMENT

Military developments — a review of technical progress with military applications and product implications . . . large scale military equipment, including tracking devices, radar, missiles, planes and helicopters . . . assorted news in *civilian transportation*, from an atom-powered ship to an air-borne auto. *Capital equipment*: machines that move earth and manage materials . . . lathe, crane, fire fighting equipment and other items for the factory. *Tools*: saws, sanders, files and other tools for the home . . . clippers, sprinklers, power mowers and related outdoor appliances. *Instruments*: autocollimator, spectrophotometer and other precision instruments including special ones for medical use . . .

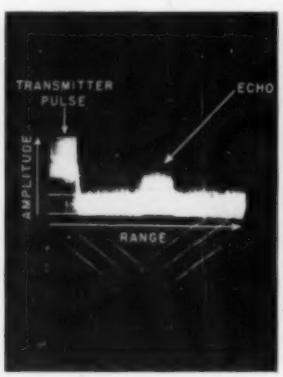
DEVELOPMENT *of more refined technological principles for the regulation of moving objects, and the influence of new power sources and operation systems on land, sea, air transportation means and other capital equipment, are behind the year's advances* **IN PRODUCTS FOR INDUSTRY AND THE MILITARY.**

An old concept, idea exchange, still acts as fundamental catalytic agent in furthering continued activity in industry. It does not always occur on a give-and-take basis. Industrial developments are, of course, often "open secrets"—the fact that a new principle has been developed, or that a new component has been made operative is usually publicized, but the patented principle remains a secret. Even so, an announcement of a discovery by one firm is enough to get competitors busy, and industrial activity is stimulated by news alone. Research in military developments has often been a source of valuable information for industry. The product needs of industry and the military are generally different; their emphasis in technological research has also differed, and they have helped each other out by "swapping" discoveries. The inventions of basic devices—the vacuum and cathode ray tubes, for example, and other often privately developed components—have been utilized by industry in a vast variety of consumer and industrial products; the military, on the other hand, has used them to develop *systems* to meet their needs—these are, in turn, picked up by industry and an improvement in old equipment or a brand-new equipment line is often the result. On this spread and the next 15 pages are shown and discussed the year's significant advances in military systems, transportation equipment, and new products from various categories of industrial capital equipment (moving, stationary, instruments and tools). The appearance and function of the products have in many cases been affected by the application of new devices and systems taken from the combined military-industrial technological "pool."

MILITARY EQUIPMENT

The research objective in military laboratories is always the same—improvement, research *applied* to specific tasks—since the concern of the military is not to stun the market with new products but to improve the operation of communications and other systems in all areas of the Armed Forces.

The significant detection systems installed this year will aid further study in ballistic missiles. The high-powered, long-range radar set-up (A) (how long remains undisclosed) of MIT's Army-Navy-and-Air-Force-supported Lincoln Laboratory permits detection and study of objects moving through space by recording their in-flight data (B shows a photographic record of a radar echo from the third-stage rocket of the first Russian satellite.) Another new detection set-up is the *ROTI* tracking system (page 98) developed for the Air Force by the Perkin-Elmer Corp., a powerful missile-photographing system capable of conveying information important for further missile developments. Although designed for civilian safety, these advances remain, of course, restricted to the needs of the military; but others — the "vertical" plane (page 98) for rough terrain take-offs, and the one-man "portable" helicopter (page 98) — used so far only by



B Satellite's third-stage rocket radar echo.

A Long-range radar tower at Westford, Mass.

C Barret-Cravens' Guide-O-Matic operatorless tractor.

the Armed Forces, will in time, no doubt, be applied to civilian transportation.

CAPITAL EQUIPMENT

Greater power, long-lasting engine runs, complex assembly operations handled by programmed machines, and, in general, improved product performance as the result of newly applied technological systems, are characteristics found in this year's new (proposed as well as marketed) moving and stationary capital equipment. The first nuclear powered merchant ship (page 100) for which the Atomic Energy Commission has engaged Babcock and Wilcox to design and produce the major components and operation systems, will—when it is finished in 1960—be easier to run than ships now in service: refuelling will be necessary only once in three years.

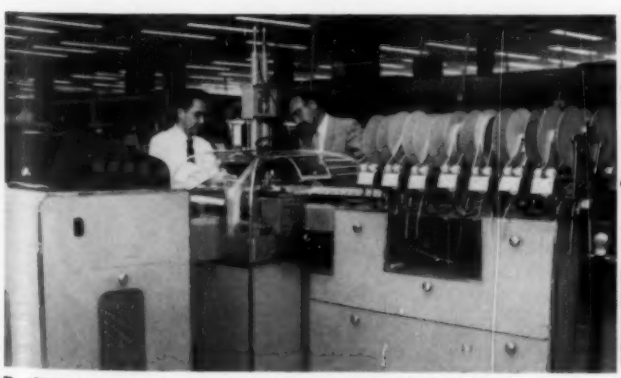
In air equipment, the seating capacity of commercial helicopters has been expanded (see the Vertol 44, page 100), while air and land transportation have been combined in the flying automobile (Aerocar, page 101) into a single product.

In factory equipment, the major news is also in products — machinery, materials-handling set-ups, measuring and control instruments—altered drastically by the application of new technological elements to their operation mechanisms. A good example is the operatorless tractor (C)—the optical *Guide-O-Matic*, (manufactured by the Barret-Cravens Co. of Northbrook, Ill.) which steers accurately through a warehouse or across a factory along a desired route indicated by white tape or a white line on the floor. A photoelectric cell powered by a solar battery, receives the tractor's direction-indication from light emanating from the white line—the direction line is lit by a bulb mounted on the tractor.

A new device bringing automation to stationary factory equipment, in this case for the manufacture of printed wire panels used in the assembly of large data-processing equipment, is IBM's *Programmed Component Assembly System* (D) announced this summer. The machine, capable of automatically inserting printed wiring boards according to instructions contained in punched cards, incorporates a novel provision for performance change: when a change in the layout and componentry of a board is called for, a new set of IBM cards is fed into the system which then automatically adjusts itself for the new job.

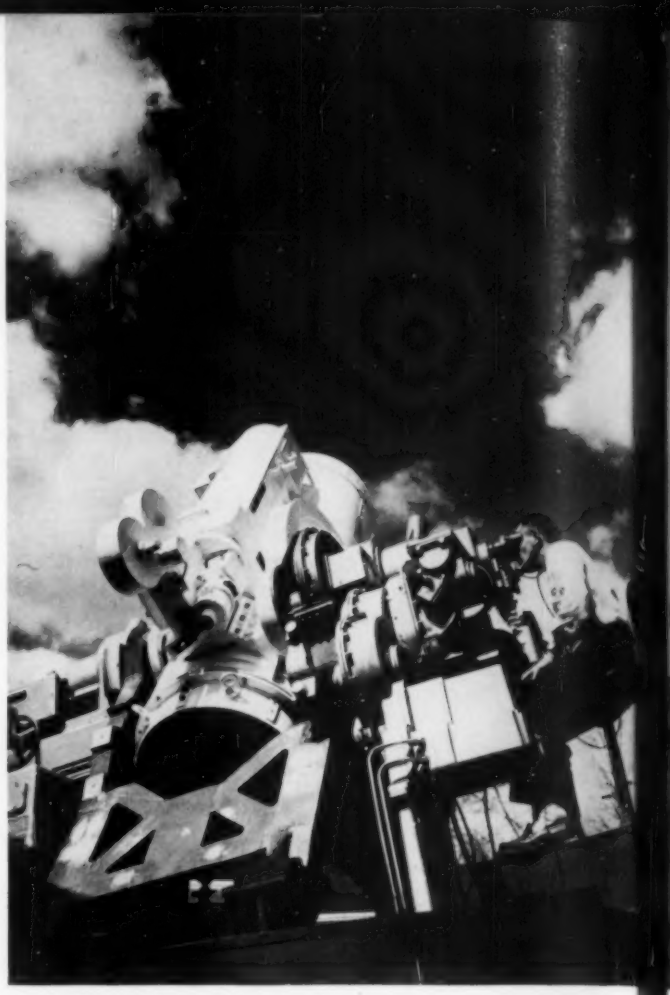
The year's strides in the make-up of industrial instruments and tools (pages 106-112) were generally due to design—improved knob and switch arrangements for optimum operation ease, greater emphasis on portability, etc. But even in this category of smaller industrial components, some products were affected by new power sources and the incorporation of electronic know-how. The Kel-Ray projector (page 110) uses atomic energy particles to penetrate thick materials without destroying them; able to create a radiogram that tells all about the inner structure of a steel section, for example, this projector promises wide industrial use for materials analysis. And from South Africa comes a new surveying instrument that functions on the radar principle.

The Telurometer (E), marketed in this country by Tellurometer, Inc. Washington, D.C., operates in the micro-wave frequency region, and measures the travel time of radio waves over the specific distance under observation with an accuracy not previously possible; as is the case with any radar equipment, measurements can be made by day or night, with or without good visibility.



D IBM's automatic Programmed Component Assembly System.

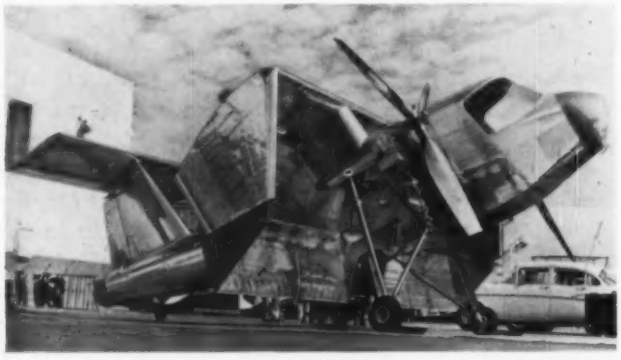
E The Telurometer surveys distances with micro-waves.



239 ROTI (recording optical tracking instrument) Mark II
Perkin-Elmer, Norwalk

8-ton Air Force instrument consists of 24-inch aperture primary objective telescope, sighting telescopes, camera, and control, measures position of moving missiles with great accuracy.

MILITARY DEVELOPMENTS

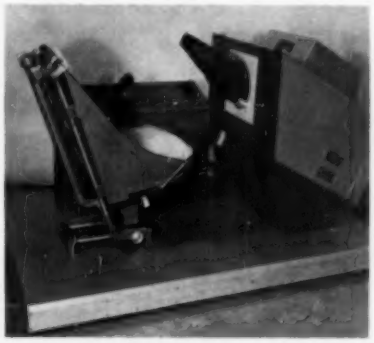


240 Vertiplane
Ryan Aeronautical Company for the Army Office Naval Research, technical direction

Propellers powered by Lycoming T-53 gas turbine engine. Will take off and land vertically, operate without runways. Flaps use "deflected slipstream" principle.

As far as eventual civilian adaptation is concerned, the most significant recent military developments have taken place in testing-measuring-and-recording equipment, and in transportation. The last of these is especialy pertinent; for while military transportation needs have always emphasized portability (242) and maneuverability (240), modern living has made these qualities almost equally important in civilian transportation. Some examples of civilian equipment inspired by military developments are shown on pages (100) and (101).

This relationship between the researches of war and the products of peace promises the designer the exciting job of helping to exploit military discoveries for wider and gentler uses. And his ability to do this is enhanced by his occasional appearance as consultant in military development projects (244).



241 Fire Control simulator
Mast Development Co., Davenport, Iowa
Staff design

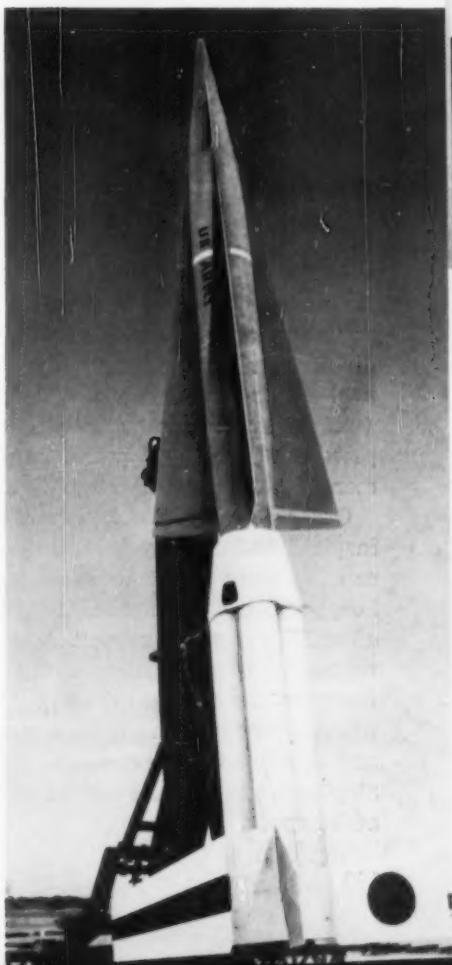
Main control unit allows any one of several test situations to be set up and an evaluation of pilot's performance to be made.

242 One-man helicopter
Hiller Helicopters, Palo Alto

XROE-1 Rotorcycle, built for Navy. Folding and portable, only 270 lbs., it may be assembled and flown in few minutes.

243 Supersonic bomber
General Dynamics, Convair Division,
Fort Worth, Texas

B-58 Air Force Hustler is U. S.'s first supersonic bomber. Of delta-wing design, it is 95 feet long, has wingspan of 55 feet, and vertical fin standing 30 feet above ground. GE J-79 jet engines with afterburners.

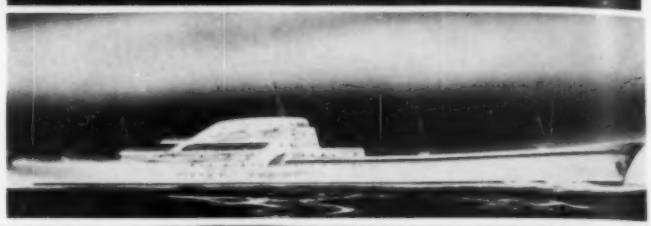


244 Tracking antenna (below) and Nike missile (right)
Bell Telephone Laboratories, Western Electric Company, Douglas Aircraft
Henry Dreyfuss, consultant designer

Antenna follows oncoming target after acquisition radar has picked up approach. Third radar is trained on path of Nike and information from the three radars keeps missile on electronically determined path.

245 Bell H-40 helicopter
Bell Helicopter Corporation, Fort Worth

Single-rotor, turbine-powered craft matches climbing performance of WW I fighters and level-flight speed of many light airplanes. For front-line Army service, compact model carries six people.



CIVILIAN TRANSPORTATION

A number of radical innovations in commercial transportation have emerged this year. Some of them are a direct result of military development: a proposed nuclear powered merchant ship (249); large-scale (weighs seven tons and can carry 5,345 pounds) and powerful (100 m.p.h. with a range of 360 miles) commercial helicopters like the Vertol (246).

Other new concepts, however, were entirely civilian-inspired and developed. M. B. Taylor's Aerocar (250) can hop over traffic to average a claimed 90 m.p.h. house-to-house (compared to 43 m.p.h. by standard automobiles) on long trips. A new tire by Fisk (247) represents another labor-saving innovation in civilian transportation by eliminating the need for periodic wheel-balancing. The luxury bus (251) offers dining and comfort facilities similar to those on trains and airplanes, yet remains light and maneuverable despite added space.

246 Commercial helicopter
Vertol Aircraft Corp., Morton, Pa.

Carries 15 to 19 passengers, has 600-cubic-foot cabin which can accommodate 50 per cent more cargo than other commercial helicopters. Uses tandem rotors, has speed of 100 m.p.h.

247 Safti-flight tire
Fisk tires division, U. S. Rubber Co., N. Y.
Staff design

A flat, wide strip of dense rubber runs completely around inside of tire to provide the balance for a vibrationless ride even at high speeds and eliminate need for periodic wheel balancing.

248 46,000 ton tanker
Bethlehem Steel Company, New York
Staff design

Overall length of 736 feet, breadth of 10? feet, draft of 37½ feet, and deadweight of 46,000 tons make this the nation's largest tanker. Carries 10,000-ton cargo.

249 Proposed nuclear merchant ship
Babcock and Wilcox Co., Barberton, Ohio
Staff design

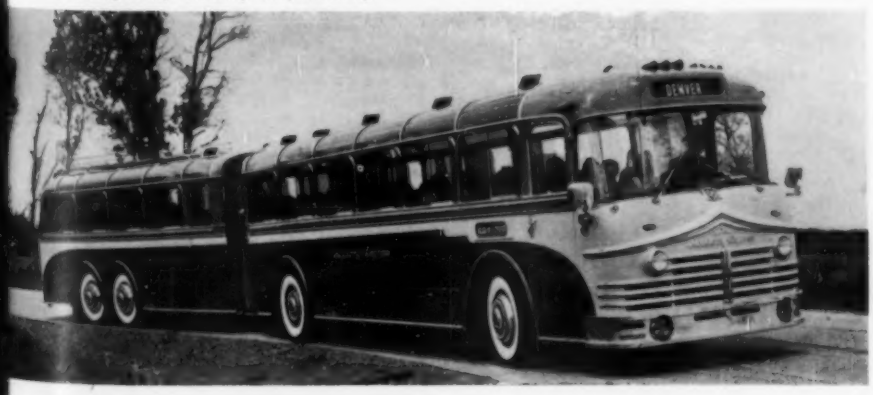
Pressurized water reactor vessel system will develop 22,000-shaft horsepower for America's first atomic-powered merchant ship. Building to begin early in 1958.

250 Flying automobile
Aerocar, Longview, Washington

Two-seater that can be converted in ten minutes. 143 horsepower Lycoming engine powers ground and air (over 90 m.p.h.) travel. Will cost about $7,500 when in full-scale production.

251 Academy express luxury bus
Continental Trailways, Denver

Two-section, 60-foot bus accommodates 64 people. Of aluminum and steel, its weight and inside turning radius is same as for conventional 40-foot buses. Rest room, hostess service, food bar. By Kassbohrer, Fahrzeugwerke, G.m.b.h., Ulm, Germany.



PRE-BUILDING EQUIPMENT

The bold-looking, sometimes fierce-looking, machines on this spread were specially designed to handle specific ways of dealing with nature and preparing the ground for building. Such startling innovations are quite often characteristic of new producer goods. Robert LeTourneau's Tree Crusher (252), for instance, was developed for the job of rapidly beating down jungle areas. The Albee Rolligon (256), with its large, low-pressure rollers, is adaptable enough to cover any terrain from soft, sandy beaches and marshes to rocky hills and shallow water.

Designers of these machines have carefully considered not only manufacturing and maintenance economy, but also the safety of the operator and the convenience of operation.

252 Tree crusher
R. G. LeTourneau, Inc., Longview, Texas
R. G. LeTourneau, designer

Powerful electric motors inside rollers clear four acres of dense forest an hour. Man in foreground indicates actual size of this jungle-clearing machine.

254 Cement mixer
Chain Belt Company, Milwaukee
Nolan Rhoades, consultant designer

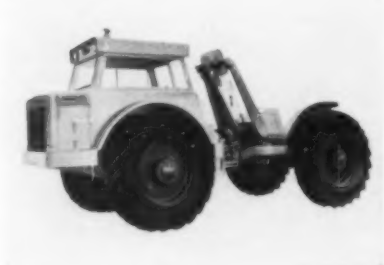
Steel welding eliminates need for extensive dies. Fast shrink blade design gives rapid, thorough mixing. Pressure water system eliminates pump maintenance.

253 Traveloader lift truck
Baker Raulang Company, Cleveland

A sturdy lift truck with built-in and retractable legs that keep it absolutely stable when lifting heavy loads.

255 Michigan 75 pulp wood logger
Construction Machinery division, Clark Equipment Company, Battle Creek
Paul Petlewski, Harley Earl, Inc., designer

Steel logger has swivel seat for access to two sets of controls; eliminates need for turning around in dense forest.



256 All-purpose off-the-road truck
Albee Rolligon Manufacturing Corp., Monterey, Cal.
William H. Albee, designer

W.th low (two to five psi of ground pressure) pressure rollers, seven-ton Albee Rolligon rides over the most varied terrain, seemingly absorbing obstacles in path.

257 Michigan 210 tractor scraper
Construction Machine division, Clark Equipment Company, Battle Creek
Harley Earl, Inc., designers; Paul Petlewski, project head

Fabrication 90 per cent automatic or semi-automatic welded. Engine, power train components interchangeable with other vehicles.

258 Airport towing tractor
Frank G. Hough Co., Libertyville, Illinois
Jon W. Hauser, designer

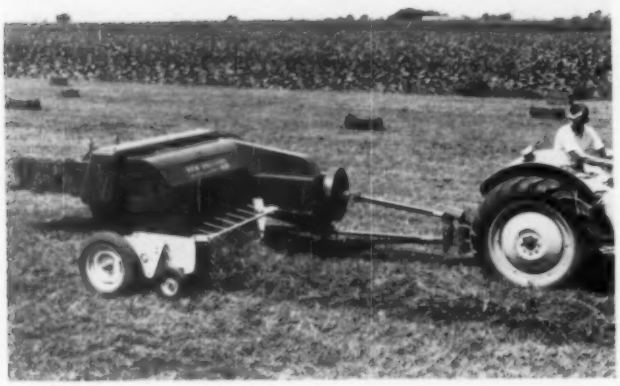
Buff and brown tractor carries out styling of Paymover line. Welded steel plate body, cast iron in rear fenders, rear body section, low grille.

259 Off-the-road truck
LeTourneau-Westinghouse, Peoria
Pointer, Teague and Petertil, consultants

Unusual v-bottom increases stability, doubles ground clearance, allows 70° tilt. Grille design is similar to that in all of company's roadbuilding vehicles.

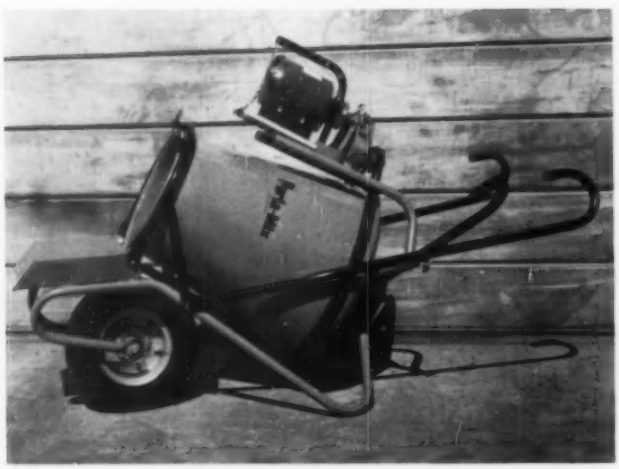
260 Heavy duty power sweeper
G. H. Tennant Company, Minneapolis
Scharfenberg-Polivka, consultants

Former tubular construction discarded in favor of more economically formed sheet fabrication. Model 80 sweeper has baked enamel ivory and red-orange finish.



261 Baling machine
New Holland division, Sperry Rand Corporation, New Holland, Pennsylvania
Staff design

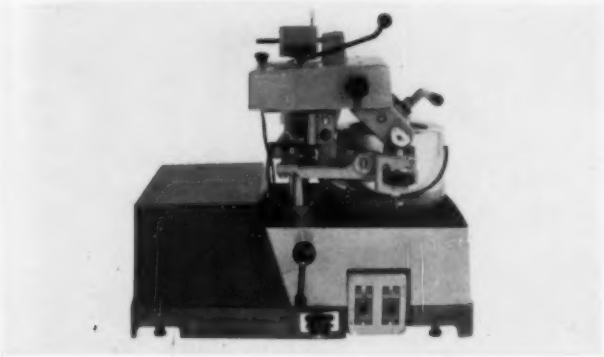
Styling problem was to unify visually seemingly unrelated finger-feeding mechanism, bale chamber, and power take off unit.



262 Portable cement mixer
Graybill Industries, Inc., Spokane

1½-cubic foot portable mixer may be powered by either an electric motor or gasoline engine. Set in wheelbarrow-like base, it mixes concrete, mortar, plaster. Made of 14 and 16 gage steel.

FACTORY AND FARM



Although the mobile equipment on page (104) performs more prosaic jobs than some of the dramatic machines on the previous spread, it too has been well designed to perform effectively. The heavy duty power sweeper (260) for institutional use has been completely redesigned to utilize an economical formed-sheet fabrication. The portable cement mixer (262) is especially convenient for home use or for working directly at construction sites.

The equipment on this page, much of it for factory service, indicates a move toward radical simplification of form (265 and 266) which cuts down on fabrication costs. Simplification, in this case for ease of operation, is significant in the Kidde fire extinguisher (267) also.

263 Transformer bushing
Henry Dreyfuss, consultant designer
The Ohio Brass Company, Barberton, Ohio

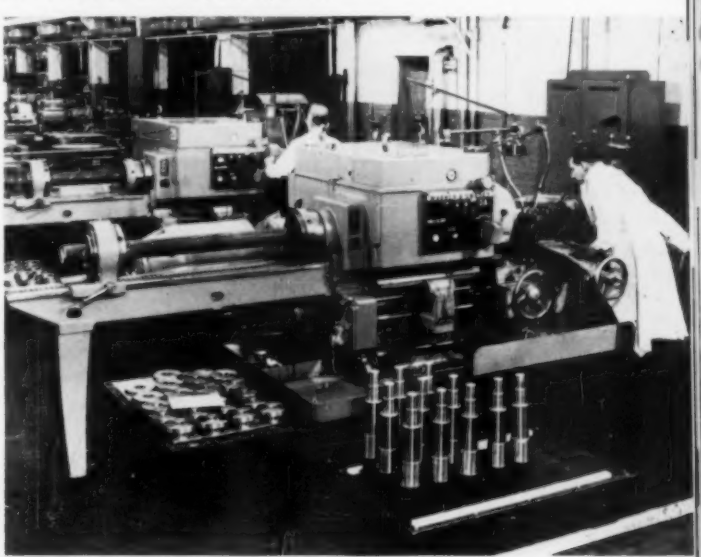
Orange and grey insulating terminal emphasizes product identification, carries out family resemblance among company products. Ceramic insulator, cast aluminum bushing, formed metal diaphragm.

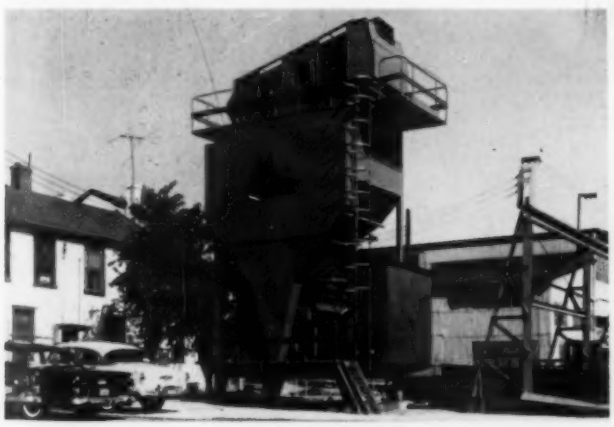
264 Bevel-edging machine
Shuron Optical Company, Inc., Geneva, N. Y.
Richard Mihalyi, designer

Grinds beveled edge on opthalmic lenses for insertion into eyeglass frames. Sand-cast iron base, steel and aluminum grinding wheel spindle, welded bronze and molded phenolic lens carriage.

265 Heavy-duty lathe
The Warner and Swasey Company, Cleveland
Henry Dreyfuss, consultant designer

Human engineering cuts down number of operating motions. Controls centralized on one panel. Forms simplified to make cast steel and iron fabrication easier, less expensive.



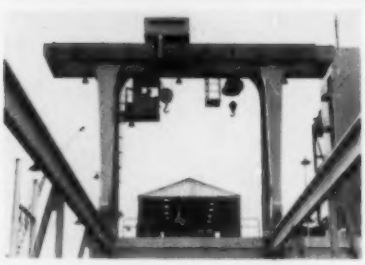


266 Road-use asphalt plant
McCarter Iron Works, Inc., Norristown, Pennsylvania
Leotta and Parcher, consultants

Colors coded as safety measure and to emphasize company identification. For economy, bending and rolling were substituted for welding. All major parts of structural steel plate.

267 Fire extinguisher
Walter Kidde Company, Belleville, New Jersey
Henry Dreyfuss, designer

Instantly understood forms (handle, trigger) facilitate rapid-fire use. Operating steps cut and instructions simplified to read: "Remove horn, pull trigger."



268 Dual Torque Crane
Pacific Coast Engineering Company, New York City

Uses variable voltage and shunt-field weakening in the hoist motor to eliminate need for an auxiliary hoist and to attain high-speed operation of main hook under no-load or light weight loads.

269 Dry-eye cartridge
Ansul Chemical Company, Marinette, Wisconsin
A. V. Berg, designer

Glass is bonded to brass to provide a gas-tight seal. Indicator changes color to show percentage of moisture in each refrigerant.

POWER TOOLS

270 Power saw, ½" drill, ¼" drill
Electric Tools Div., Stanley Works,
New Britain, Conn.
Gerald Stahl Associates, designers

Polished aluminum alloy (Sterling Die Cast Co.) housing and handles. Pistol-shaped drill has ribbed, continuous-surface handle.

"You always find good design in work things," artist Saul Steinberg wrote in ID's 1954 ADR. He was speaking of industrial work things, but to the extent that the generalization is true it also applies to their off-the-job counterparts, for the rugged dependability of industrial hand tools (270) is equally relevant in the design of tools for the workshop at home (272, 279) and at school (271). There is in this assortment of power tools, in the finer finishes and the more calculated forms, fresh evidence that the tool—perhaps man's oldest "designed" product—has its own refinement of form and surface.

271 Classroom workbench
Brunswick-Balke-Collender Co., Chicago
Richard G. Reineman, designer

Metal and wood-working vises mounted on hard maple top. Tools stored on pegboard siding. Framing matches school cabinet line.

272 Belt sander
Electric Tools Div., Stanley Works,
New Britain, Conn.
Laird Covey, designer

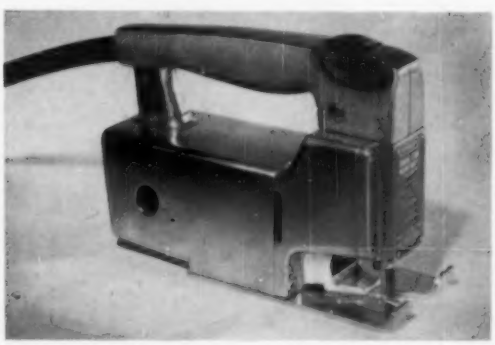
Die-cast aluminum housing (Hamden Brass & Aluminum Co.); aluminum counterweight. Dual-position grips.

273 Pad sander
Electric Tools Div., Stanley Works,
New Britain, Conn.
Laird Covey, designer

Aluminum die-cast housing (Mt. Vernon Diecasting Co.); more convenient vertical power supply leaves room for company identification on base.

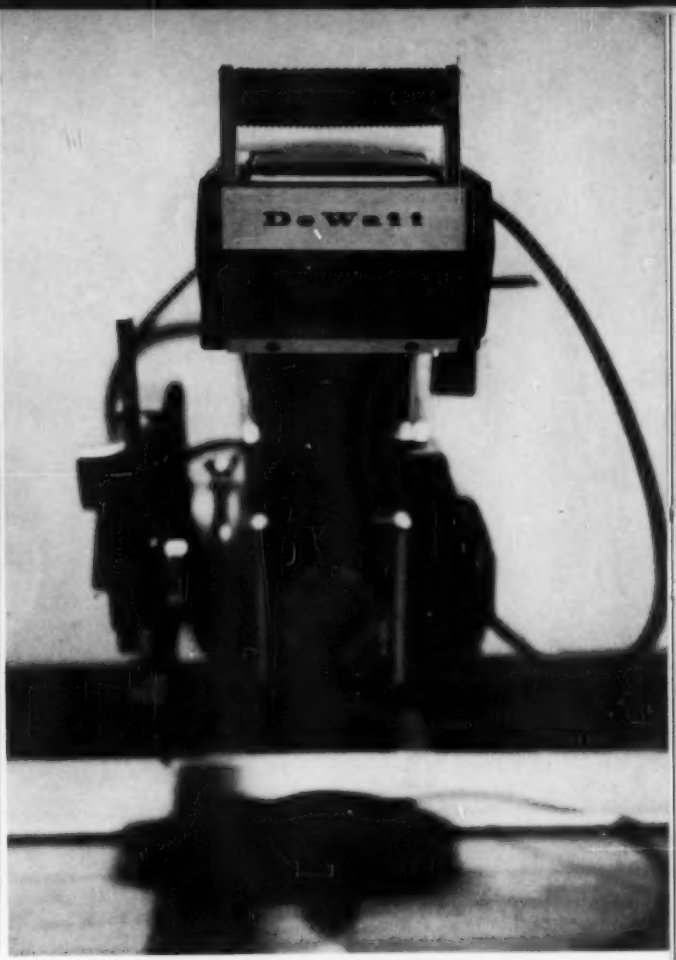
274 Sabre saw
Electric Tools Div., Stanley Works,
New Britain, Conn.
Laird Covey, designer
James Godrey, Chief engineer; T. Cooley,

Horizontal linear balancing device uses self-lubricating counterweight.



275 Portable power router
Diehl Mfg. Co., for Sears, Roebuck & Co.
A. W. Duncan, staff designer

Removable motor and handle unit can be used on sander, planer-joiner, and shaper table attachments. Die-cast aluminum (Doehler Jarvis Corp.).

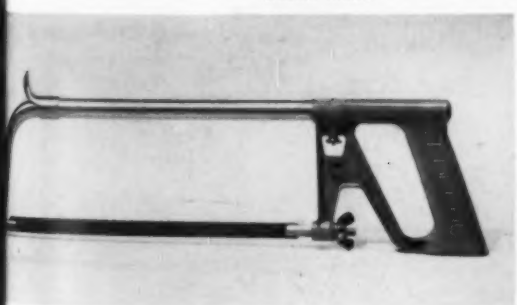


276 Radial-arm saw
DeWalt Div., A.M.F.
Peter Muller-Munk Associates

Choice of 5, 7½ or 10 hp motors with 16" and 20" diameter blades. Sand cast arm, yoke, base. Illuminated miter scale.

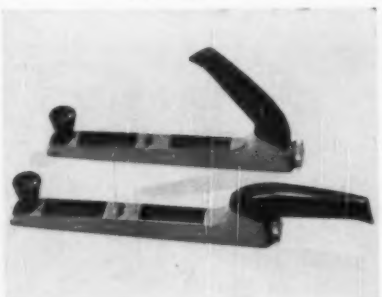
277 Tubular hack saw frame
Millers Falls Co.,
Greenfield, Mass.
L. Garth Huxtable, consultant

Frame of heavy gage 5/8" tubular steel, polished chrome plated. Die-cast aluminum handle, gray enamel finish.



278 Plane-'r-File
Millers Falls Co.,
Greenfield, Mass.
L. Garth Huxtable, consultant

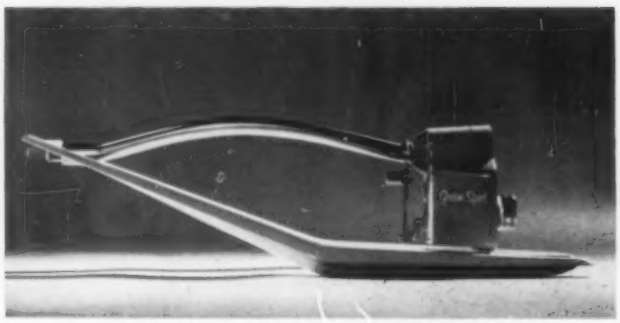
Two-way handle makes one tool do two jobs. Die-cast aluminum frame; molded phenolic handle and knob.



279 Luger soldering gun
Electric Soldering Iron Co.,
Deep River, Conn.
Irving Allen, designer

Transformer (90% of weight) placed in handle gives balance and effect of "tip lightness" for better operating control.

HOUSE AND GARDEN



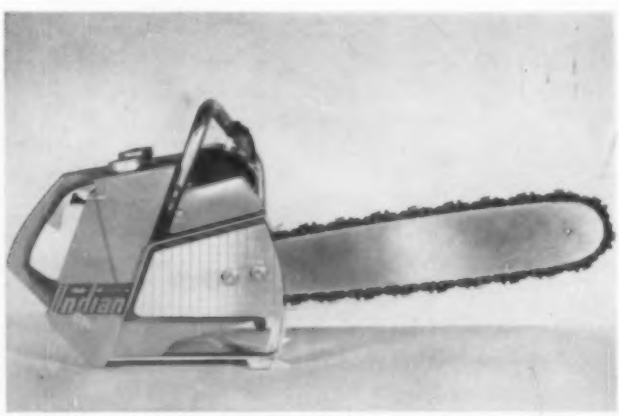
280 Lawn sprinkler
Scovill Manufacturing Co.,
Waterbury, Conn.
Dave Chapman, Inc., consultant designer
Kim Yamasaki, project director

Zinc die cast base, enameled; neck and ring brass stamping; brass spigots; lettering cast in base.

281 Lawnmower (prototype)
Artech Products, Los Angeles
Mitchell Bobrick, consultant designer

Cast aluminum frame, linear rubber V belt with steel cutters, rollers of polyethylene, water-filled for stability.

Whether or not the American consumer had better looking lawns and gardens this year, he certainly had better equipment with which to care for them. The machines shown here demonstrate that designers have been concerned with lightening the household chores of men as well as women. In doing so, they have not been oblivious to appearance. These tools are styled not only to look like what they are, but to appeal to a home-owner's natural pride in his maintenance equipment. The Moto-Mower (288), Ride-A-Mower (287) and Wardmaster (286), for instance, all have a pleasant, finished appearance that suggests that mowing the lawn might actually be fun. As work loads generally become lighter, so do the tools that help do the work. In line with the trend, garden equipment, like the Artech aluminum mower (281), has become lighter too.

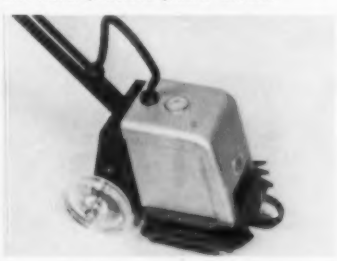


282 Chain saw
Indian Chain Saw, Inc., Chicago
Stowe Myers, consultant designer

Integrated magnesium body casting supports engine, sprocket, chain bar assembly for tubular handle. 5 hp. gasoline engine (West Bend).

283 Edger and trimmer
Mast Development Co., Inc.,
Davenport, Iowa

Aluminum-painted drawn steel housing, stamped steel support assembly, carriage and handle, molded plastic wheels.

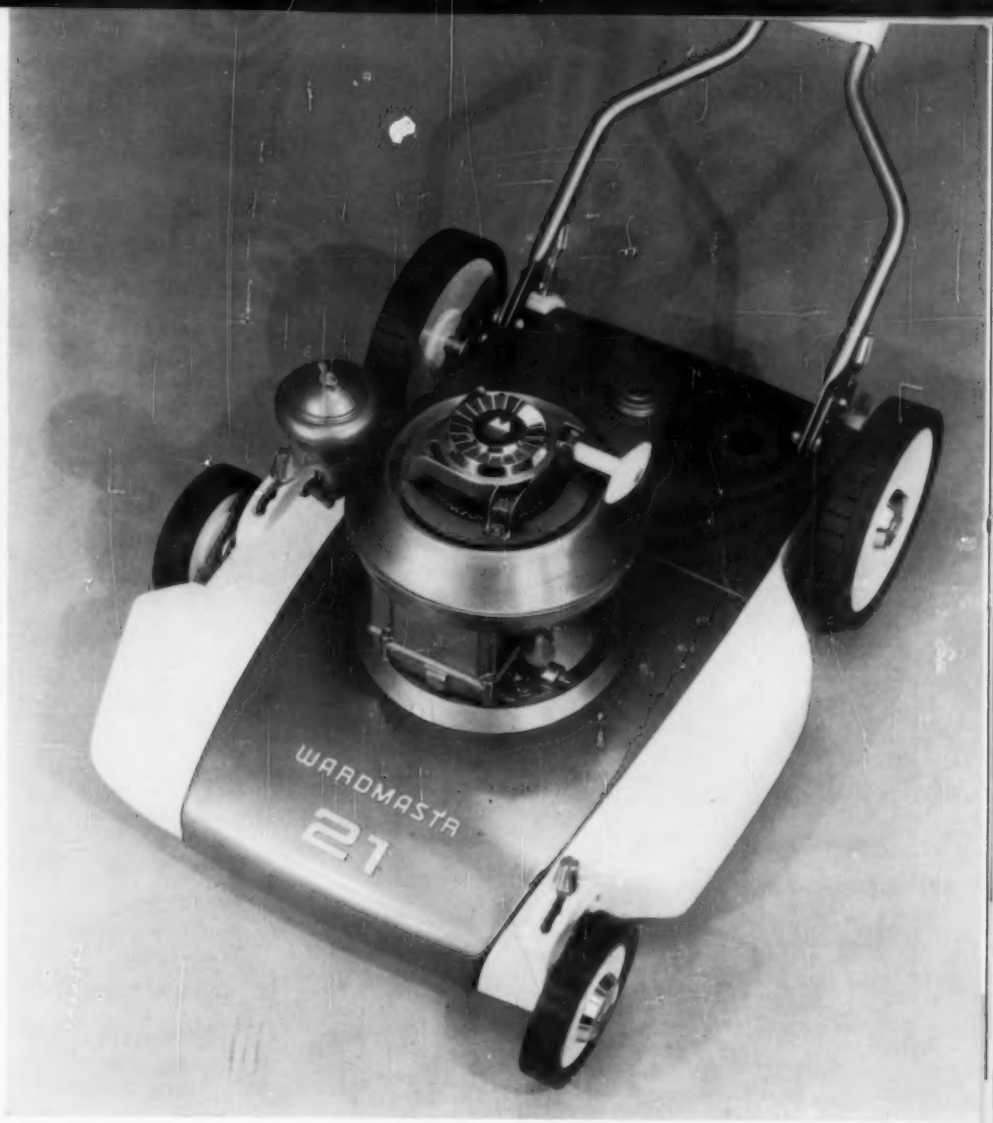


284 Hedge trimmer
Mast Development Co., Inc.,
Davenport, Iowa

Case redesigned, yet the existing unit and portion of housing maintained.

285 Lawn sprinkler
Lafayette Brass Mfg., Inc., New York
Irvin J. Gershen, consultant designer

Die cast aluminum arm, Zamac-5 (New Jersey Plastics) body, stamped sheet steel (Fleck Industries) case, injection molded nylon gears and high-impact Styrene wheels (Pyro Plastics).

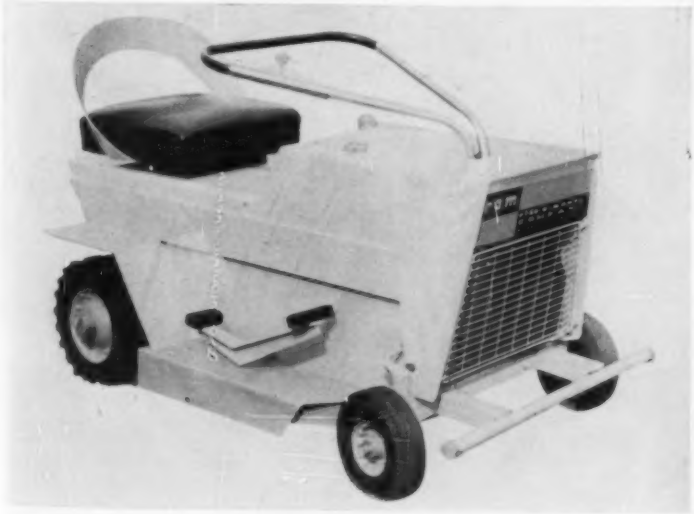


286 Power mower
Hummer Mfg. Co. Div.,
Montgomery Ward & Co., Springfield, Ill.
Dave Chapman Associates, Inc., consultants
Kim Yamasaki, project director

One-piece aluminum die cast shroud incorporates gear box, aluminum wheel castings.

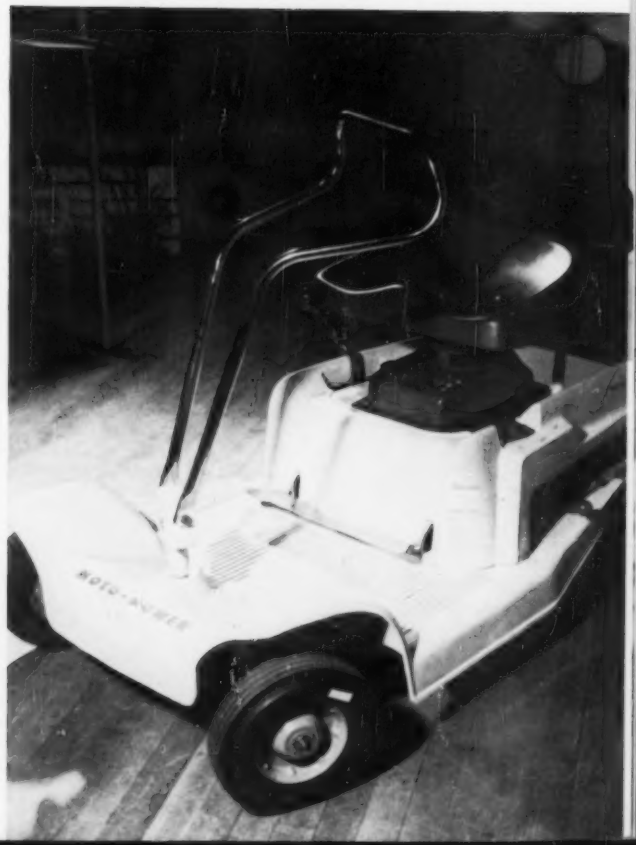
287 Riding mower
Ride-A-Mower Co., St. Louis, Missouri
Earl W. Claus, R. Rodriguez, designers

All parts made by press brake method or rolled shaping; 18-gage carbon steel frame, satin aluminum trim, vinyl upholstery, 4 hp., 4-cycle air-cooled engine.

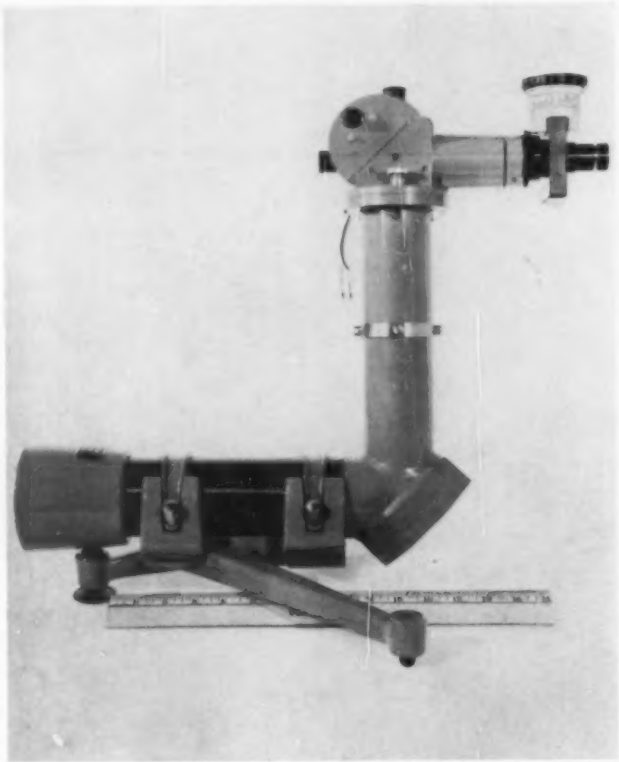


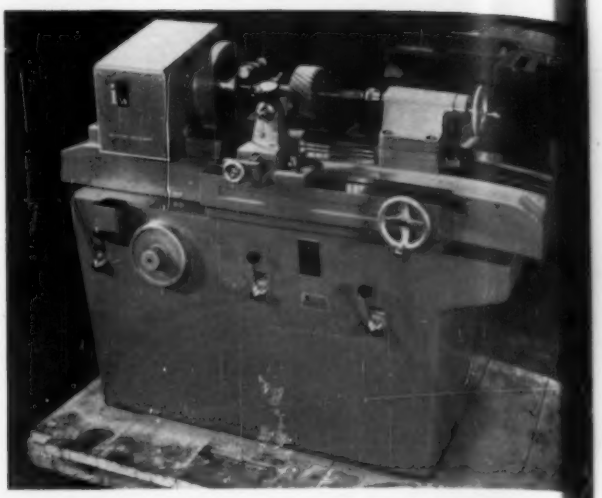
288 Riding rotary lawnmower
Moto-Mower Div., Detroit Harvester Co.
W. B. Ford Design Corp., designer

Aluminum permanent mold casting deck, vacuum formed thermoplastic sheet engine shroud and seat. 3½ hp. Clinton or Lawson engine.



STRICTLY INSTRUMENTAL





289 Helical lead measuring instrument
Illinois Tool Works
Reinecke & Associates, designers; John Mell, supervisor

Head stock casting has removable plate, allowing insertion of recording mechanism into head stock area. All operating mechanisms within peripheral reach of operator.

290 Autocollimator
Mikron Instrument Corp., Pasadena
Paul R. Maguire, designer
Richard C. Redden, optical engineer

Aluminum (Alcoa) and brass eyepiece and telescope reticule rotate 360°.

Men have come to blows over how chairs, lamps, and automobile grilles should look, but the theory of instrument design has less room for controversy. An instrument's quality is clearly "sensitivity." It is only as good as it is sensitive, and only as good looking as it is sensitive looking. The products shown here and overleaf are all made for precise performance, and look it. The autocollimator (290) has the grace requisite to a fine tool, the Spectrophotometer (291) has the appearance of precision, and the medical and dental equipment on page (112) is designed with a reassuring sobriety.

291 Spectrophotometer
Perkin-Elmer Co., Norwalk, Conn.
Eliot Noyes and Associates, designers

Double-beam infrared unit is compact enough to fit lab bench. Serviced by 105-120 volt 60 cycle power source.

292 Atomic projector
M. W. Kellogg Co., New York
Becker and Becker Ass., designers

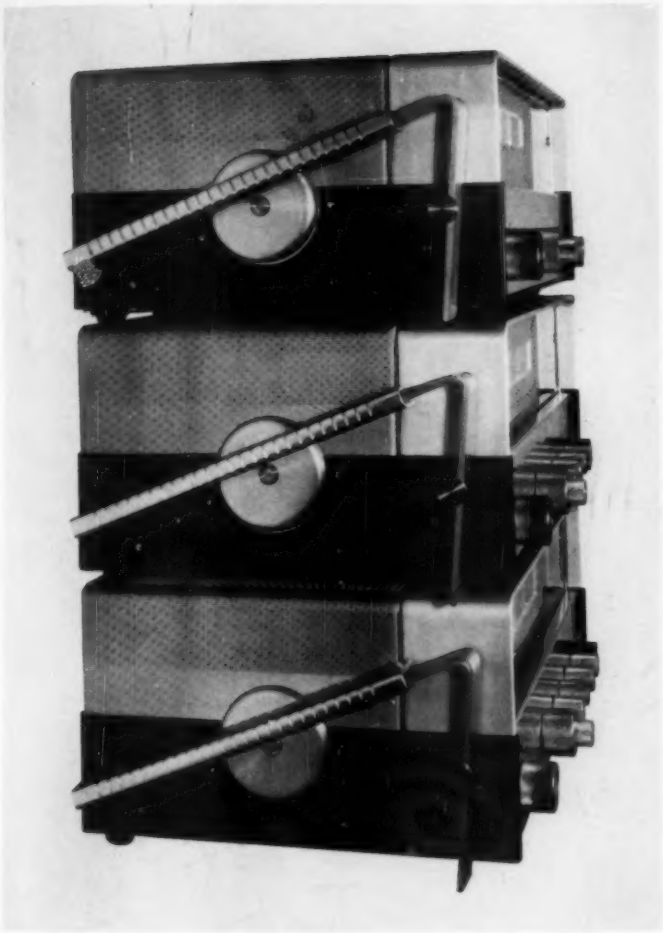
Stainless steel cast housing; gray wrinkle paint finish. Priced $4,600 with 100 Curie Iridium 192 source.

293 Water speed indicator and container
Finson Products Co., Chicago
Dickens Incorporated, designers

Speed indicator redesigned for easier reading, smartness.

294 Primary pressure standard
Consolidated Electrodynamics, Pasadena
Howard B. Lewis Jr., designer

Pressure gage operates with 2 piston-cylinder assemblies and 2 weight sets. Base and case of cast aluminum; pistons and cylinders of 440-C stainless.

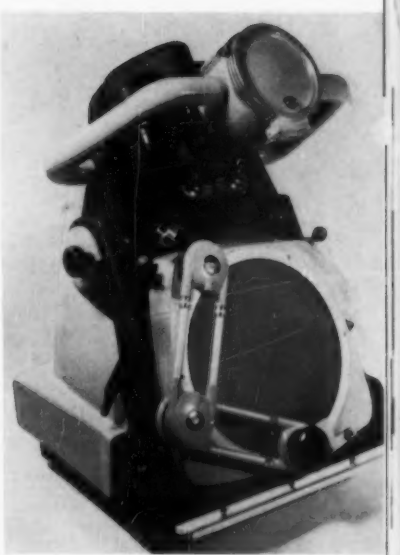


295 SIE M-3 Oscillator
Southwestern
Industrial Electronics
Willis Ahlborn Kropp, designer

Studs at top of panel fit into recessed rubber feet to permit stable stacking. Panel and chassis may be removed as unit and mounted on standard racks.

296 Radar film assessor
Mast Development Co.,
Davenport, Iowa

Mercury arc lamp operating in quartz tube at 400 PSI pressure makes possible bright high-dispersion screen with high color temperature.



297 Data-Gage
Industrial Instrumentation Div.,
Texas Instruments Inc., Houston
Painter Teague & Petertil, designers

New transistorized system measures liquid level in remotely located storage tanks. Operator dials tank number, amount of fuel lights up. Main housing magnesium casting.

298 Telecor cardiac monitor
Burdick Corp., Milton, Wisconsin
Don Doman, designer

Visually and audially indicates cardiac rate and rhythm. Handle, used for hanging or carrying, swings for support in standing position. Entire unit anodized aluminum (Alcoa).

299 Dental X-ray unit
Ritter Co., Inc., Rochester
Walter Dorwin Teague Associates, designers

Single chrome column with covered control panel; cover slides up if special adjustments are necessary; head swivels on universal joint.

300 X-ray tilt table
Mattern Co.
Palma-Knapp, designers

Body of sheet steel; table top 3/8" phenolic sheet laminated to sheet metal frame; tower and spot radiographic device move both horizontally and vertically.

301 X-ray control
Mattern Co.
Palma-Knapp, designers

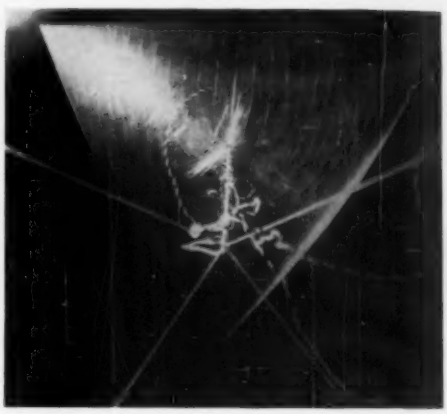
Stainless steel panel with etched lettering; molded plastic control knobs and buttons; sheet steel cabinet and door, brass handles.

Arthur D. Little

A new attitude toward **TECHNOLOGY**

was forced upon Americans late this year by the object above, shown streaking ominously across the sky. And the attitude is, without question, more significant than the events that led up to it. If this nation's pride was injured by Russia's spectacular Sputnik, it was a small price to pay for a quick awakening to scientific education, development, and the importance of basic research—an awakening that will undoubtedly have a vast effect on industrial — and military — technology in the next decade. While satellites monopolized international headlines, other important technological events were happening. Some of them are presented on the next ten pages

. . . a new awareness that promises to promote scientific advancement



The "extra" edition of the New York Daily News, with its somewhat skeptical headline, carried an October 25 dateline. That same night, the skepticism turned to awe (and finally to realization) when a constant "beep-beep-beep" was picked up by radio receivers all over the world, giving firm evidence that the first artificial satellite had been launched and was in an orbit. Newspapers and magazines suddenly began to read like science fiction and reporters were hard put to explain, in lay language, Einstein's theory of relativity, limits of perigee and apogee, ionosphere, and extra-terrestial ring currents. Overnight, scientists became popular guests on radio and television programs, and talked about the possibilities of life on Mars and Venus; Jules Verne had his greatest revival on record; and Lloyds of London sold a policy covering damage from falling satellites.

This year, people other than scientists began to realize that the discovery of a new concept is only the beginning of a project, whether it is a new type of rocket or a new family of plastics. The proof of their potential comes much later, after exhaustive tests under realistic conditions. During the 1957-58 International Geophysical Year, for example, thousands of tests and investigations will make up the greatest research program ever undertaken. The ultimate results of the program will not be completely compiled or fully understood for years, even decades. And though the satellites have eclipsed the spotlight, smaller headlines have regularly told of successful IGY tests that have been performed on the surface of the earth, beneath its crust, in its oceans, its atmosphere, and in space. Although many investigations can be performed by people on-the-spot (like oceanographers who don skin diving outfits and actually go into the sea to find out how tides and currents affect the weather) many tests must depend on remote control for results. The balloon shown above was photographed at 125,000 feet by an automatic camera hanging below it. Known as a "tetroon" because of its tetrahedral shape, it carries instruments to high altitudes for studies in the field of atmosphere physics. Just as it is not always possible to put scientists "on location," it is frequently impossible to simulate actual conditions in a laboratory. It is only when a nuclear reactor is operated under full load or when new plastics are made into products under production conditions, that many problems become clear. The technological developments on the following pages represent projects at various stages of advancement: some are so new that very little is known about them, except that they show great promise for the future; others, out of the laboratory, are in the process of being put to practical use; and still others have been proved, but are finding new and better applications as materials and principles.

POWER AND THE ATOM

On April 29, 1957, Admiral Lewis Strauss, Chairman of the Atomic Energy Commission, pushed a lever and released the first electrical power generated by an Army Package Power Reactor (The APPR-1, whose core is shown below) at Fort Belvoir, Virginia. This began the first full-load test period of the first reactor to be constructed under a fixed-price, guaranteed-performance contract. Not only was this moment vital in proving the performance of the reactor, but it also represented the beginning of a new stage in its development. Alco Products, Inc., the builder, had gone as far as it could in testing the reactor without actually putting it in operation. They had tried to anticipate every possibility and simulate every circumstance, but they knew that final tests must be a prolonged period of criticality under full load.

At the end of the test period, Capt. James F. Smith (left), Deputy Director, Reactor Engineering and Technical Services Division, Atomic Energy Commission, Schenectady Operations Office, made an interesting statement in his progress report in October. He said, "As is the case with any experimental or brand new piece of equipment, regardless of its complexity, there have been many growing pains with this reactor. It can be stated that by far the bulk of the problems have been with conventional equipment; equipment that is built and sold off the shelf every day."

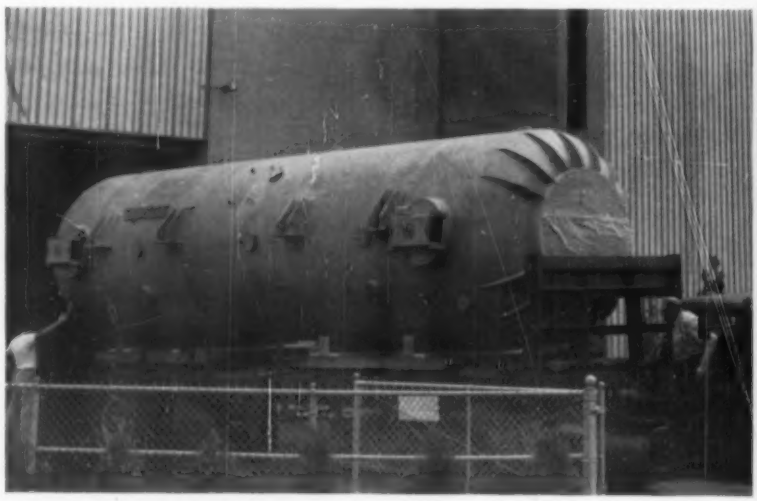
One of Alco's problems was that stainless steel, which they used for the reactor's fuel elements, causes radioactive corrosion products to build up in the primary system, creating a maintenance problem. Stainless was chosen because it offers the best combination of characteristics for this application, but obviously it is not perfect. The ideal solution would be a better material, but since none is available, Alco feels that the answer will lie in the development of decontamination agents. This case is further evidence that, when new principles and concepts are involved, available materials, no matter how nearly ideal they have been in the past, frequently must be replaced. It is because of these problems and the discovery of their solutions— that developmental progress is stimulated.

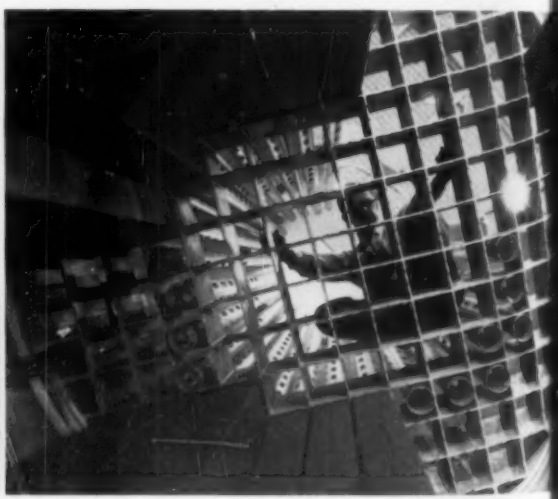
RESEARCH AND RESULTS

Ion accelerator *for the production of high-energy, high-intensity beams of heavy ions for experiments in nuclear physics, nuclear chemistry and biology. The man standing at the far end of the accelerator indicates the size of this facility, which is installed in the radiation laboratory at the University of California. A similar accelerator is under construction at Yale University.*

Nuclear research facilities like the two new multi-million dollar accelerators on this page, make a striking contrast in size with some of the products shown opposite which were designed to generate or control power. This heavy investment in atomic research, and in such installations as the Shippingport, Pa., reactor are indications of our increasing concentration on peaceful uses of nuclear energy. Similarly, other power components, developed originally for military purposes, are finding industrial and commercial applications, with power supplies much less a packaging problem.

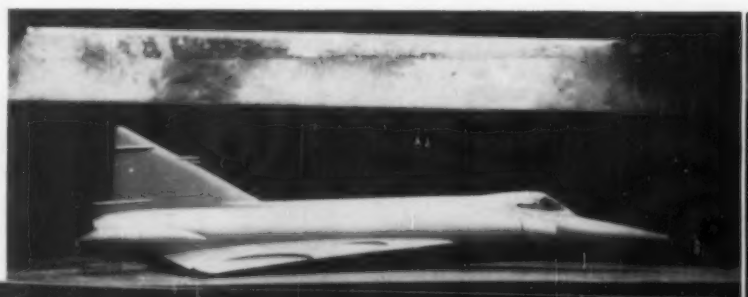
Atomic power station core, *shown from below, forms a unique pattern. Picture is of a full-scale mock-up of the first full-scale nuclear plant in the U.S. which will be erected at Shippingport, Pa. Westinghouse is building the nuclear reactor and the Duquesne Light Company will make the electric generating portion.*



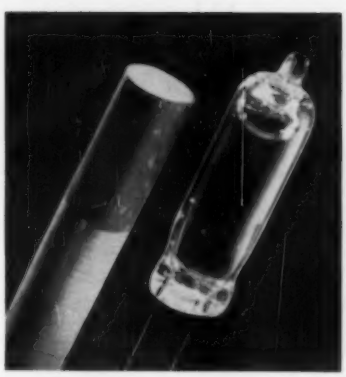


Huge pressure tank *for one of the first 10-million volt Van de Graff tandem accelerators. Developed by High Voltage Engineering Corp. for Florida State University's radiation center. It makes possible the study of the proton energy range from 5 to 10 million volts.*

Thermal barrier conditions *are simulated with a new Westinghouse elevated temperature test facility. Banks of tubular infrared lamps, with complex control and recording systems, can create 2500 degree temperature in 12 seconds to expose structural parts and whole airplanes and missiles to conditions found when they fly through the atmosphere at 5000 mph. The pictures below of a model succumbing to heat were taken in 6 seconds.*

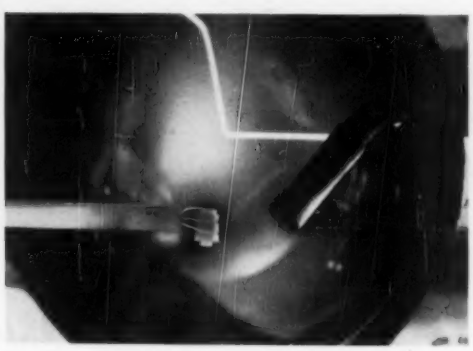


Midget battery, *invented at the Naval Ordnance Laboratory, is shown next to conventional dry cell, which the little battery equals in electrical capacity gram for gram of weight. The main difference is that the midget has a 10-15 year life expectancy and can be recharged. It produces 9/10 volt at 1½ amperes.*

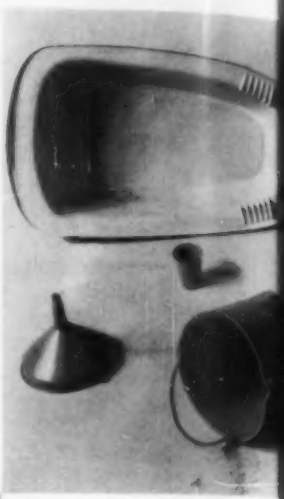


Tiny timing tube *that shows how long an electronic device has been operating. Developed by Raytheon Manufacturing Co., the timer weighs less than 1/6 ounce and contains a colored electrolyte that changes color according to the length of time current is passed through the tube. It can be used to predict the life span or to indicate optimum time for changing components.*

High temperature tube *that operates at 1500 degrees without failing is an important contribution by General Electric for use in electronic circuits in missiles. The tube is made of titanium and special ceramics.*



MAJOR STEPS IN MATERIALS

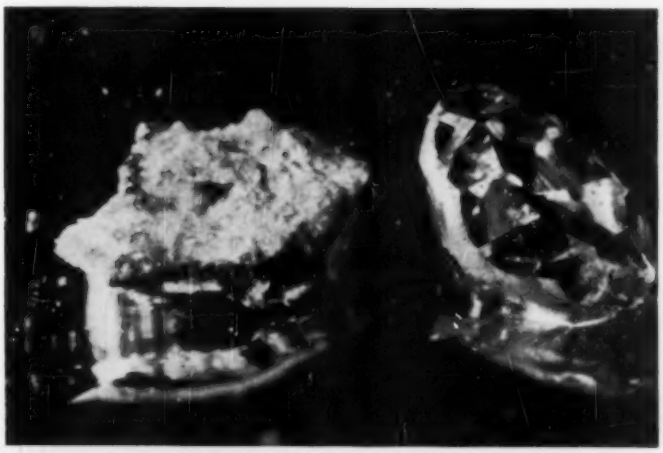


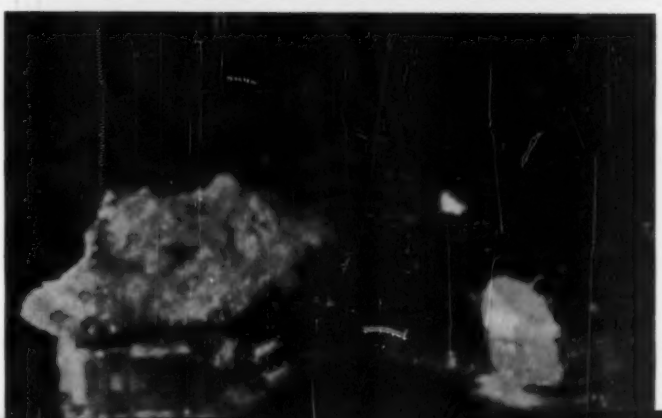
Polypropylene molecules, *when stereospecific catalysts are used, join each other in an "isotactic" or spatially ordered manner (below). The result: a plastic with greater strength and heat resistance than polyethylene. Since the molecular weight and degree of crystallinity of the polymer can be varied over a wide range because of the orderliness of its molecules, the new plastics are very versatile. They can be adjusted to meet physical characteristics demanded by applications and processes.*

It would be difficult, if not impossible, to say what development in materials during 1957 will prove the most significant in the long run. On these two pages, three of the year's important discoveries are shown: *polypropylenes,* a new family of highly versatile plastics; *Pyroceram,* Corning's new glass with characteristics never before seen in this material; and *Borazon,* a General Electric development that has literally outstripped nature in the production of a synthetic substance harder than the proverbial diamond. Perhaps the broadest discovery is credited to Professor Giulio Natta (above) of the Polytechnic Institute at Milan. His work, which might be termed "molecular architecture," has resulted in a new era in structural chemistry. When asked by ID for a statement, he made a comment applicable to all basic research: "As a result of these efforts [research in the field of stereospecific catalysis] we not only have obtained a better understanding of the theoretical phenomena involved, but we have produced practical applications in the fields of plastics, of textile fibers, and of elastomers."

Polypropylenes, to which Professor Natta referred, are being produced under the trade name *Moplen* by Montecatini in Italy and are sold in this country through Chemore Corp. Hercules Powder Co. has also announced development of their own polypropylene, and will begin production next year. Added to other recent significant advancements in chemistry (such as the mass-production of low pressure or linear polyethylene and the introdutcion by DuPont of Delrin acetal resin, their new strong thermoplastic) these new products indicate that plastics are entering a brand new phase of application in areas not even considered a year ago.

Pyroceram, *introduced this year by Corning, is a revolutionary crystalline material harder than high carbon steel, lighter than aluminum, and nine times as strong as plate glass. Corning is currently test-melting one type of Pyroceram in one of its large tanks and feeding it to a variety of conventional glass-forming machinery for evaluation of physical, chemical and electrical properties, formability, and cost. The missile radomes on the right show Pyroceram before and after the special heat treatment that induces crystal growth and turns it from transparent to opaque. Dr. S. Donald Stookey, the inventor, is shown above with samples of a few of the more than 1,000 experimental types of Pyroceram that have been made.*





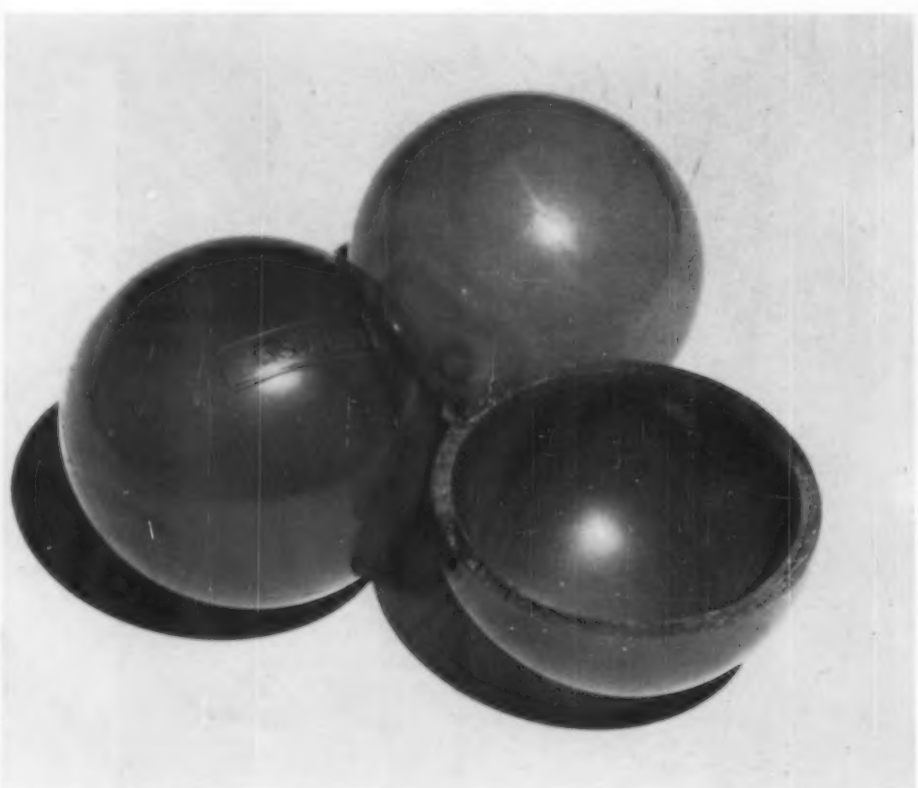
Borazon, *General Electric's new material that is harder than a diamond, is a compound of boron and nitrogen made into crystals by pressures of over 1,000,000 pounds at temperatures exceeding 3,000 degrees. The resulting crystals can withstand temperatures of more than 3,500 degrees. (On the right, Borazon and a natural diamond are tested at 1,600 degrees. The diamond melts while Borazon is unaffected.) This great heat resistance promises to make Borazon better than natural diamonds for industrial applications by allowing industrial bits and wheels to be operated at higher speeds.*

In plastics, there are new materials . . .

Synthetic fiber paper, *within a year, using nylon, polyester, and acrylic fibers, is predicted by Du Pont. Recent research in their laboratories has resulted in new techniques for cutting these fibers into short lengths, previously impossible without fiber fusion. These new papers, available today in semi-commercial quantities, have high resistance to chemicals, bacteria, heat and moisture. Although they will not compete with existing papers, they will satisfy a growing demand for specialty papers and will conceivably replace non-woven fabrics for some purposes.*

The discovery of new areas of application for any material, regardless of how long it has been available, can result from minor formula changes; from a new fabricating process that makes a previously forbidden material economically feasible; from combining two or more familiar materials in a new manner; or simply because someone has used his imagination or had the daring to try something different. These pages include examples of all these possibilities emphasizing the fact that even with the constant introduction of new materials, older ones rarely become obsolete.

Super adhesive *which, for the first time, successfully joins brass, polyethylene and rubber, was developed this year by Bell Laboratories. The photograph shows a "sandwich" of polyethylene bonded to rubber which is joined to brass, undergoing a bond strength test. The adhesive, based on a synthetic material known as "partly hydrogenated polybutadiene," resists a pull of about* 1,000 *pounds a square inch.*



New polyethylene resin *that resembles wax with a high melting point, has foreseeable uses as a melt casting for cast or slush-molded products, as a hot dip for protective coatings on products, or as a hot melt to be applied to all types of paper. Introduced by Eastman Chemical Products, Inc., Epolene C, as it is known, adds another dimension to the fantastically versatile polyethylene.*

Non-lubricated bearing, *for automotive suspension and developed by American Metal Products Co., Detroit, has a fabric lining of Du Pont Teflon. The tetrafluoroethylene fiber, which has the reputation of being one of the most slippery materials in the world, eliminates the need for lubrication by providing a very low coefficient of friction, even under heavy loads and high temperatures.*

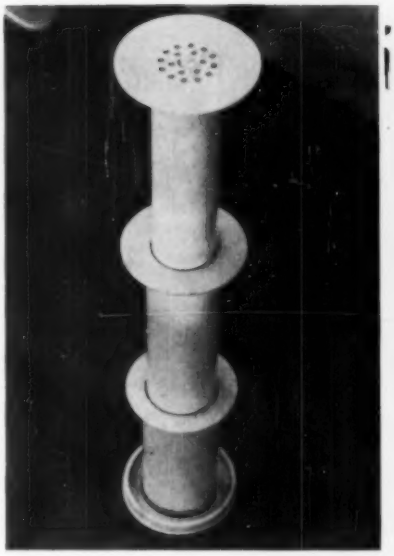
. . . and new uses for known materials

Literally thousands of new applications have been found during the past twelve months for materials of every nature. Plastics, as usual, have seen a remarkable expansion into every conceivable field, not as substitutes, but as better materials for the job at hand. In the past, whenever a plastic superseded another material for a certain application, the event frequently was regarded with skepticism. Today, the question "can't we make it of plastic?" is commonplace, with plastics no longer a last resort but a first choice.

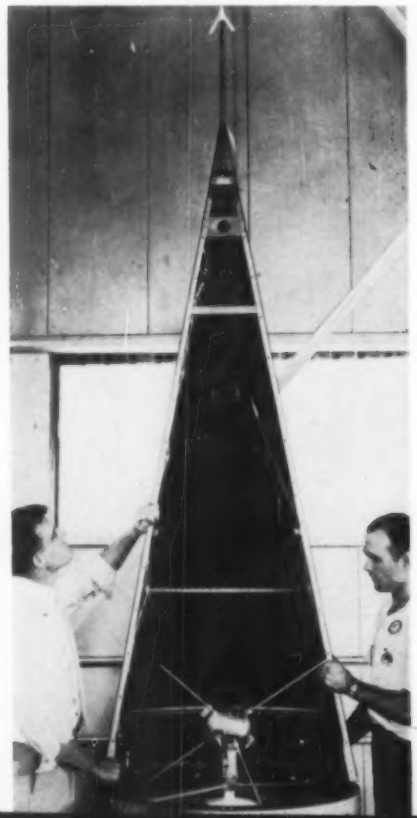
Neoprene coated nylon *grain-storage tents are waterproof and can withstand snow, ice, and high winds. A new application, the tents have a capacity of* 30,000 *bushels and are used when country elevators are full and boxcars in short supply.*

Expanded polystyrene, *sandwiched between the hard fiber glass outer shell and the soft inside padding of aviators' helmets, gives greater protection through its great energy-absorbing characteristics. Under impact, the polystyrene is crushed and absorbs or nullifies the shock. The helmet also has an acrylic visor that is positioned by moving a simple release button.*

Implex, *a modified acrylic molding powder made by Rohm and Haas Company, has the general stability characteristics of acrylics with greater toughness and impact strength. Its low water absorption gives the new material excellent stain resistance, making it suitable for such products as shoe heels, piano keys, business machine keys, valve parts. The Implex standpipe (right), made by Sewer-A-Matic Co., telescopes as water pressure increases, keeping cellars dry when rainwater backs up in sewerage systems.*



Phenolic-reinforced asbestos *made up the nose cone of the ill-fated Vanguard satellite rocket. The material, known as Pyrotex felt, Style 41-RPD, and made by Raybestos-Manhattan, Inc., was chosen for its light weight, strength, and high temperature resistance. The cone was tipped with a point of solid titanium.*

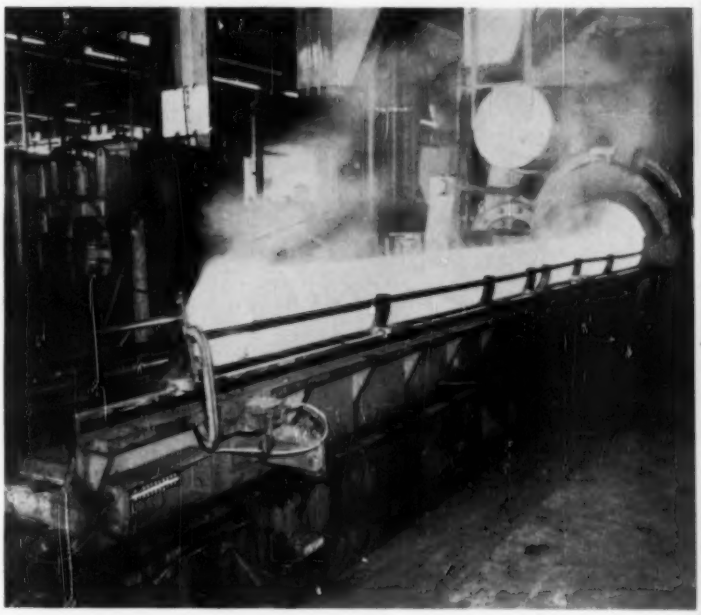


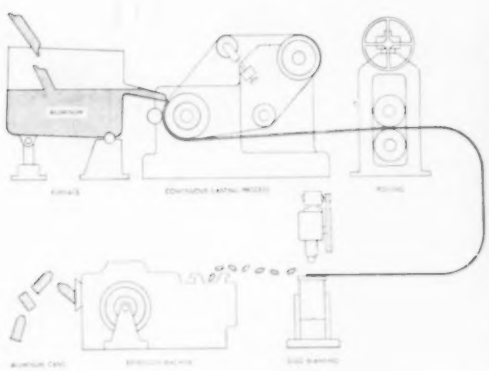
Zytel nylon resin *is now being used for aerosol bottles in a variety of shapes and colors. Du Pont's Zytel 42 is especially suited to blow-molding techniques that produce one-piece bottles that are strong, safe and chemically inert, an essential consideration where aerosol propellants are involved.*

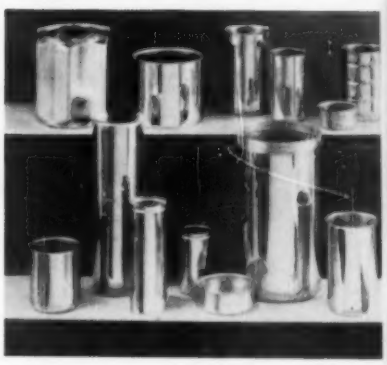
PROMISING PROCESSES

Among the news items in fabrication methods and processes during the past year, the three shown here are keys to shaping metals. One word that has been heard constantly is "extrusion." Although the process is not new, many factors that have restricted it in the past have been overcome, and refinements have given it greater versatility. Size, one of the greatest problems in extruding metal shapes, particularly with hard metals, has been increased almost four-fold by a new extrusion facility for stainless steel at Curtiss-Wright Can companies and aluminum manufacturers predict that aluminum cans will soon be on the market; and one of their advantages is that they can be extruded. Intercast Process, a new method for making movable zinc parts in one casting, is a process that intrigues even non-technical minds.

Extruding *a 46-foot length of stainless steel wall tubing on the 12,000-ton press at Curtiss-Wright. This new press is capable of producing extrusions with outside diameters up to 20 inches, a radical size increase that opens up broad new areas for stainless extrusions (ID, May '57).*

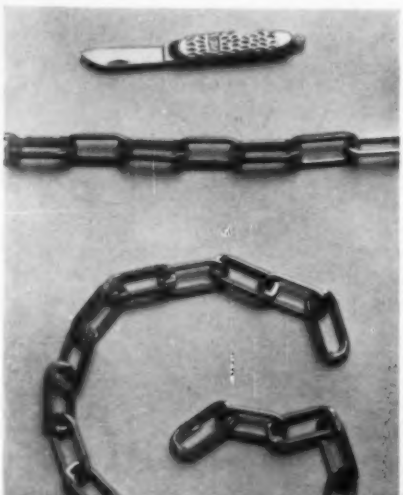






Extruding *aluminum cans (left) by a new automatic method developed by Aluminium Limited of Canada, produces cans in a range of sizes from two to three inches in diameter and two to six inches in height. The cans on the right were produced by a new method of drawing introduced by Kaiser Aluminum and Chemical Corp. The first aluminum food cans manufactured commercially on a large scale in the U. S. were grated cheese cans produced by Kaiser for Kraft Foods (ID, May 1957).*

Intercast Process, *a development of Gries Reproducer Corporation, New York, produced in a single casting, the products below, which have movable parts. Still limited to small objects, the new process, since it eliminates assembly operations, would appear to hold great promise for the future in a variety of applications. (ID, March '57)*



Manufacturers' Literature

Adhesives. H. B. Fuller Co., 255 Eagle St., St. Paul, Minnesota. 4 pp. The brochure describes the general properties of Resiweld Adhesives and Plastic Alloys. There is included a detailed chart to assist in the selection of the proper adhesive for bonding similar or unlike surfaces.

Aluminum Design. Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Ave., Chicago 11, Illinois. 48 pp., ill. Entitled "Designing With Aluminum," this booklet covers 24 phases of aluminum designing techniques and aids to design engineers. This is another installment in the Product Design Series by Kaiser Aluminum.

Chart Materials. Chart-Pak, Inc., Leeds, Massachusetts. 24 pp., ill. A complete catalog by the makers of pressure-sensitive printed tapes, templates, workboards and other chart materials.

Coating. Mono-Seal Products, 44 Garden St., Everett 49, Massachusetts. 12 pp., ill. Mono-Seal, a silicone-epoxy (plus other resins) protective coating, is described in detail.

Coatings. The Protective Coatings Division of Metalweld, Inc., Philadelphia, Pa. This data sheet lists the physical and chemical resistances of Neoprene sheet.

Fasteners. Judson L. Thomson Manufacturing Co., Waltham 54, Massachusetts. 42 pp., ill. This booklet contains complete design and purchasing information on rivets and riveting machines.

Fasteners. Quality Fasteners, Inc., Kalamazoo, Michigan. The brochure describes the company's facilities for the production of cold-headed metal specialties and threaded fasteners.

Investment Castings. Alloy Precision Castings Co., 3855 West 150th St., Cleveland 14, Ohio. A two-color chart tabulates the physical properties and composition of alloys commonly used for investment castings. It covers both ferrous base and non-ferrous alloys.

Investment Castings. Midwest Precision Castings Co., 10703 Quincy Ave., Cleveland 6, Ohio. This pocket size illustrated book is planned as a guide to design engineers who wish a file of both the benefits and the limitations of the "lost wax" investment casting process.

Production and Maintenance Chemicals. Permatex Company, Inc., 300 Broadway, Huntington Station, N. Y. Illustrated catalog describes production and maintenance chemicals for industrial, marine and aviation use. There are sections on special purpose sealing compounds, cements, oils, hydraulic fluids and cleaners.

Rubber Company's Facilities. Stillman Rubber Co., 5811 Marilyn Avenue, Culver City, Cal. 24 pp., ill. A three-piece literature kit describes the products and facilities of Stillman Rubber Co., including Stillman's line of custom molded parts.

Rubber Parts. The Williams-Bowman Rubber Co., 1945 S. 54th Ave., Cicero 50, Illinois. 12 pp., ill. The catalog describes the company's facilities for manufacturing custom order rubber parts. In addition to various rubber parts, they can make rubber bonded-to-metal parts.

Rust Prevention. L. Sonneborn Sons, Inc., Building Products Div., 404 Fourth Ave., New York 16, N. Y. 4 pp. The brochure describes the company's rust prevention system which has application to a variety of metal products.

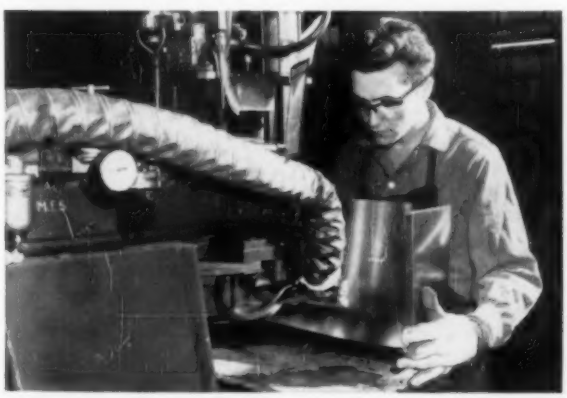
Self-Adhesives. Fasson Products, Painesville, Ohio. 4 pp., ill. The many types of adhesives—colorful papers, metallic foils, plastic films—are discussed in this brochure.

Production Takes A Short-Cut

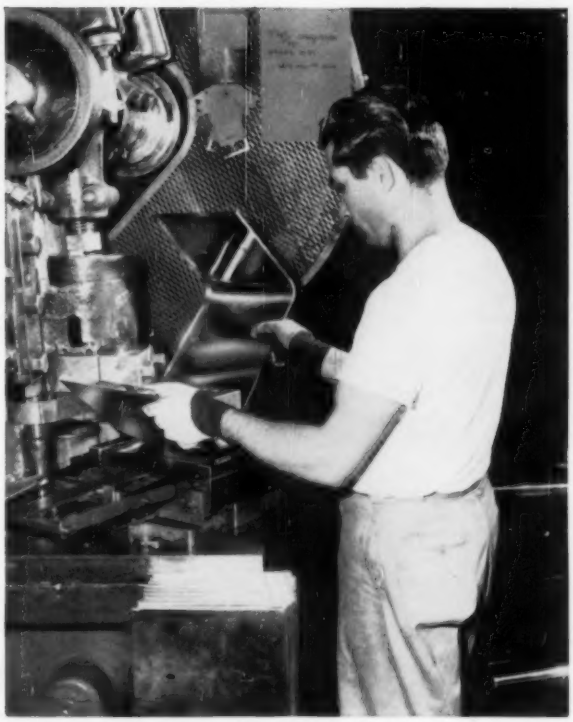
With Pre-Plated NICKELOID METALS

Sheet of Nickeloid chrome-steel that will be used for breadbox is blanked, with punch-out perforations for ventilation and indented shelf supports. Uniform pre-plated finish reduces rejects.

Edges of Nickeloid chrome-steel sheet are turned up 1/2" in forming press. Nickeloid is easily worked with standard methods.



Breadbox body frame is spot welded to the preformed bottom and back pieces, with no visible oxidation. Parts then move to assembly.



Two bends are made on press to give the breadbox its rectangular shape. Operation causes no marring of surface or dulling of finish.

No Cleaning or Post-Plating — Easily Worked With Standard Production Methods

No cleaning solutions, plating tanks or polishing wheels on the production line at Lincoln Metal Products Co., Brooklyn, N.Y., manufacturer of fine pantryware. Lincoln eliminates these costly intermediate steps by using Nickeloid pre-plated chrome-steel and copper-steel. These versatile design materials speed trouble-free production, reduce rejects, prolong tool life. They are readily worked with standard production methods, as shown here. Parts move from fabrication — to assembly — to packing, with no dulling or marring of the pre-plated finish, since Mar-Not protective covering is used. No cleaning, plating, polishing is needed. Nickeloid Metals are available in pre-plated finishes of chrome, nickel, copper or brass on steel, zinc, copper, brass and aluminum. Sheets, strips, coils — a wide range of finishes and patterns.

Write For Free Literature

NICKELOID METALS SINCE 1898 NM

AMERICAN NICKELOID COMPANY

Peru 7, Illinois

Manufacturers' Literature, cont.

Self-locking Nuts. Standard Pressed Steel Co., Box 883, Jenkintown, Pennsylvania. 4 pp., ill. Miniature precision locknuts in steel, stainless steel, brass, and aluminum are described. The one-piece nuts are both lock and stop nuts.

Services of Coating Division. Protective Coatings Division of Metalweld, Inc., Philadelphia, Pa. Two bulletins describe the division's services: the first deals with metallizing, the process of spraying molten metals onto a base surface; the second concerns welding repairs of structural and processing equipment as well as fabrication of the equipment.

Shades. Ameray Corp., 400 Route 46, Kenvil, New Jersey. The new brochure describes the Ameray aluminum window shades which have a special light-proofing design.

Silver Plating. Sel-Rex Corporation, Nutley, New Jersey. 8 pp. This technical paper describes the new Silvrex Bright Silver Plating Process.

Silicone Products. Dow Corning Corp., Midland, Michigan. 16 pp., ill. This is said to be the most complete catalog of silicone products ever published. Design information is included.

Socket Screws, Plugs and Pins. Standard Pressed Steel Co., Jenkintown, Pa. 32 pp., ill. Manual reviews the company's line of standard socket screw products, pressure plugs and dowel pins and gives specifications.

Stainless Steels. Sharon Steel Corp., Sharon, Pa. 32 pp., ill. This catalog is a technical digest of the most popular stainless steels. Typical applications as well as physical properties are included.

Stainless Steel Hinges. Star Stainless Screw Company, 655 Union Boulevard, Paterson 2, N. J. 1 p., ill. Bulletin lists sizes and types of hinges in stock and points up proper specifications for hinge practices.

Stainless Steel Strip. American Silver Company, 36-07 Prince St., Flushing 54, New York. This new data sheet is devoted exclusively to ultra-thin and high-precision tolerance stainless steel strip.

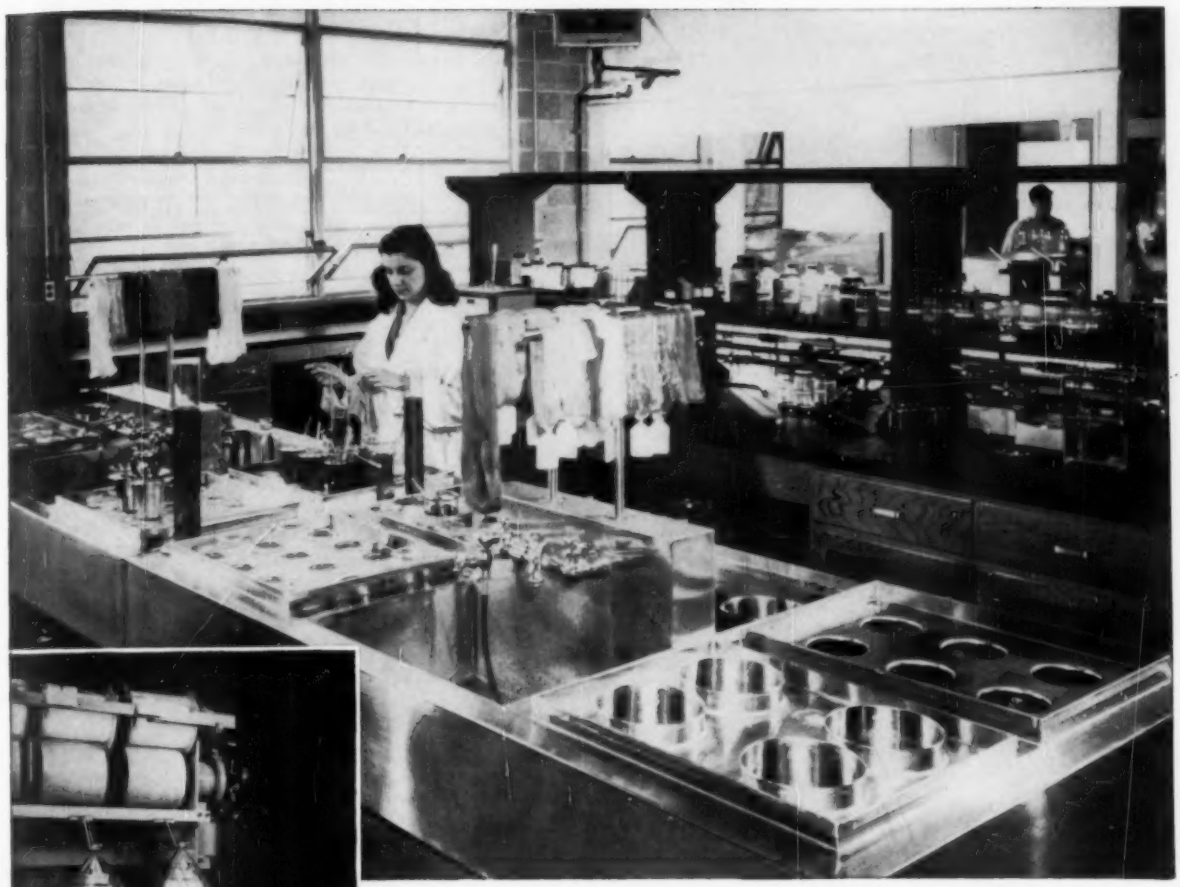
Stud Welding. Nelson Stud Welding Division, Gregory industries, Inc., Lorain, Ohio. 24 pp., ill. Design Manual contains complete list of stud welding applications and describes physical properties of stud types.

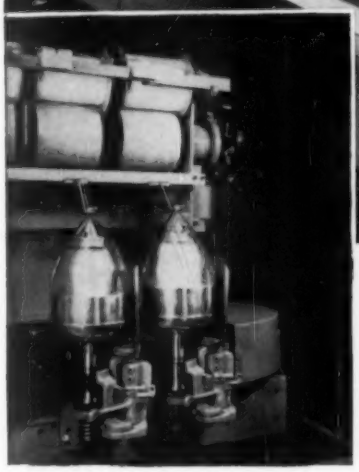
T-1 Steel. United States Steel Corp., 525 William Penn Place, Pittsburgh 30, Pa. 66 pp., ill. Book contains engineering data, metallurgical characteristics, applications and fabrication methods for this high strength, low carbon steel.

Time Saving Tips for the Draftsman. Frederick Post Company, Reader Service Division, 3650 N. Avondale Avenue, Chicago 18, Illinois. 34 pp., ill. Booklet, compiled from leading engineers and draftsmen, shows 59 shortcuts to speed drafting and computation work.

Wheels. R & K Industrial Products Co., 1945 North 7th Street, Richmond, Cal. 8 pp., ill. Catalog describes complete line of R & K wheels with full specifications on each.

X-Ray Inspection of Electron Tubes. Philips Electronics, Inc., Instruments Div., 750 South Fulton Avenue, Mount Vernon, N. Y. 2 pp., ill. Bulletin gives details on methods used for automatic x-ray inspection of subminiature electron tubes. Describes mass quantity inspection of components for missiles and aircraft systems





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. . . that's a place for A-L Stainless Steel

Write for your copy of "STAINLESS STEEL IN PRODUCT DESIGN"

40 pages of useful engineering and fabricating data, including practical examples showing where, when and how stainless steel improves design, adds benefits, helps sales.

ADDRESS DEPT. IL-96

In a textile plant, like the applications pictured above, Allegheny Ludlum Stainless Steel protects against off-colors in the dyeing and finishing department because it cleans up easily and quickly from batch to batch, leaving no traces of the previous dyes. In yarn twisters and other equipment in the weaving department, A-L Stainless provides the hard, smooth surface and high abrasion-resistance that protects against snagging and binding.

Food, beverage, dairy, drug and chemical plants use A-L Stainless Steel to protect the purity of their products; hospitals, hotels and restaurants use it to protect appearance and sanitary standards; cars, trains and planes use it to protect strength and safety. And they all gain a host of bonus benefits from stainless steel, too: such as far less cleaning and maintenance expense, far longer life in service, and far greater economy in the long run.

No other metal can match stainless steel in these qualities. In addition, A-L Stainless is easy to fabricate and we produce it in every form or shape that you may require.

● Let us help you to profit by it. *Allegheny Ludlum Steel Corporation, Oliver Bldg., Pittsburgh 22, Pa.*

For Stainless Steel in ALL Forms—call

Allegheny Ludlum

Warehouse stocks carried by all Ryerson Steel plants

AL® STAINLESS STEEL

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INDUSTRIAL DESIGN, published Monthly at New York, N. Y., for October 1, 1957.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher, Charles E. Whitney, 18 East 50th Street, New York 22, N. Y.; Editor, Jane Fiske Mc Cullough, 18 East 50th Street, New York 22, N. Y.; Managing Editor, Douglas G. Meldrum, 18 East 50th Street, New York 22, N. Y.; Business Manager, Alec E. Oakes, 18 East 50th Street, New York 22, N. Y.

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CHARLES E. WHITNEY,
Publisher.

Sworn to and subscribed before me this 23rd day of September, 1957.

ANNE HARMSE
(My commission expires March 30, 1959.)

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Positions Wanted

NOTICE TO MANUFACTURERS OR DESIGN OFFICE, *available January—Industrial Design Director (33) wide experience. Highly creative, plus strong production and material background. Possess seasoned administrative and executive abilities. One man task force that can run and coordinate all phases of styling dept. Salary requirements five figures. Box ID-155,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

PRODUCT AND DECORATIVE DESIGNER—*Widely experienced in ceramic forms and processes. Decorative techniques include silk screen, rubber stamp, decal, paper transfer and hand painting. Qualified for administrative and supervisory activities. Manufacturer of design firm. Box ID-159,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

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

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

DRAFTSMAN *junior, nationally-known lighting fixture manufacturer seeks engineering or product design student for permanent position with opportunity for advancement. Excellent benefits program. Send complete resume and state starting salary desired. Box ID-156,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

Miscellaneous

INDUSTRIAL DESIGNERS *with flare for fresh, unique and exotic New Orleans Americana . . . For modern merchandising with New Orleans flavor, for your product. Write R. V. Fuchs Associates, 528 Canal Street, New Orleans, La.*

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PRODUCT DESIGN *available to Manufacturers by competent New York designer, well-grounded in product development and production; prepared to give a complete creative service in the range of your requirements from design sketches to blueprints. Box ID-158,* INDUSTRIAL DESIGN, *18 East 50th Street, New York 22.*

Index to Advertisers

For Your Calendar

November 27-January 5. "American Design Preview: Brussels World's Fair" will be shown at the Boston Institute of Contemporary Art.

December 19-January 3. An exhibition of graphic design by Saul Bass is scheduled at the American Institute of Graphic Arts, New York.

January 5-February 20. "Recent Work by Henry Bertoia" is the title of a Smithsonian Institution Traveling Exhibition at the Walker Art Center, Minneapolis.

January 6-8. The American Management Association is sponsoring a special packaging conference at the Hotel Commodore, New York. Theme is plastic sheet forming for packaging and industrial applications.

January 6-17. International Home Furnishings Mart will be held in the Merchandise Mart and the American Furniture Mart, Chicago.

January 13-15. The theme of an American Management Conference to be held at the Roosevelt Hotel, New York, is how to plan products that sell. "Pioneering Products," a product planning film, will be shown.

January 14-19. Tokyo International Book Exhibition is scheduled for the Mitsukoshi Exhibition Hall in Tokyo. The A. P. Wales organization of London in association with Japan Publications Trading Co. is organizing it.

January 19-February 9. The Smithsonian Institution will present "German Architecture Today" at Vassar College, Poughkeepsie, New York.

January 27-29. The Sixty-fourth Annual Meeting of the American Society of Heating and Air-Conditioning Engineers will be held at the Penn-Sheraton Hotel, Pittsburgh.

January 27-30. The 1958 Plant Maintenance and Engineering Show and Conference will be held at the International Amphitheatre, Chicago.

February 2-23. The Smithsonian Institution Traveling Exhibition, "American Craftsmen, 1957," will be shown at the Mulvane Art Center, Topeka, Kansas.

February 4-6. The Society of the Plastics Industry, Inc., is sponsoring the Thirteenth SPI Reinforced Plastics Division Conference at the Edgewater Beach Hotel, Chicago.

March 17-18. The Steel Founders' Society of America will gather for its fifty-sixth annual meeting at the Drake Hotel, Chicago.

March 17-21. The atomic industry will stage its major 1958 trade show at the International Amphitheatre, Chicago, in conjunction with the 1958 Nuclear Congress.

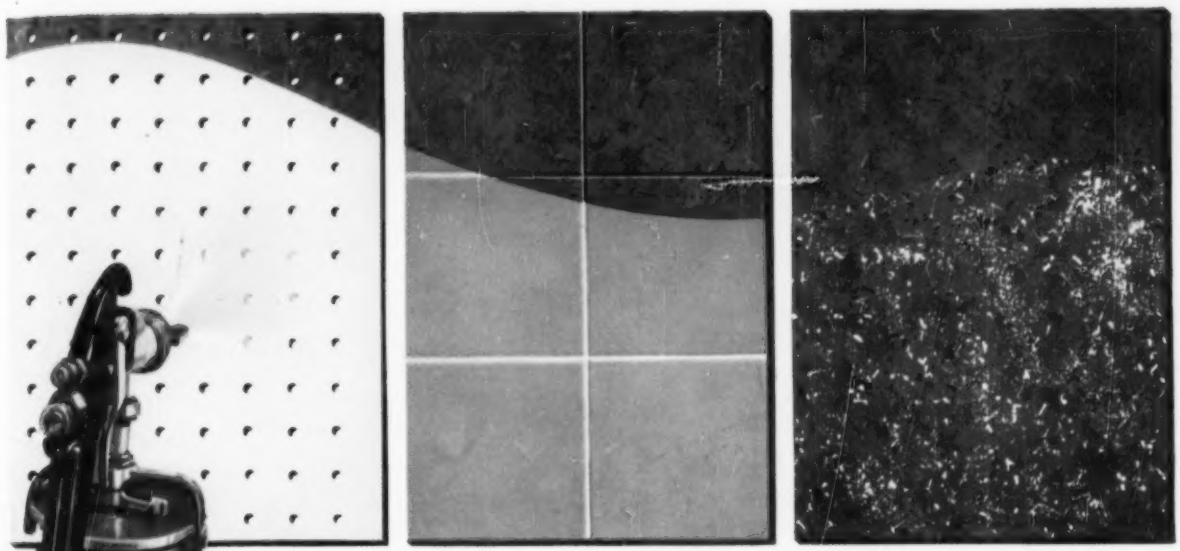
March 28-31. The twelfth annual convention-exhibit of the National Office Furniture Association will be held in Convention Hall, Philadelphia.

April 14-18. An annual technical meeting of the American Welding Society will be held at the Hotel Statler, St. Louis.

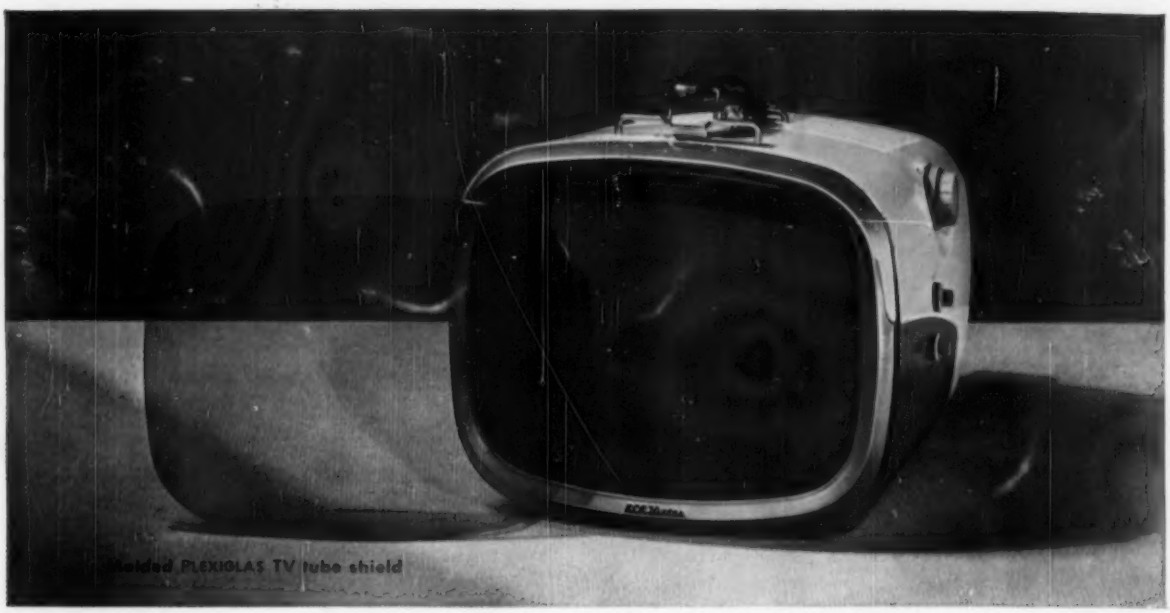
April 15-17. The American Welding Society will gather in St. Louis for its annual show at the Kiel Auditorium.

April 17-October 19. "The Unity of Mankind; a world view—a new humanism" is the theme of the Brussels exhibition, the first World's Fair of the atomic era. It will feature exhibits by fifty nations and seven international organizations.

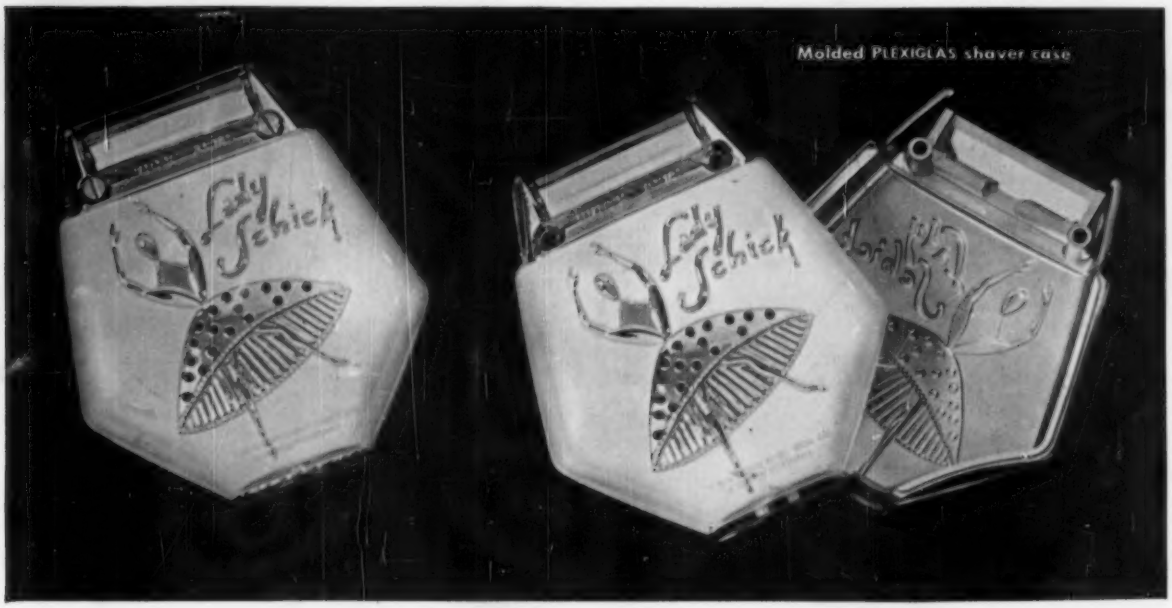
Choose MASONITE products for smoother surfaces



for finer finishing... graining



Plexiglas...hardworking and handsome



Hardworking in its durability—its resistance to impact, discoloration, dimensional change, heat, most chemicals, and prolonged outdoor weathering . . .

Handsome in its brilliant, gleaming colors—or water-white clarity that gives depth and sparkle to back surface paints and metallized coatings . . .

That's PLEXIGLAS®, the acrylic plastic that can add sales appeal to *your* product. Our design staff and technical representatives will be glad to help.

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