

Machine art : March 6 to April 30, 1934

Date

1934

Publisher

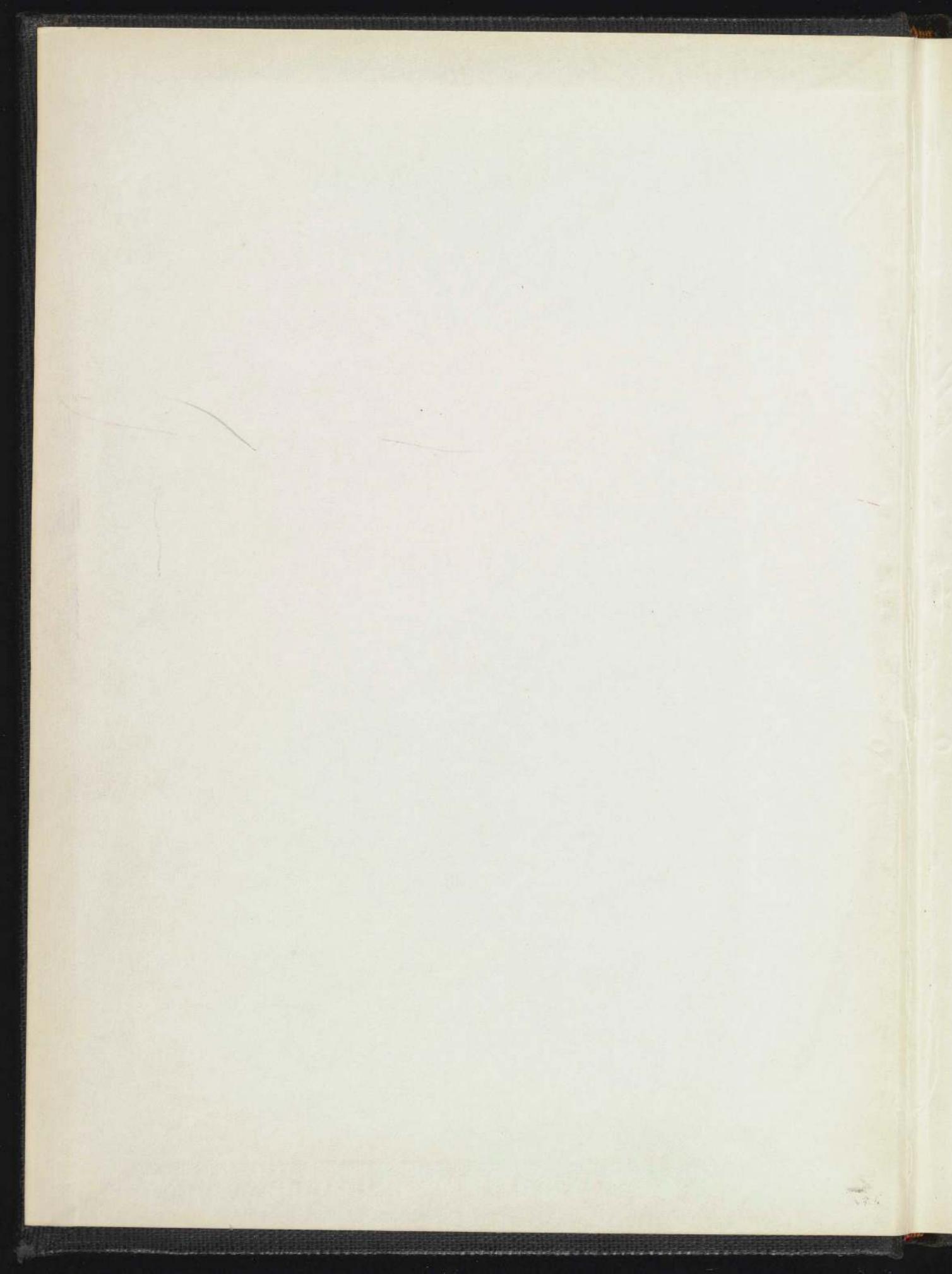
The Museum of Modern Art

Exhibition URL

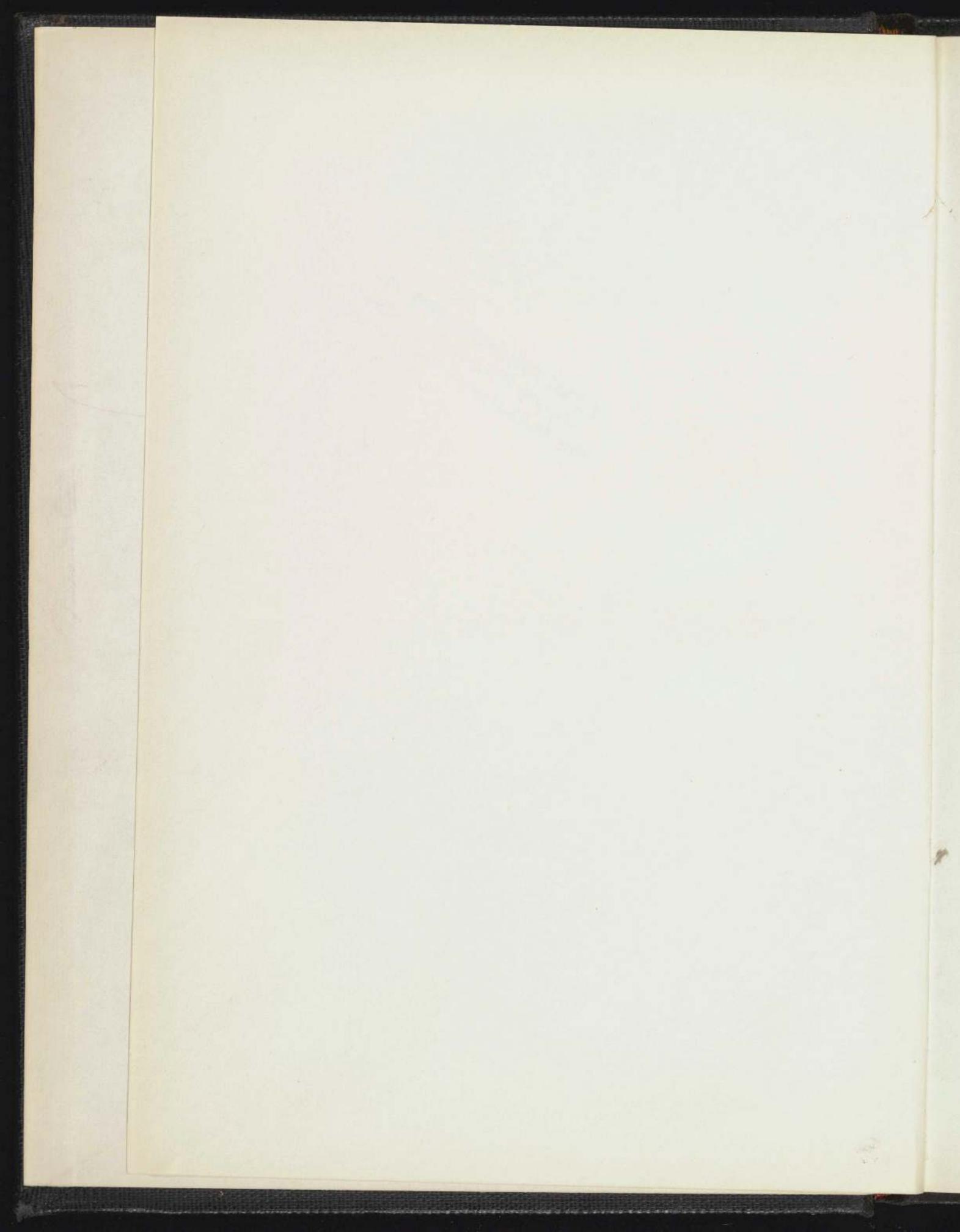
www.moma.org/calendar/exhibitions/1784

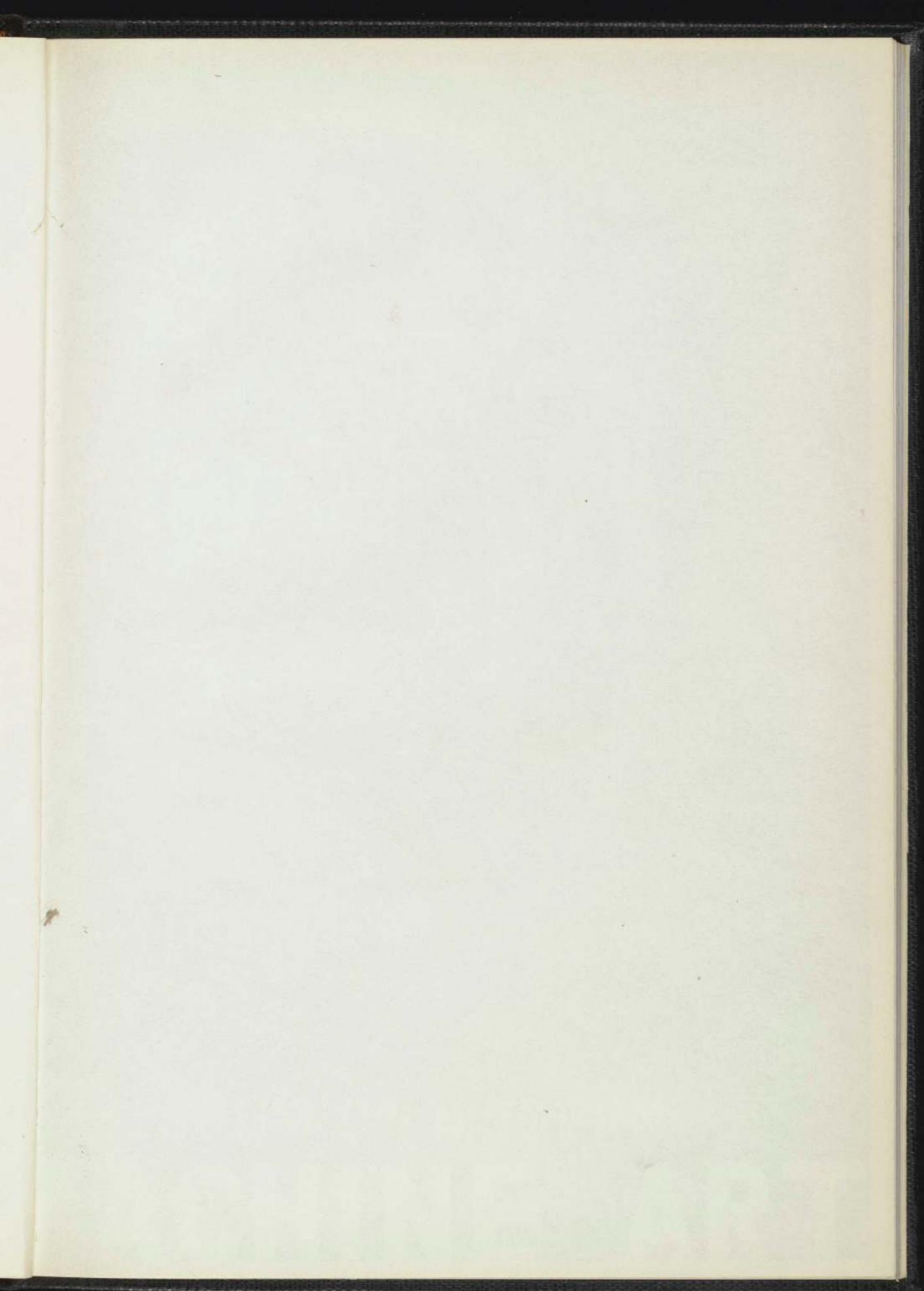
The Museum of Modern Art's exhibition history—from our founding in 1929 to the present—is available online. It includes exhibition catalogues, primary documents, installation views, and an index of participating artists.

ve



~~PLEASE RETURN TO DEPT. OF
ARCHITECTURE AND DESIGN
THE MUSEUM OF MODERN ART~~



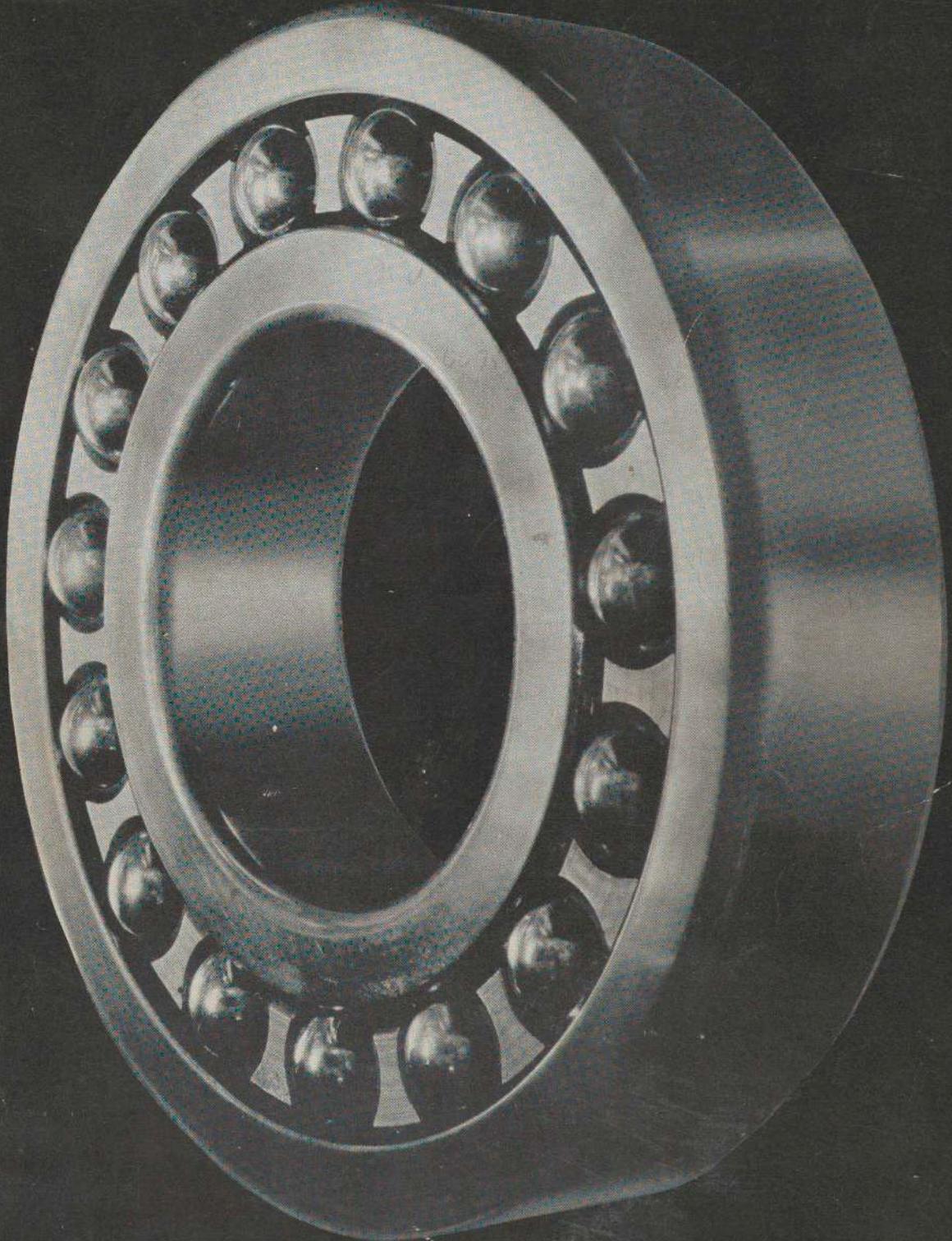


Archive

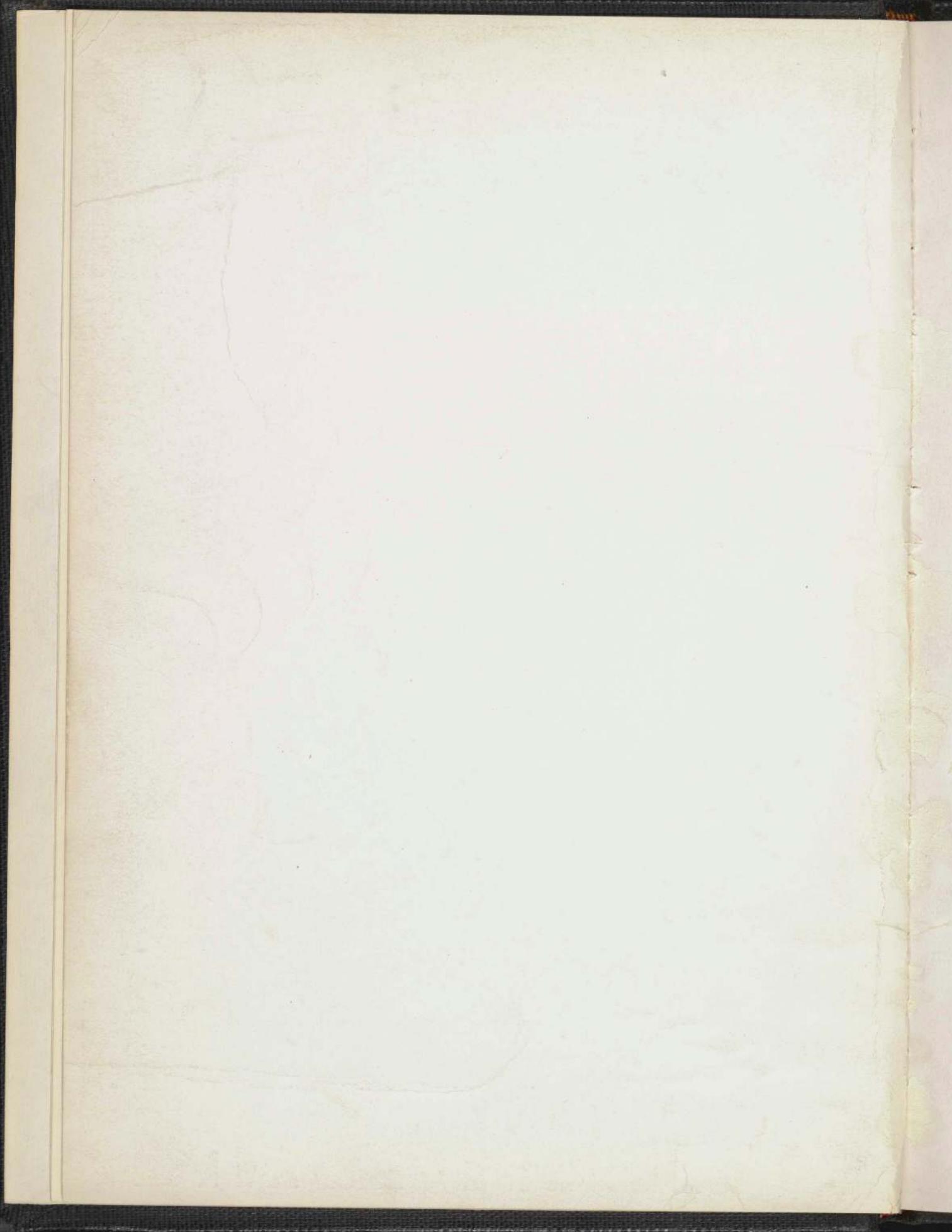
MoMA

34

1934



MUSEUM OF MODERN ART
MACHINE ART



Machine Art

March 6 to April 30, 1934

The Museum of Modern Art, New York

242
207

Copyright 1934, Museum of Modern Art, New York

LENDERS TO THE EXHIBITION

The Accessories Co., Inc., 40 West 40th Street, N. Y.

Division American Radiator Co.

Bathroom equipment

Aluminum Company of America, Pittsburgh, Pa.

Tubing, pistons, propellers, radiators, partitions

The Aluminum Cooking Utensil Co., New Kensington, Pa.

American Radiator Co., 40 West 40th Street, N. Y.

American Sheet & Tin Plate Co., 71 Broadway, N. Y.

Subsidiary United States Steel Corp.

Stainless steel partitions, automobile hubcap

American Steel & Wire Co., Worcester, Mass. Subsidiary United States Steel Corp.

Cables, springs, strip steel

Arundell Clarke Ltd., 620 Fifth Avenue, N. Y.

Ash tray

The Bingham Stamping & Tool Co., 1062 Post Street, Toledo, Ohio

(R. Aberli, Jr., 225 Fifth Avenue, N. Y.)

Trays

Bissell Carpet Sweeper Co., Grand Rapids, Mich. (46 West Broadway, N. Y.)

The Brown Instrument Co., Philadelphia, Pa.

Meter

Brown & Sharpe Manufacturing Co., Providence, R. I.

(Brown & Sharpe of N. Y., Inc., 20 Vesey Street, N. Y.)

Precision instruments

L. D. Cahn Co., 81 Spring Street, N. Y.

Stainless steel utensils

Carnegie Steel Co., Pittsburgh, Pa. Subsidiary United States Steel Corp.

Car wheel and axle

Chase Brass & Copper Co., Waterbury, Conn.

(Specialty Sales Division, 200 Fifth Avenue, N. Y.)

Bowls, trays, plates

Clyde-Mallory Line

Switchboard

Conant Bros. Co., Somerville, Mass., (6 East 45th Street, N. Y.)

Bathroom fittings

The Conover Co., Chicago, Ill., (101 Park Avenue, N. Y.)

Dishwasher

Coors Porcelain Co., Golden, Colorado

Laboratory porcelain

LENDERS TO THE EXHIBITION—Continued

P. & F. Corbin, 101 Park Avenue, N. Y.
Hardware

Corning Glass Works, Corning, N. Y., (501 Fifth Avenue, N. Y.)
Laboratory glass, vases, bowls

Design Engineers, Inc., 745 Fifth Avenue, N. Y.
Picture frames

Dictaphone Sales Corporation, 420 Lexington Avenue, N. Y.

Eugene Dietzgen Co., Inc., 218 East 23rd Street, N. Y.
Drafting and surveying instruments

Henry Disston & Sons, Inc., Philadelphia, Pa.
Saw, trowel

Distillers Products Corp., Empire State Building, N. Y.
Rumidor

Alfred Dunhill of London, Inc., 622 Fifth Avenue, N. Y.
Pipes and smoking accessories

Eimer & Amend, Third Avenue at 18th Street, N. Y.
Laboratory glass, scientific instruments

Electric Boat Company, Bayonne, N. J.
Propeller

Electrol Inc., 227 East 45th Street, N. Y.
Furnace

Electromaster Inc., 1803 East Atwater Street, Detroit, Mich.
Range

The Fay Co., 130 Madison Avenue, N. Y.
Floor machine

Fleetwings, Inc., Garden City, L. I.
Aeroplane wing rib

Ford Motor Co., Dearborn, Mich.
Headlamps

Ford Motor Co., Dearborn, Mich. (Louis C. Eitzen, 280 Broadway, N. Y.)
Measuring device

Fostoria Glass Co., Moundsville, W. Va., (200 Fifth Avenue, N. Y.)
Tumblers, goblets, plates, vases

The Gorham Co., Providence, R. I., (6 West 48th Street, N. Y.)
Flat silver

Hamilton Beach Manufacturing Co., Racine, Wis. (280 Broadway, N. Y.)
Vacuum cleaner

Hamilton-Standard Propeller Corp., Hartford, Conn.

LENDERS TO THE EXHIBITION—Continued

- Hanson Scale Co., 523 North Ada Street, Chicago, Ill., (1150 Broadway, N. Y.)
Bathroom scale
- Hoffmann & Billings Manufacturing Co., Milwaukee, Wis.
(Henry Stein, 50 Cliff Street, N. Y.)
Mixer Faucet
- Holophane Co., Inc., 342 Madison Avenue, N. Y.
Diffusing lenses
- Howell Co., Geneva, Ill.
Metal chairs
- The International Nickel Co., Inc., 67 Wall Street, N. Y.
Sink
- Jaeger Watch Co., Inc., 304 East 45th Street, N. Y.
- Janes & Kirtland, Inc., 101 Park Avenue, N. Y.
Kitchen cabinets
- Lalance & Grosjean Mfg. Co., Woodhaven, L. I. (405 Lexington Avenue, N. Y.)
Kitchenware
- Leeds & Northrup Co., 4901 Stenton Avenue, Philadelphia, Pa.
Potentiometer
- Lenox Inc., Trenton, N. J.
Porcelain vases, plates
- Lewis & Conger, 45th Street and Sixth Avenue, N. Y.
Knives, spoons, enamel kitchenware, glassware
- Lily-Tulip Cup Corp., 122 East 42nd Street, N. Y.
Paper cups and containers, dispensers
- Herman Miller Clock Co., Zeeland, Mich. (62 West 47th Street, N. Y.)
- The National Cash Register Co., Dayton, Ohio. (205 East 42nd Street, N. Y.)
- National Tube Co., Pittsburgh, Pa. Subsidiary United States Steel Corp.
Stainless steel tubing
- Ovington's, Fifth Avenue at 39th Street, N. Y.
Imported glassware, enlarging mirror
- Owens-Illinois Glass Co., Toledo, Ohio. (405 Lexington Avenue, N. Y.)
Bottles and jars
- Platinel, Inc., 103 Washington Avenue, Albany, N. Y.
Ash tray
- Platinum Products Co., 521 Fifth Avenue, N. Y.
Cigarette lighters
- Polar Ware Co., Inc., Sheboygan, Wis. (239 Eleventh Avenue, N. Y.)
Kitchenware
- Revere Copper & Brass Inc., Rome Manufacturing Division, Rome, N. Y.
(230 Park Avenue, N. Y.)
Kitchenware, bowls

LENDERS TO THE EXHIBITION—Continued

- Ritter Dental Manufacturing Co., Inc., Rochester, N. Y. (200 Fifth Avenue, N. Y.)
X-ray apparatus
- S K F Industries, Inc., Front Street and Erie Avenue, Philadelphia, Pa.
Ball bearing
- Saks-Fifth Avenue, 611 Fifth Avenue, N. Y.
Accessories
- Scovill Manufacturing Co., Waterville, Conn.
Flush valve
- Scully Steel Products Co., Waverly, N. J. Subsidiary United States Steel Corp.
Rolled steel sections
- The Silex Company, Hartford, Conn. (E. B. Latham & Co., 250 Fourth Ave., N. Y.)
- Standard Gage Co., Poughkeepsie, N. Y. Subsidiary Ford Motor Co.
(Louis C. Eitzen, 280 Broadway, N. Y.)
Measuring device
- The Standard Oil Co. of Ohio, Cleveland, Ohio
Gasoline pump
- Carol Stupell, 443 Madison Avenue, N. Y.
Martini mixer
- Sullivan Shipyards, Inc., 827 East 9th Street, N. Y.
Propeller
- Taylor Instrument Companies, Rochester, N. Y. (30 Rockefeller Plaza, N. Y.)
- Thonet Brothers, Inc., 33 East 47th Street, N. Y.
Metal chairs
- The Torsion Balance Co., 92 Reade Street, N. Y.
Torsion scale
- United States Steel Corp., 71 Broadway, New York—Lent through subsidiaries
- Kurt Versen, 19 East 47th Street, N. Y.
Lighting fixtures
- Waters-Genter Co., Minneapolis, Minn.
(Tumbridge Sales Corp., 196 Lexington Avenue, N. Y.)
Electrical cooking appliances
- Western Clock Co., LaSalle, Ill.
- Westinghouse Electric & Manufacturing Co., N. Y.
Insulators, lamps, fuse, switchboard, micarta panels, meters, clock motors
- The S. S. White Dental Manufacturing Co., 500 Fifth Avenue, N. Y.
- Russel Wright, 165 East 35th Street, N. Y.
Wooden bowls and tableware
- The Yale & Towne Manufacturing Co., Stamford, Conn.
Padlock
- York Safe & Lock Co., York, Pa. (55 Maiden Lane, N. Y.)
- Carl Zeiss Inc., 485 Fifth Avenue, N. Y.
Optical instruments

In addition to those who have lent to the Exhibition, the President and Trustees of The Museum of Modern Art wish to thank
for their assistance in procuring objects not manufactured or owned by them

United States Steel Corporation
Westinghouse Electric & Manufacturing Company
Aluminum Company of America

for generously lending materials for installation

American Sheet & Tin Plate Company, Subsidiary United States Steel Corp.
Aluminum Company of America
Westinghouse Electric & Manufacturing Company
Lily-Tulip Cup Corporation

for the design of the cover

Prof. Josef Albers, Black Mountain College, Black Mountain, N. C.

for the photography in the catalog

Miss Ruth Bernhard

for his assistance in designing the installation

Mr. Jan von Ruhtenberg, of Stockholm

for their special advice

Prof. C. R. Richards, of the New York Museum of Science & Industry

Prof. H. R. Hitchcock, Jr. of Wesleyan University

TRUSTEES

A. Conger Goodyear, President
Mrs. John D. Rockefeller, Jr., Treasurer
Samuel A. Lewisohn, Secretary

William T. Aldrich
James W. Barney
Frederic Clay Bartlett
Cornelius N. Bliss
Stephen C. Clark
Mrs. W. Murray Crane
Frank Crowninshield
Duncan Phillips
Nelson A. Rockefeller
Mrs. Rainey Rogers
Mrs. Charles C. Rumsey
Paul J. Sachs
Mrs. John S. Sheppard
Edward M. M. Warburg
John Hay Whitney

COMMITTEE ON THE EXHIBITION

Stephen C. Clark
A. Conger Goodyear
Nelson A. Rockefeller

Philip Johnson, Director of the Exhibition
Ernestine M. Fanti, Assistant

Alfred H. Barr, Jr., Director
Alan R. Blackburn, Jr., Executive Director
Philip Johnson, Chairman, Department of Architecture

οὐκημάτων τε γὰρ κάλλος οὐδὲ δῆλος ἀντιλάβοιεν οἱ πολλοὶ πειρῶματα νῦν λέγειν, ἡ ζώων
ἡ τινων ζωγραφημάτων, ἄλλῃ εὖθύ τι λέγω, φησὶν δὲ λόγος, καὶ περιφερὲς καὶ ἀπὸ τούτων
δὴ τά τε τοῖς τόρνοις γιγνόμενα ἐπίπεδά τε καὶ στερεὰ καὶ τὰ τοῖς κανόσι καὶ γωνί-
ας, εἴλι μονι μανθάνεις. ταῦτα γὰρ οὐκ εἶναι πρός τι καλὰ λέγω, καθάπερ ἄλλα, ἄλλῃ δὲ
καλὰ καθ' αὐτὰ πεφυκέναι . . .

By beauty of shapes I do not mean, as most people would suppose,
the beauty of living figures or of pictures, but, to make my point
clear, I mean straight lines and circles, and shapes, plane or solid,
made from them by lathe, ruler and square. These are not, like
other things, beautiful relatively, but always and absolutely.

Plato: *Philebus* 51 c

Ad pulchritudinem tria requiruntur. Primo quidem integritas, sive perfectio: quae enim diminuta sunt, hoc ipso turpia sunt. Et debita proportio, sive consonantia. Et iterum claritas: unde quae habent colorem nitidum, pulchra esse dicuntur.

For beauty three things are required. First, then, integrity or perfection: those things which are broken are bad for this very reason. And also a due proportion or harmony. And again clarity: whence those things which have a shining color are called beautiful.

St. Thomas Aquinas: *Summa Theologiae*, I, q. 39, a. 8.,
quoted by Jacques Maritain in *Art et Scolastique*,
Paris, 1927, page 250

Industrial civilization must either find a means of ending the divorce between its industry and its “culture” or perish.

L. P. Jacks: *Responsibility and Culture*

FOREWORD

Machine Art and Geometrical Beauty.

The beauty of machine art is in part the abstract beauty of "straight lines and circles" made into actual tangible "surfaces and solids" by means of tools, "lathes and rulers and squares." In Plato's day the tools were simple handworker's implements but today, as a result of the perfection of modern materials and the precision of modern instruments, the modern machine-made object approaches far more closely and more frequently those pure shapes the contemplation of which Plato calls the first of the "pure pleasures."

Machines are, visually speaking, a practical application of geometry. Forces which act in straight lines are changed in direction and degree by machines which are themselves formed of straight lines and curves. The lever is geometrically a straight line resting on a point. The wheel and axle is composed of concentric circles and radiating straight lines. The watch spring (No. 7) is a spiral. Sphericity and circularity are the geometrical characteristics of a ball bearing (No. 50). Screws, bearing springs (No. 1), and propellers (No. 41) are various—and variously beautiful—applications of the helix and helicoid.

Static and Kinetic Rhythms.

The beauty of machine art depends often upon rhythmical as well as upon geometrical elements—upon repetition as well as upon shape. The teeth of a saw form a simple static rhythmic series; the keys and levers of the cash register (No. 88) make a more varied and complex series.

Motion is an essential function of many machines and sometimes increases their aesthetic interest, principally through the addition of temporal rhythms, both of movement and of sound. The pistons of a locomotive or the rising and falling frames of a mechanical loom illustrate the point. On the other hand a propeller, a governor, a rotary saw, a ball bearing are more beautiful as objects when they are still or, better, moving very slowly. Even the streamlined object is more frequently admired when at rest than when in motion. Fortunately for this exhibition machines proper are only a small part of machine art as a whole.

Technical and Material Beauty.

In addition to perfection of shape and rhythm, beauty of surface is an important aesthetic quality of machine art at its best. Perfection of surface is, of course, made possible by the refinement of modern materials and the precision of machine manufacture. A watch spring is beautiful not only for its spiral shape but also for its bright steel surface and its delicately exact execution.

Machine art, devoid as it should be of surface ornament, must depend upon the sensuous beauty of porcelain, enamel, celluloid, glass of all colors, copper, aluminum, brass and steel. The circles and spheres of a ball bearing (No. 50) are greatly enhanced by the contrasting surfaces of brushed steel races, shining polished steel balls, and brass carriers.

Visual Complexity.

The beauty in machine art as in all art varies in relation but not in proportion to its complexity. A watch crystal, perfect though it may be, is too simple a form to hold our visual interest for long. A printing press, on the other hand, is too complicated an arrangement of shapes for the human eye to enjoy aesthetically. Moderately simple machine compositions such as the door of a wall safe (No. 91) or the microscope (No. 314) or our classical example, the ball bearing (No. 50) prove more satisfactory.

Function.

A knowledge of function may be of considerable importance in the visual enjoyment of machine art, though Plato might have considered such knowledge an impurity. Mechanical function and utilitarian function—"how it works" and "what it does"—are distinct problems, the former requiring in many cases a certain understanding of mechanics, the latter, of practical use. Whoever understands the dynamics of pitch in propeller blades (No. 41) or the distribution of forces in a ball bearing (No. 50) so that he can participate imaginatively in the action of mechanical functions is likely to find that this knowledge enhances the beauty of the objects.* In the same way, using or understanding the use of, the calipers (No. 294), the retort (No. 394), or the rotary floor polisher (No. 71) is likely to increase their aesthetic value.

* For most people the beauty of that ingenious engine, the Gothic vault, is augmented by a knowledge of the mechanics which govern its structure and visible form.

Fortunately the functional beauty of most of the objects is not obscure and in any case, so far as this exhibition is concerned, appreciation of their beauty in the platonic sense is more important.

Machine Art and the Designer.

The previous paragraphs have considered the aesthetic enjoyment of machines and machine-made objects without mentioning their designers. The designers are of two kinds, technical and artistic. Often one man will combine both rôles. For even the most impractical and fantastic "styler" of "modernistic" plumbing fixtures (not included in the exhibition) must consider function; and the most forthright technical designer of microscopes (No. 314) will insist on a perfection of shape and finish which is partially aesthetic.

Many of the finest objects in the exhibition such as the bearing spring (No. 1) or the depth gauge (No. 289) are produced quite without benefit of artist-designer. Their beauty is entirely unintentional—it is a by-product. Nevertheless they satisfy through their "integrity", "due proportion" and "clarity," the excellent thomistic definition of the beautiful as "that which being seen, pleases".*

Many other objects, the clock (No. 270), the chair (No. 282), the lamp (No. 273), are the result of conscious artistic intention. For in a great many useful objects function does not *dictate* form, it merely indicates form in a general way. The rôle of the artist in machine art is to choose, from a variety of possible forms each of which may be functionally adequate, that one form which is aesthetically most satisfactory. He does not embellish or elaborate, but refines, simplifies and perfects.

Machine Art and Fine Art.

Good machine art is entirely independent of painting, sculpture and architecture. But it may be noted in passing that modern artists have been much influenced by machine art. The Italian futurists, Russolo and Balla, and their English and Russian followers were romantically excited by the power and speed—the *dynamismo*—of machines.† Painters such as Léger and Baumeister have been interested in the decorative and formal qualities

* *Id quod visum placet*; Saint Thomas Aquinas—*Summa Theologiae* I, q. 5, a 4, ad 1.

† The romantic attitude toward the machine reached its height in America about five years ago. The Machine-Age Exhibition held in New York in 1927 was an important pioneer effort which included fantastic drawings of the city of the future, "modernistic" skyscrapers, constructivists, robot costumes, theatre settings, and factories, together with some excellent machines and photographs of machinery.

of machines. Malyevitch, Lissitsky and Mondriaan have used technicians' tools, the compass and the square, to achieve "abstract" geometrical paintings of a machine-like precision. Picabia and Grosz used machines to invoke the mirthless laughter of dadaism.

The Russian constructivists, Tatlin, Gabo, Pevsner, employed the technique, the materials and something of the structural feeling of machinery. The severity and glittering polish of machines have also affected the sculptors Brancusi, Archipenko and Belling.

Machine art has been the principal influence which has purged the best post-war architecture from the compromises of both the "modernistic" and revivalist architects. It is true that the ideas back of Le Corbusier's famous phrase "the house should be a *machine à habiter*" have given rise to much naive and dreary functionalism. But the leaders of modern architecture today are united in restoring the artistic function of the architect to its place beside his technical function.

Machine Forms and Natural Forms.

The beauty of the machine art in so far as it is a mere by-product of function may seem a meagre and even trivial kind of beauty. But this is not necessarily so. The beauty of all natural objects is also a by-product—the helix of a snail's shell (and a steel coil), the graduated feathering of a bird's wing (and the leaves of a laminated spring), the rabbit's footprints in the snow (and the track of non-skid tires), the elegance of fruit (and of incandescent bulbs).

"Industry and Culture"

It is in part through the aesthetic appreciation of natural forms that man has carried on his spiritual conquest of nature's hostile chaos. Today man is lost in the far more treacherous wilderness of industrial and commercial civilization. On every hand machines literally multiply our difficulties and point our doom. If, to use L. P. Jack's phrase, we are to "end the divorce" between our industry and our culture we must assimilate the machine aesthetically as well as economically. Not only must we bind Frankenstein—but we must make him beautiful.

A. H. B., Jr.

HISTORY OF MACHINE ART.

Machine Art and Handicraft.

The history of machine art is interwoven with that of handicraft, but in spirit machine art and handicraft are diametrically opposed. Handicraft implies irregularity, picturesqueness, decorative value and uniqueness: figured textiles, pottery vases, decorative friezes, hand-wrought metal work, hand-hammered silver bowls. The machine implies precision, simplicity, smoothness, reproducibility: plain textiles, vases as simple as laboratory beakers, smooth polished metal work.

The difference between craft and the machine lies in spirit and convention as much as in actual method of manufacture. Tools, and simple machines have always been used: the potter's wheel and the hand loom are machines. Modern equipment is merely more efficient and complex. But whether the designer sits at the loom and works up the pattern as he weaves or whether a motor weaves and the designer sits in an office, the actual work is by machine. A man at a hand loom can weave a rug of machine-like simplicity. A glass blower can make laboratory beakers as well as picturesquely shaped vases. But the craft spirit does not fit an age geared to machine technique. Machine-made imitations of craft objects are parodies, and the real handicrafts have lost their original vigor.

In the development of the design of machines and useful objects, the nineteenth century is an anomaly. In previous periods the normal tendency had been to utilize the best technical and mechanical devices known and to design for these devices. After the invention of the potter's wheel, vase designs were logically based on its use. But in the nineteenth century technics and design were divorced. Machines made bad designs while good designs continued to be executed by primitive methods.

The twentieth century is gradually rectifying this anomaly and is returning to the more reasonable principle of designing tools and useful objects with reference to the latest technique, out of the most durable material, and as economically as possible. In the same way the mother art of architecture has achieved style after the revivals of the nineteenth century by once more fusing with the latest technique of building science.

The Nineteenth Century.

The Industrial Revolution and the development of machine production in England in the latter part of the eighteenth century brought only ugliness

to ordinary life. It caused slums; it built ugly factories. For utensils it made bad replicas of ugly hand-made objects. People of sensibility in the nineteenth century hated the machines which seemed ugly and created ugliness. They failed to see the possibilities inherent in the new technics. Instead, they misused or rejected the new technics and developed their architecture and useful arts on a handicraft basis.

Nevertheless the science of engineering in the nineteenth century produced a few great buildings. The Crystal Palace at the London Exposition of 1851 is now considered one of the important ancestors of modern architecture. At the time, however, its great mass of glass and steel framework was considered too plain and ugly to deserve even the label of architecture. All the engineering works of the latter part of the nineteenth century and the beginning of the twentieth were considered mere utilitarian objects and as such were looked down upon. The science of building, however, developed rapidly and by the time of the World War had produced many excellent factories, grain silos and bridges.

Meanwhile architecture, independently of engineering, was moving toward simplicity. Philip Webb, Norman Shaw and their followers broke away from Classical and Medieval Revivalism and started the movement known as Queen Anne. In America, H. H. Richardson under the guise of Romanesque Revivalism, was creating his own sturdy simplicity. But only after the War did the stream of architecture join the stream of engineering, to give birth to a genuinely modern architecture. The development of the dependent arts paralleled that of architecture.

At first Gothic and Classical ornament (Fig. a), then Victorian rococo ornament was used whenever possible in designing machine art. Remarkable exceptions were the designs of Sir Joseph Whitworth, strictly simple and functional (Fig. b). He exhibited his machines in the same London Exposition of 1851 where the Crystal Palace caused so much comment. They received no more approbation from the designers of the day than the Crystal Palace did from the architects.

William Morris, the great reformer of the minor arts, especially hated the machine; indeed, it made him almost physically ill to look at the Crystal Palace which he visited as a young man from Oxford. His whole life was devoted to a crusade against the machine and for the ideals of art in everyday objects and art created by the common man himself.

This movement was at the time a healthy one. The minor arts on the

Continent of Europe had become sterile adaptations by indifferent craftsmen of Classical and Baroque forms. Morris had real ideas of simplicity and good workmanship which have their influence even at present. He and his followers revolutionized design in the minor arts toward simplicity and originality, although Morris himself believed that he was reviving the Gothic style.

The English Arts and Crafts Movement reached its heights in the '90s in the work of Voysey, MacIntosh and Baillie Scott, but was not acknowledged as a modern movement until it had been transplanted to the Continent, where it thrived in Vienna and Brussels under the leadership of such men as Josef Hoffmann and Henry van der Velde. Indeed one phase of the Arts and Crafts Movement on the Continent, characterized by curvilinear and naturalistic ornament, may even be called a style: the *Art Nouveau* (Fig. c).

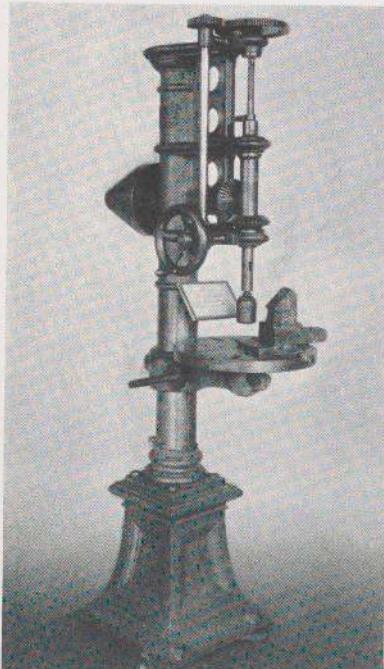


Fig. a

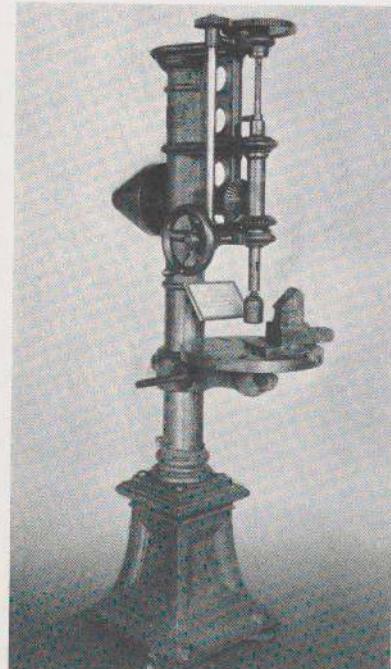
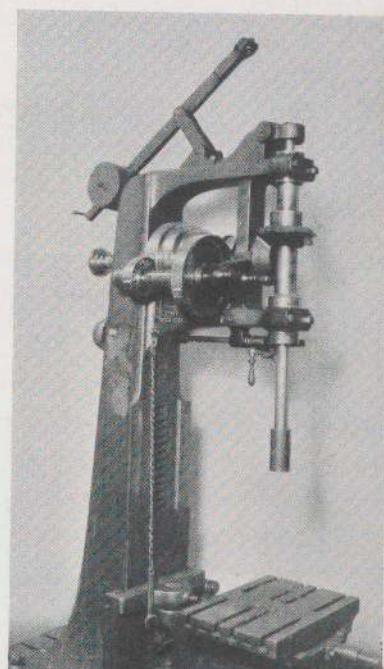


Fig. b

Drill Press, pre-Civil War American. Now on display at the New York Museum of Science & Industry.

Classical architecture in machine design, typical of the mid-nineteenth century. This false art drove William Morris and his followers to the refuge of medievalistic handicraft.



Whitworth Drill Press, designed by Sir Joseph Whitworth in the middle of the nineteenth century. Now on display at the New York Museum of Science & Industry.

Straightforward machine design by the father of modern machine tool building. The aesthetic possibilities of these simple lines, entirely ignored by Whitworth's contemporaries, are only today being realized.

The Twentieth Century.

As in architecture it was only after the War that designers realized the possibility of beauty in the construction of machines. In Germany particularly the post-war generation prided itself on achieving a mechanistic age and on designing the proper utensils for living in it. This was most clearly expressed in the Bauhaus School at Weimar under the leadership of Walter Gropius. In spite of a cubist aesthetic and much left over craft spirit, the movement was more and more toward machine-like simplicity. It was here, for instance, that Marcel Breuer first developed the now ubiquitous tubular steel chair. The movement in Germany has been more and more against *Kunstgewerbe*—Arts and Crafts—until the modern expositions of what we call industrial art are practically free from that tradition.

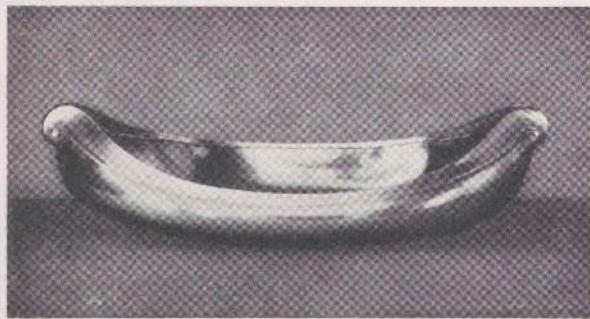


Fig. c.

Silver Bowl, Henry van de Velde, designer, ca. 1900

An example of the curvilinear Art Nouveau at its best. This was developed on the Continent out of the English Arts and Crafts Movement. The work of designers like van de Velde was as important in the development of modern machine art as technical improvements like Whitworth's.

In 1900 Louis Tiffany was the only designer whose work was independent and known outside America. For the most part we inherited the worst of the English Arts and Crafts Movement and the worst of the Art Nouveau style, the worst of the Viennese *Kunstgewerbe*.

In the '20's we received a fresh wave of foreign influence from France. Though France herself was influenced from central Europe, the Paris Exposition of Decorative Arts of 1925, with its neo-classic trappings and bizarre ornament, made a strong impression on our designers. The problem in America has not been the conflict against a strong handicraft tradition but rather against a "modernistic" French machine-age aesthetic.

Besides the French Decorative movement in the '20's there developed in America a desire for "styling" objects for advertising. Styling a commercial object gives it more "eye-appeal" and therefore helps sales. Prin-

The situation in America has been somewhat special. The Arts and Crafts developments in Europe have affected us less, whereas the tradition of machine construction has been purer and stronger. Our precision instruments especially have led the world (Nos. 289 to 313). But our minor arts have suffered from imitation of second-hand European designs.

ciples such as "streamlining" often receive homage out of all proportion to their applicability.

Conscious design and the development in machine building have fused and the twentieth century restores the art of making machines and useful objects to its place, as a technic of making rapidly, simply and well the useful objects of current life.

The Scope of the Exhibition.

The Exhibition contains machines, machine parts, scientific instruments and objects useful in ordinary life. There are no purely ornamental objects; the useful objects were, however, chosen for their aesthetic quality. Some will claim that usefulness is more important than beauty, or that usefulness makes an object beautiful. This Exhibition has been assembled from the point of view that though usefulness is an essential, appearance has at least as great a value.

The Exhibition cannot be exhaustive. The very number of useful objects and machines made it impossible even to cover the whole field in making the choices. Exigencies of space prohibited many large items. Inaccessibility prevented choosing items locally distributed in the Far and Middle West. Yet the Exhibition tries to be representative. Some fields, the kitchen and the laboratory, for example, are more fully present than others. This is because the nineteenth century did not consider these objects worthy of decorative treatment.

For the convenience of the reader and the visitor to the Exhibition, the list of objects is divided according to use into six categories.

1. **Industrial units:** Machines and machine parts: springs, insulators, cable sections, propeller blades, etc.
2. **Household and office equipment:** Sink, furnace, bathroom cabinets, dishwasher, carpet sweeper and business machines.
3. **Kitchenware**
4. **House furnishings and accessories:** Objects used in daily life: tableware, vases and bowls, smoking accessories, lighting fixtures, and furniture.
5. **Scientific instruments:** Precision, optical, drafting and surveying instruments.
6. **Laboratory glass and porcelain:** Beakers, hydrometer jars, petri dishes and boiling flasks.

P. J.

SHORT LIST OF BOOKS

Historical:

- Day, Lewis F. Of William Morris and his work. London, Virtue, 1899.
- Osthaus, Karl Ernst. Van de Velde. Hagen i. W., Folkwang-Verlag, 1920. (Die neue Baukunst I)
- Popp, J. Deutsches Warenbuch, herausgegeben von der Dürerbund-Werkbund Genossenschaft. Kriegsausgabe. Munich, D.B.W.B., 1915.
- Gropius, Walter. Staatliches Bauhaus, Weimar 1919–1923 Walter Gropius and others. Weimar-Munich, Bauhausverlag, n.d.

Contemporary:

- Gropius, Walter, and Moholy-Nagy, L., ed. Neue Arbeiten der Bauhauswerkstätten. Munich, Langen 1925. (Bauhausbücher 7)
- Pfleiderer, Wolfgang, introd. Die Form ohne Ornament: Werkbundausstellung 1924. Stuttgart, Deutsche Verlags-Anstalt, 1924. (Bücher der Form I)
- Le Corbusier. L'art décoratif d'aujourd'hui. Paris, Crès, n.d.
- Kollmann, Franz. Schönheit der Technik. Munich, Langen, 1928.
- Vogt, Richard. Der neue Markt: Standardartikel aus der industriellen Produktion. Berlin, VDI-Verlag, 1931.

DIVISIONS OF THE EXHIBITION

- 1. Industrial units**
- 2. Household and office equipment**
- 3. Kitchenware**
- 4. House furnishings and accessories**
- 5. Scientific instruments**
- 6. Laboratory glass and porcelain**

Within each division the objects are listed according to use.

Listing of each object is as follows: Name of the object
Name of the manufacturer
Name of the designer
Price

Unless otherwise specified the object may be purchased from the manufacturer.

An asterisk before a catalog number indicates that the work is illustrated by a plate which bears the same number.

1. INDUSTRIAL UNITS

- *1. Bearing spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- *2. Section of spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 3. Air brake spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 4. Railroad car spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- *5. Typewriter carriage spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- *6. Motor spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 7. Clock spring
Westinghouse Electric & Mfg. Co.
- 8. Bumper ring for electric refrigerator
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 9. Clutch spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 10. Grease cup spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 11. Fine wire spring
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 12. Coil of strip stainless steel
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 13. Steel balls for ball bearings
S K F Industries
- 14. Polished small steel bearings
Westinghouse Electric & Mfg. Co.
- 15. Carnegie beam sections
Scully Steel Products Co.
Subsidiary United States Steel Corp.
- 16. Standard beam sections
Scully Steel Products Co.
Subsidiary United States Steel Corp.
- 17. Steel T sections
Scully Steel Products Co.
Subsidiary United States Steel Corp.
- 18. Steel channel sections
Scully Steel Products Co.
Subsidiary United States Steel Corp.
- 19. Steel rail sections
Scully Steel Products Co.
Subsidiary United States Steel Corp.
- 20. Bare concentric strand of electrical cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 21. Bare sector strand of electrical cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 22. Hollow conductor of an electrical cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 23. Lock coil cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 24. Submarine power cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 25. Armored submarine power cable
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- *26. Section of wire rope $3\frac{1}{2}$ " in diameter
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 27. Cross-sections of unusual wire shapes
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 28. Ordinary rail bond
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 29. Third rail bond
American Steel & Wire Co.
Subsidiary United States Steel Corp.
- 30. Chain of rigid type insulators 12" in diameter
Westinghouse Electric & Mfg. Co.
- 31. Type PN grey strain insulator
Westinghouse Electric & Mfg. Co.
- 32. Ball and socket suspension insulator
Westinghouse Electric & Mfg. Co.
- 33. Apparatus type insulator
Westinghouse Electric & Mfg. Co.
- 34. Porcelain wall bushing
Westinghouse Electric & Mfg. Co.
- 35. Apparatus type insulator valve
Westinghouse Electric & Mfg. Co.

INDUSTRIAL UNITS—Continued

36. Steel car wheel with axle and rail
Carnegie Steel Co.
Subsidiary United States Steel Corp.
37. Rectangular, oval and streamlined tubes of aluminum
Aluminum Company of America
38. Stainless steel tubing sections
National Tube Company
Subsidiary United States Steel Corp.
39. Large boat propeller, iron
Sullivan Shipyards, Inc.
40. Boat propeller, bronze
Electric Boat Co.
- *41. Outboard propeller
Aluminum Company of America
42. Aeroplane propeller
Hamilton-Standard Propeller Corp.
Rough forged blades, Aluminum Company of America
43. Radiator tubes with aluminum fins
Aluminum Company of America
44. Arco convector
American Radiator Co.
45. Murray radiator
American Radiator Co.
46. Steel gears
Atlantic Gear Works
47. Stainless steel wing rib for aeroplane, shot-welded
Fleetwings, Inc.
48. Automobile hub cap
American Sheet & Tin Plate Co.
Subsidiary United States Steel Corp.
49. Automobile pistons
Aluminum Company of America
- *50. Self-aligning ball bearing
S K F Industries
51. Automobile headlamps
Ford Motor Co.
52. Circular wood-cutting cross-cut saw
Henry Disston & Sons, Inc.
53. Plastering trowel, stainless steel
Henry Disston & Sons, Inc.
- *54. Gasoline pump
Standard Oil Co. of Ohio
55. Welded ball of Enduro stainless steel
Sholes Inc., New York
56. Switchboard
Westinghouse Electric & Mfg. Co.
Lent by Clyde-Mallory Line

2. HOUSEHOLD AND OFFICE EQUIPMENT

- *57. Lavatory panel of the Arco Panel Unit System, equipped with special tubular fittings
The Accessories Co., Inc. Division of American Radiator Co.
George Sakier, designer
Panel: \$60.00; Standard Sanitary lavatory: \$50.00. Licensed plumbers
58. Special medicine cabinet with sliding mirror door
The Accessories Co., Inc. Division of American Radiator Co.
George Sakier, designer
\$75.00
59. Recess supply cabinet
Conant Bros. Co.
\$140.00
60. Mirror
Conant Bros. Co.
\$19.00
- *61. Niedecken mixer faucet
Hoffmann & Billings Mfg. Co.
\$25.00. Henry Stein, 50 Cliff St., N. Y.
- *62. Flush valve
Scovill Mfg. Co. Plumbers' Brass Goods Division
Licensed plumbers
- *63. Electrol-Kewanee heating unit, model 10
Electrol Inc.
Gerth & Gerth, designers
\$857.00
- *64. Electrochef range, model B-2
Electromaster Inc., Detroit, Michigan
Emil Piron, designer
\$110.00
- *65. Streamline Monel metal sink
The International Nickel Co., Inc.
Gustav Jensen, designer
\$193.50. Licensed plumbers

HOUSEHOLD AND OFFICE EQUIPMENT—Continued

- *66. Electric plate warmer, White House Line
Janes & Kirtland, Inc.
\$100.00. Department stores
- 67. Thermotainer, roll warmer
Waters-Genter Co. Division of McGraw
Electric Co.
\$385.00. Tumbridge Sales Corp., New
York
- 68. Broom closet, White House Line, Small
House model
Janes & Kirtland, Inc.
\$33.75. Department stores
- 69. Cupboard and drawer base unit with Monel
metal counter
Janes & Kirtland, Inc.
\$33.85. Department stores
- 70. Exhaust fan
Westinghouse Electric & Mfg. Co.
Department and hardware stores
- *71. Fay electric floor machine, Diamond model
The Fay Co.
\$65.00. Department, furniture and hard-
ware stores
- *72. Hamilton Beach vacuum cleaner, model 8
Hamilton Beach Mfg. Co. Subsidiary
Scovill Mfg. Co.
\$34.75. Department, furniture and hard-
ware stores
- *73. Silver Streak carpet sweeper
Bissell Carpet Sweeper Co.
\$5.00. Department, furniture and hard-
ware stores
- 74. The Conover electric dishwasher
The Conover Co.
\$160.00. Department stores
- *75. Health scale number 711
Hanson Scale Co.
\$12.95. Department and hardware stores
- *76. Toastmaster, automatic electric toaster
Waters-Genter Co. Division of McGraw
Electric Co.
\$85.00. Tumbridge Sales Corp., N. Y.
- *77. Wafflemaster, automatic electric waffle
baker
Waters-Genter Co. Division of McGraw
Electric Co.
\$85.00. Tumbridge Sales Corp., N. Y.
- *78. Range, BG-1, with 4 glass coffee machines
The Silex Co.
\$56.95. E. B. Latham & Co., New York
- 79. Teaket
The Silex Co.
\$1.25. Department and hardware stores
- 80. Cafex
The Silex Co.
\$2.95. Department and hardware stores
- *81. Door knob and lock
P. & F. Corbin
Howe & Lescaze, designers
\$14.75
- 82. Door knob and lock
P. & F. Corbin
\$15.00
- 83. Loose joint hinges
P. & F. Corbin
\$4.50 a pair
- 84. Olive hinges
P. & F. Corbin
\$8.15 a pair
- *85. Yale Junior Lock
Yale & Towne Mfg. Co.
60¢. Hardware stores
- *87. Dictaphone, model 12
Dictaphone Corp.
Stanford Briggs, designer
\$200.00
- *88. National cash register, model 1934
The National Cash Register Co.
\$325.00
- 89. Tulip drinking cup dispenser, equipped with
aluminum tube for airplane, railroad
and steamship service
Lily-Tulip Cup Corp.
\$3.00
- 90. Tulip soda cup dispenser
Lily-Tulip Cup Corp.
\$6.85
- *91. York round door chest, model 480
York Safe and Lock Co.
- 92. Grain of wheat lamp
Westinghouse Electric & Mfg. Co.
- 93. Automobile tail-light lamp
Westinghouse Electric & Mfg. Co.
- 94. Automobile head-light lamp
Westinghouse Electric & Mfg. Co.
- 95. 10 W. 5-11 lamp
Westinghouse Electric & Mfg. Co.
- 96. 100 W. 7-8 lamp
Westinghouse Electric & Mfg. Co.

HOUSEHOLD AND OFFICE EQUIPMENT—Continued

- | | |
|--|---|
| 97. 300 W. T-10 lamp
Westinghouse Electric & Mfg. Co. | 100. 1000 W. G-40 lamp
Westinghouse Electric & Mfg. Co. |
| 98. 500 W. T-20 lamp
Westinghouse Electric & Mfg. Co. | 101. 5000 W. bipost base lamp
Westinghouse Electric & Mfg. Co. |
| 99. 250 W. G-30 lamp
Westinghouse Electric & Mfg. Co. | 102. 10,000 W. lamp
Westinghouse Electric & Mfg. Co. |

3. KITCHENWARE

- | | |
|---|---|
| 105. Wear-Ever steam jacketed kettle
The Aluminum Cooking Utensil Co.
\$236.00 | *117. Crusader hotel ladles
Lalance & Grosjean Mfg. Co.
\$1.08 to \$4.45 |
| 106. Stock pot, Staybrite nonoxyd metalware
L. D. Cahn Co.
\$47.00 | 118. Wear-Ever bakers' mixing bowl
The Aluminum Cooking Utensil Co.
\$4.85 |
| 107. Stock pots, rustless steel
Polar Ware Co.
\$36.00 to \$50.00 | *119. Crusader bakers' bowls
Lalance & Grosjean Mfg. Co.
\$25.00 to \$64.75 |
| 108. Wear-Ever stock pots
The Aluminum Cooking Utensil Co.
\$6.50 to \$12.15 | *120. Wear-Ever food containers
The Aluminum Cooking Utensil Co.
93¢ to \$3.55. Department stores |
| 109. Bain Marie pots, rustless steel
Polar Ware Co.
\$2.30 to \$6.60 | 121. Wear-Ever food bowls
The Aluminum Cooking Utensil Co.
50¢ to 65¢. Department stores |
| 110. Hotel pan, rustless steel
Polar Ware Co.
\$5.10 | 122. Crusader pail
Lalance & Grosjean Mfg. Co.
\$12.53. Department stores |
| 111. Wear-Ever hotel sauté pans
The Aluminum Cooking Utensil Co.
\$3.30 to \$7.45 | 123. Crusader malted milk shaker
Lalance & Grosjean Mfg. Co.
\$4.15. Department stores |
| 112. Crusader hotel sauce pans
Lalance & Grosjean Mfg. Co.
\$6.70 to \$25.00 | 124. Solid ladle, Staybrite nonoxyd metalware
L. D. Cahn Co.
\$2.25 |
| *113. Crusader hotel sauce pots
Lalance & Grosjean Mfg. Co.
\$14.55 to \$31.65 | 125. Dipper
Polar Ware Co.
\$7.50 |
| 114. Sauce pan, Staybrite nonoxyd metalware
L. D. Cahn Co.
\$10.00 | 126. Apple cup
Polar Ware Co.
\$1.60 |
| 115. Coffee urn cylinder, Staybrite nonoxyd metalware
L. C. Cahn Co.
\$27.00 | 127. Frying pans
Polar Ware Co.
\$5.00 and \$6.00 |
| 116. Coffee urn cup, rustless steel
Polar Ware Co.
\$6.00 | 128. Frying pan, Staybrite nonoxyd metalware
L. D. Cahn Co.
\$4.25 |

KITCHENWARE—Continued

129. French fryers
Revere Copper & Brass Inc. Rome
Manufacturing Division
\$1.80 and \$2.00. Department stores
130. Skillet
Revere Copper & Brass Inc. Rome
Manufacturing Division
\$2.00. Department stores
- *131. Stewpans, black enamel
Imported by Markt & Hammacher
75¢ to \$1.35. Lewis & Conger
- *132. Saucepans
Revere Copper & Brass Inc. Rome
Manufacturing Division
\$1.80 to \$2.20. Department stores
133. Mixing bowls, black enamel
Imported by Markt & Hammacher
\$2.15. Lewis & Conger
134. Mixing bowls
Polar Ware Co.
\$3.00 to \$8.00
- *135. Mixing bowls
Revere Copper & Brass Inc. Rome
Manufacturing Division
90¢ to \$1.30. Department stores
136. Crusader cup
Lalance & Grosjean Mfg. Co.
\$1.84. Department stores
- *137. Wear-Ever round cake pans
The Aluminum Cooking Utensil Co.
30¢ to 45¢. Department stores
138. Wear-Ever ring cake mold
The Aluminum Cooking Utensil Co.
\$1.00. Department stores
139. Wear-Ever fruit press
The Aluminum Cooking Utensil Co.
93¢. Department stores
140. Wear-Ever tea kettle
The Aluminum Cooking Utensil Co.
Lurelle V. A. Guild, designer
\$2.95. Department stores
141. Wear-Ever drip coffee pot
The Aluminum Cooking Utensil Co.
Lurelle V. A. Guild, designer
\$1.65. Department stores
- *142. Wear-Ever griddle
The Aluminum Cooking Utensil Co.
\$3.95. Department stores
- *143. Beverage tumblers, rustless steel
Polar Ware Co.
90¢
- *144. Bathroom tumblers, rustless steel
Polar Ware Co.
\$1.75
- *145. Imported cook's knives
Lent by Lewis & Conger
\$2.34 and \$3.25
- *146. Imported cook's fork
Lent by Lewis & Conger
\$1.88
- *147. Imported slicers
Lent by Lewis & Conger
\$2.00 to \$4.50
148. Square coffee jars
Owens-Illinois Glass Co.
- *149. Nestrite paper containers
Lily-Tulip Cup Corp.
150. Nestrite paper tubs
Lily-Tulip Cup Corp.
- *151. Squat Nestrite containers
Lily-Tulip Cup Corp.

Hospital Supplies

- *152. Needle box, rustless steel
Polar Ware Co.
\$3.70
153. Serum cup
The Aluminum Cooking Utensil Co.
20¢
154. Sputum cup with hinged cover, Staybrite
nonoxyd metalware
L. D. Cahn Co.
\$3.00
- *155. Graduated measure, Staybrite nonoxyd
metalware
L. D. Cahn Co.
\$5.50
156. Sponge bowl, rustless steel
Polar Ware Co.
\$2.00

4. HOUSE FURNISHINGS AND ACCESSORIES

157. Dinner knives, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design by
W. C. Codman
\$41.00 per dozen. Silversmiths and de-
partment stores
158. Dinner forks, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design
by W. C. Codman
\$50.00 per dozen. Silversmiths and de-
partment stores
159. Teaspoons, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design
by W. C. Codman
\$21.00 per dozen. Silversmiths and de-
partment stores
- *160. Dessert spoons, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design
by W. C. Codman
\$37.00 per dozen. Silversmiths and de-
partment stores
- *161. Dessert knives, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design by
W. C. Codman
\$37.00 per dozen. Silversmiths and de-
partment stores
- *162. Dessert forks, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design
by W. C. Codman
\$35.00 per dozen. Silversmiths and de-
partment stores
163. Coffee spoons, Covington Plain pattern
The Gorham Co.
A reproduction of an old English design
by W. C. Codman
\$14.00 per dozen. Silversmiths and de-
partment stores
164. Dinner knives, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$49.00 per dozen. Silversmiths and
department stores
165. Dinner forks, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$52.00 per dozen. Silversmiths and de-
partment stores
166. Teaspoons, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$21.00 per dozen. Silversmiths and
department stores
- *167. Dessert spoons, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$46.00 per dozen. Silversmiths and de-
partment stores
168. Dessert knives, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$39.00 per dozen. Silversmiths and de-
partment stores
- *169. Dessert forks, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$44.00 per dozen. Silversmiths and de-
partment stores
170. Coffee spoons, Dolly Madison pattern
The Gorham Co.
Original early American design by A. H.
Staf
\$12.00 per dozen. Silversmiths and de-
partment stores
- *171. Windsor teaspoons, chromium
Lent by Lewis & Conger
25¢ each
- *172. Windsor dessert spoons, chromium
Lent by Lewis & Conger
42¢ each
- *173. Windsor table spoons, chromium
Lent by Lewis & Conger
48¢ each
174. Crystal bread and butter plate
Fostoria Glass Co.
\$4.00 per dozen. Department stores and
gift shops
175. Crystal salad plate
Fostoria Glass Co.
\$5.00 per dozen. Department stores and
gift shops
176. Crystal dinner plate
Fostoria Glass Co.
\$7.00 per dozen. Department stores and
gift shops

HOUSE FURNISHINGS AND ACCESSORIES—Continued

177. Crystal service plate
 Fostoria Glass Co.
 \$15.00 per dozen. Department stores and
 gift shops
- *178. White porcelain bread and butter plate
 Lenox Inc.
 \$13.25 per dozen. Department stores and
 gift shops
- *179. White porcelain luncheon plate
 Lenox Inc.
 \$16.00 per dozen. Department stores and
 gift shops
- *180. White porcelain dinner plate
 Lenox Inc.
 \$19.00 per dozen. Department stores and
 gift shops
- *181. White porcelain service plate
 Lenox Inc.
 \$21.00 per dozen. Department stores and
 gift shops
182. White porcelain sandwich or cake plate
 Lenox Inc.
 \$3.50. Department stores and gift shops
183. Tumblers, crystal with sham bottoms
 Fostoria Glass Co.
 \$3.50 per dozen. Department stores and
 gift shops
184. Tumblers, crystal with sham bottoms
 Fostoria Glass Co.
 \$4.50 per dozen. Department stores and
 gift shops
- *185. Tumblers, blue glass
 Fostoria Glass Co.
 \$2.50 per dozen. Department stores and
 gift shops
- *186. Tumblers, burgundy glass
 Fostoria Glass Co.
 \$2.50 per dozen. Department stores and
 gift shops
187. Liqueur tumblers, crystal with sham bottoms
 Fostoria Glass Co.
 \$2.00 per dozen. Department stores and
 gift shops
188. Cocktail glass
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$2.00 each. Steuben Glass, Inc., 748 Fifth
 Avenue
189. Old-Fashioned cocktail glass
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$2.00 each. Steuben Glass, Inc., 748 Fifth
 Avenue
190. Whisky glasses
 Fostoria Glass Co.
 \$3.50 per dozen. Department stores and
 gift shops
191. Baccarat ale glass
 Lent by Lewis & Conger
 \$8.50 per dozen
192. Baccarat ale glass
 Lent by Lewis & Conger
 \$10.00 per dozen
193. Baccarat champagne tumbler
 Lent by Lewis & Conger
 \$5.50 per dozen
194. Baccarat claret glass
 Lent by Lewis & Conger
 \$9.75 per dozen
195. Baccarat cocktail glass
 Lent by Lewis & Conger
 \$9.75 per dozen
196. Baccarat cordial glass
 Lent by Lewis & Conger
 \$8.75 per dozen
197. Baccarat goblet
 Lent by Lewis & Conger
 \$14.75 per dozen
198. Baccarat sherry glass
 Lent by Lewis & Conger
 \$10.50 per dozen
199. Baccarat tumbler
 Lent by Lewis & Conger
 \$7.50 per dozen
200. Baccarat whisky glass
 Lent by Lewis & Conger
 \$5.50 per dozen
201. Baccarat whisky and soda glass
 Lent by Lewis & Conger
 \$6.25 per dozen
202. Holland glass brandy inhalers
 Lent by Ovington's
 \$18.00 per dozen
203. Cocktail glasses
 Lent by Ovington's
204. Tumblers
 Lent by Ovington's
205. Martini mixer
 Lent by Carol Stupell
 \$3.50

HOUSE FURNISHINGS AND ACCESSORIES—Continued

- and
- ✓ 206. Condiment bottles
 Russel Wright Studio
 Russel Wright, designer
 \$2.00 each. Department stores and gift shops
- *207. Salad bowl, wood
 Russel Wright Studio
 Russel Wright, designer
 \$3.30 each. Department stores and gift shops
- *208. Berry bowl, wood
 Russel Wright Studio
 Russel Wright, designer
 \$3.00 each. Department stores and gift shops
- *209. Small berry bowls, wood
 Russel Wright Studio
 Russel Wright, designer
 \$1.60 each. Department stores and gift shops
210. Baccarat fingerbowl and plate
 Lent by Lewis & Conger
 \$33.00 per dozen
- *211. Cream jars
 Owens-Illinois Glass Co.
- *213. Oblong perfume bottles
 Owens-Illinois Glass Co.
- *214. Taper round bottles
 Owens-Illinois Glass Co.
- *215. Jar with cover
 Owens-Illinois Glass Co.
216. Wide-mouthed French squares
 Owens-Illinois Glass Co.
217. Chromium tray
 The Bingham Stamping & Tool Co.
 \$1.75. R. Aberli Jr., 225 Fifth Avenue
218. Copper tray
 The Bingham Stamping & Tool Co.
 \$1.50. R. Aberli Jr., 225 Fifth Avenue
219. Serving tray, chromium
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 \$6.00. Department stores and gift shops
220. Serving trays, copper
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 \$6.00. Department stores and gift shops
- *221. Tray, chromium
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 Walter Von Nessen, designer
 \$4.00. Department stores and gift shops
222. Tray, copper
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 Walter Von Nessen, designer
 \$4.00. Department stores and gift shops
- *223. Flower bowl, copper
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 Walter Von Nessen, designer
 \$8.00. Department stores and gift shops
224. Pretzel bowl, copper
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 \$2.00. Department stores and gift shops
- *225. Pretzel bowl, chromium
 Chase Brass & Copper Co., Inc. Specialty
 Sales Division
 \$2.00. Department stores and gift shops
226. Bowl
 Corning Glass Works—Steuben Division
 Frederick Carder, designer
 \$6.00. Steuben Glass, Inc., 748 Fifth Ave.
- *227. Bowl
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 Steuben Glass, Inc., 748 Fifth Avenue
- *228. Bowl
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$4.25. Steuben Glass, Inc., 748 Fifth Avenue
229. Large crystal plate, 16" diameter
 Fostoria Glass Co.
 \$3.50. Department stores and gift shops
230. Bowl, wood
 Russel Wright Studio
 Russel Wright, designer
 \$5.00. Department stores and gift shops
231. Copper bowls
 Revere Copper & Brass Inc., Rome Mfg.
 Division
 50¢ and 75¢. Department stores and gift shops
- *232. White porcelain vases
 Lenox Inc.
 \$1.50, \$2.50, \$3.00. Department stores and gift shops
- ✓ 233. Crystal vases
 Fostoria Glass Co.
 \$2.50 and \$3.00. Department stores and gift shops

HOUSE FURNISHINGS AND ACCESSORIES—Continued

234. Vase, square
 Corning Glass Works—Steuben Division
 Frederick Carder, designer
 \$3.50. Steuben Glass, Inc., 748 Fifth Ave.
- ✓ *235. Vase, spherical
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$8.50. Steuben Glass, Inc., 748 Fifth Ave.
236. Vase, rectangular
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$5.00. Steuben Glass, Inc., 748 Fifth Ave.
- *237. Vases
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$2.75 to \$3.75. Steuben Glass, Inc., 748 Fifth Avenue
- *238. Black glass vases
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$2.75 to \$3.75. Steuben Glass, Inc., 748 Fifth Avenue
239. Plates, chromium and copper
 Chase Brass & Copper Co., Inc. Specialty Sales Division
 Department stores and gift shops
240. Centerpiece
 Corning Glass Works—Steuben Division
 Walter Dorwin Teague, designer
 \$30.00. Steuben Glass, Inc., 748 Fifth Avenue
- *241. Ash tray
 Lent by Arundell Clarke Ltd.
 \$2.50
- ✓ *242. Ash tray
 Corning Glass Works—Steuben Division
 Frederick Carder, designer
 \$7.50. Steuben Glass, Inc., 748 Fifth Ave.
- *243. Ash tray set
 Fostoria Glass Co.
 \$6.00 per dozen. Department stores and gift shops
244. Ash bowl, stainless steel
 Platinel Inc.
 \$9.50
245. Ash tray, copper
 Revere Copper & Brass Inc. Rome Mfg. Division
 25¢. Department stores and gift shops
246. Ash tray, chromium
 Kurt Versen
 \$1.60
247. Dunhill's Bruyère straight grain pipe
 Alfred Dunhill of London, Inc.
 \$50.00. Dunhill shops, tobacco shops and department stores
- *248. Meerschaum pipe
 Alfred Dunhill of London, Inc.
 \$25.00. Dunhill shops, tobacco shops and department stores
- *249. Tall wafer cigarette lighter
 Alfred Dunhill of London, Inc.
 \$10.00. Dunhill shops, tobacco shops and department stores
250. Giant cigarette lighter
 Alfred Dunhill of London, Inc.
 \$15.00. Dunhill shops, tobacco shops and department stores
- *251. Ball cigarette lighter
 Alfred Dunhill of London, Inc.
 \$15.00. Dunhill shops, tobacco shops and department stores
252. Cigar case
 Alfred Dunhill of London, Inc.
 \$22.50. Dunhill shops, tobacco shops and department stores
- *253. Bomb Rumidor
 Distillers Products Corp.
 \$7.00. Department stores and tobacco shops
- *254. Lektrolite cigarette lighter, Cyrlina model "B", sterling silver
 Platinum Products Co.
 \$12.00. Department stores and gift shops
- *255. Lektrolite cigarette lighter and pencil, sterling silver
 Platinum Products Co.
 \$25.00. Department stores and gift shops
- *256. Cigarette box
 Corning Glass Works—Steuben Division
 Frederick Carder, designer
 \$4.50. Steuben Glass, Inc., 748 Fifth Ave.
- *257. Inkstand and calendar
 I. S. Pertofsky
 Howe & Lescaze, designers
 \$32.00. Howe & Lescaze, architects
258. Braquette picture frame, portrait type
 Design Engineers, Inc.
 Nathan George Horwitt, designer
 \$2.50. Eastman Kodak stores
259. Braquette picture frame, standard type
 Design Engineers, Inc.
 Nathan George Horwitt, designer
 \$2.00. Eastman Kodak stores

HOUSE FURNISHINGS AND ACCESSORIES—Continued

260. Bomb flashlight
 Chase Brass & Copper Co., Inc. Specialty Sales Division
 \$1.00. Department stores and gift shops
265. Luxmir Shaving Mirror
 Lent by Ovington's
 \$12.50
- *266. Imported chromium scent bottles in leather case
 Lent by Saks-Fifth Avenue
 \$7.50
267. Man's fitted case
 Lent by Saks-Fifth Avenue
 \$6.50
- *268. Billiard balls
 Lent by Saks-Fifth Avenue
 \$7.50
- *269. Silverice (for chilling drinks)
 Lent by Saks-Fifth Avenue
 \$2.50 for box of six
- *270. Electric clock
 Herman Miller Clock Co.
 Gilbert Rohde, designer
 \$16.50. Department stores and gift shops
- *271. Westclox handbag watch, bakelite case
 Western Clock Co.
 De Vaulchier & Blow, designers
 \$2.95. Department stores, gift shops, drug stores
- *272. Magnetic clock
 Jaeger Watch Co.
 Jaeger Watch Co., designers, in collaboration with the Art and Color section of the Fisher Body Corp. for General Motors
- *273. Desk lamp
 Kurt Versen
 Howe & Lescaze, designers
 \$31.00
274. Ceiling fixture with white opal glass bowl
 Kurt Versen
 \$14.00
- ✓275. Pendant sphere lighting fixtures
 Kurt Versen
 \$15.00 to \$34.00
- *276. Tubular wall bracket
 Kurt Versen
 \$22.00
- *277. Wall bracket light with cylindrical bowl
 Kurt Versen
 \$17.00
278. Wall bracket light with hemispherical bowl
 Kurt Versen
 \$19.00
- *279. Chair
 Thonet Bros., Inc.
 Marcel Breuer, designer
 \$20.50
- *280. Chair
 Thonet Bros., Inc.
 Le Corbusier, designer
 \$63.00
- *281. Nest tables
 Thonet Bros., Inc.
 \$28.50
- *282. Beta chair
 The Howell Co. (Brown & Nightingale, New York distributors)
 Nathan George Horwitt, designer
 \$30.00. Department and furniture stores
283. Chair, number 444
 The Howell Co. (Brown & Nightingale, New York distributors)
 \$40.00. Department and furniture stores
284. Lounge chair, number 439
 The Howell Co. (Brown & Nightingale, New York distributors)
 \$50.00. Department and furniture stores
285. Chair, number 477
 ✓The Howell Co. (Brown & Nightingale, New York distributors)
 \$30.00. Department and furniture stores
286. Chair, number 441
 The Howell Co. (Brown & Nightingale, New York distributors)
 \$20.00. Department and furniture stores

5. SCIENTIFIC INSTRUMENTS

288. Johansson third measuring instrument, used
in 1898
Ford Motor Co. (Standard Gage Co.)
Louis C. Eitzen Co., New York
- *289. Vernier depth gauge number 600
Brown & Sharpe of New York, Inc.
\$16.25. Hardware stores
290. Rule depth gauge number 616
Brown & Sharpe of New York, Inc.
\$2.00. Hardware stores
- *291. Graduated rod depth gauge number 614
Brown & Sharpe of New York, Inc.
\$4.50. Hardware stores
- *292. Plain English micrometer number 8
Brown & Sharpe of New York, Inc.
\$9.50. Hardware stores
- *293. Inside micrometer number 263
Brown & Sharpe of New York, Inc.
\$7.50. Hardware stores
- *294. Outside firm joint caliper number 821
Brown & Sharpe of New York, Inc.
60 cents. Hardware stores
- *295. Caliper square with adjusting screw number
560
Brown & Sharpe of New York, Inc.
\$10.20. Hardware stores
296. Caliper rule number 391
Brown & Sharpe of New York, Inc.
\$5.00. Hardware stores
297. Slide caliper rule number 385
Brown & Sharpe of New York, Inc.
\$2.50. Hardware stores
298. Pocket slide caliper rule number 388
Brown & Sharpe of New York, Inc.
\$4.00. Hardware stores
299. Flexible stainless steel rule number 356
Brown & Sharpe of New York, Inc.
\$1.35. Hardware stores
300. Narrow tempered steel rule number 303
Brown & Sharpe of New York, Inc.
90¢. Hardware stores
301. Rule with slide number 330
Brown & Sharpe of New York, Inc.
\$2.00. Hardware stores
302. Hardened and ground steel parallel number
920
Brown & Sharpe of New York, Inc.
\$4.00. Hardware stores
303. Hardened steel straight edge number 527
Brown & Sharpe of New York, Inc.
\$1.00. Hardware stores
304. Hardened cast steel try squares number 540
Brown & Sharpe of New York, Inc.
\$3.60 to \$34.50. Hardware stores
305. Adjustable square complete number 554
Brown & Sharpe of New York, Inc.
\$4.20. Hardware stores
306. Graduated steel square number 544
Brown & Sharpe of New York, Inc.
\$3.90. Hardware stores
- *307. Diemakers' square complete number 552
Brown & Sharpe of New York, Inc.
\$5.50. Hardware stores
308. Indicator number 738
Brown & Sharpe of New York, Inc.
\$10.00. Hardware stores
309. Speed indicator number 748
Brown & Sharpe of New York, Inc.
\$6.75. Hardware stores
- *310. Vest pocket speed indicator number 746
Brown & Sharpe of New York, Inc.
\$1.50. Hardware stores
- *311. 29 degrees worm thread tool gauge number
577
Brown & Sharpe of New York, Inc.
\$7.50. Hardware stores
312. Dial gauge number 726
Brown & Sharpe of New York, Inc.
\$10.00. Hardware stores
- *313. Bevel protractor number 493
Brown & Sharpe of New York, Inc.
\$10.50. Hardware stores
- *314. Laboratory microscope ESA-105
Carl Zeiss, Inc.
\$159.00
315. Research microscope, model L
Carl Zeiss, Inc.
\$573.80 (with objectives)
316. Binocular microscope XB
Carl Zeiss, Inc.
\$183.05
317. Iris cylinder diaphragm
Carl Zeiss, Inc.
\$6.50
318. Abbe apertometer
Carl Zeiss, Inc.
\$52.00

SCIENTIFIC INSTRUMENTS—*Continued*

319. Short magnifier lamp
Carl Zeiss, Inc.
\$13.15
320. Plankton vessel
Carl Zeiss, Inc.
\$2.00
321. Simplified attachable mechanical stage
Carl Zeiss, Inc.
\$18.00
322. Ramsden screw micrometer
Carl Zeiss, Inc.
\$44.00
323. Focusing microscope for photo-engravers
Carl Zeiss, Inc.
\$55.00
324. Folding aplanatic magnifiers
Carl Zeiss, Inc.
\$8.15 each
325. Aplanatic magnifiers
Carl Zeiss, Inc.
\$6.90 each; lens ring and handle, \$1.90
- *326. Diaphot
Carl Zeiss, Inc.
\$2.20
327. Stereoscope
Carl Zeiss, Inc.
\$40.00
328. Vertical telescope view finder (for Contax camera)
Carl Zeiss, Inc.
\$15.40
- *329. Telescope, 80 mm.
Carl Zeiss, Inc.
\$1,166.25
330. Hand spectroscope, model A
Carl Zeiss, Inc.
\$18.00
- *331. Cube of didymium glass
Carl Zeiss, Inc.
\$5.00
332. Blood sugar colorimeter
Carl Zeiss, Inc.
\$27.50
- *333. Sugar and oil refractometer
Carl Zeiss, Inc.
\$211.20
334. Pulfrich refractometer
Carl Zeiss, Inc.
\$458.40
- *335. Juerst ebulliometer
Eimer & Amend
\$75.00
- *336. MacMichael viscosimeter
Eimer & Amend
\$210.00
337. Small vertex refractionometer
Carl Zeiss, Inc.
\$115.00
338. Demonstration attachment for cystoscopes
Carl Zeiss, Inc.
\$90.00
339. Polarimeter with circular scale
Carl Zeiss, Inc.
\$186.25
- *340. Pocket polarimeter
Carl Zeiss, Inc.
\$83.25
341. Triple mirror for light signals
Carl Zeiss, Inc.
342. Prism
Holophane Co.
343. Controlenses
Holophane Co.
- *344. Adjustable curve number 2160
Eugene Dietzgen Co., Inc.
\$2.25
- *345. Adjustable curve number 2161 A
Eugene Dietzgen Co., Inc.
\$2.65
346. Wood blackboard outfit: arc, protractor, T-square, and triangle
Eugene Dietzgen Co., Inc.
\$5.70
- *347. Protractor, nickel silver
Eugene Dietzgen Co., Inc.
\$41.80
- *348. Protractor, steel
Eugene Dietzgen Co., Inc.
\$10.00
349. Slide rule
Eugene Dietzgen Co., Inc.
\$10.55
- *350. Pocket sight compass
Eugene Dietzgen Co., Inc.
\$8.35
- *351. Short & Mason miner's compass
Taylor Instrument Companies
\$40.00. Department, optical and hardware stores

SCIENTIFIC INSTRUMENTS—Continued

- *352. Brass plumb bob
Eugene Dietzgen Co., Inc.
\$1.90
- 353. Mercury plumb bob number 790
Brown & Sharpe of New York, Inc.
\$3.60. Hardware stores
- 354. DX Projection type ammeter
Westinghouse Electric & Mfg. Co.
- 355. DX Projection type rectox voltmeter
Westinghouse Electric & Mfg. Co.
- 356. PY-5 a.c. portable voltmeter
Westinghouse Electric & Mfg. Co.
- 357. Stroboscopic clock motor testing board
Westinghouse Electric & Mfg. Co.
- 358. Light meter
Westinghouse Electric & Mfg. Co.
- *359. Dental instruments
The S. S. White Dental Mfg. Co.
- *360. Dietometer
Eimer & Amend
\$9.00
- *361. Torsion prescription scale number 285
The Torsion Balance Co.
\$80.00
- 362. Micromax recording potentiometer
Leeds & Northrup Co., Philadelphia
\$250.00
- 363. Brown indicating flowmeter number 2020
The Brown Instrument Co., Philadelphia
\$108.75
- 364. Altitude barometer
Taylor Instrument Companies
\$42.00. Department, optical and hardware stores
- *365. Anemometer
Taylor Instrument Companies
\$50.00. Department, optical and hardware stores
- *366 X-ray unit, model "B", stationary type
Ritter Dental Mfg. Co., Inc.
\$820.00

6. LABORATORY GLASS AND PORCELAIN

- *367. Crystallizing dishes
Corning Glass Works
45¢ to \$1.25. Eimer & Amend
- *368. Boiling flasks
Corning Glass Works
57¢ to \$3.30. Eimer & Amend
369. Boiling flasks with wicker necks
Corning Glass Works
\$1.35 and \$1.55. Eimer & Amend
370. Erlenmeyer flasks
Corning Glass Works
38¢ to \$1.60. Eimer & Amend
371. Beakers
Corning Glass Works
18¢ to 50¢. Eimer & Amend
- *372. Reagent bottles
Corning Glass Works
65¢ to \$3.00. Eimer & Amend
373. Cylindrical jars
Corning Glass Works
\$1.20 to \$10.00. Eimer & Amend
- *374. Hydrometer jars
Eimer & Amend
40¢ to \$2.75
- *375. Battery jars
Eimer & Amend
\$4.70 to \$13.25
376. Battery jars
Corning Glass Works
\$1.15 to \$2.60. Eimer & Amend
- *377. Petri dishes
Eimer & Amend
24¢ to 70¢
378. Moist chambers
Eimer & Amend
\$1.40 and \$1.80
- *379. Stender dishes
Eimer & Amend
50c. to \$2.00
380. Flask 500 cc
Eimer & Amend
\$1.85
- *381. Measuring flask
Eimer & Amend
\$1.60
382. Measuring cylinder 500 cc
Eimer & Amend
\$4.25
383. Weighing bottles
Eimer & Amend
30¢ to \$1.60
384. Shaking flask
Eimer & Amend
\$1.20
385. B jar
Eimer & Amend
\$8.00
386. Bell jar and frame
Eimer & Amend
\$16.00
387. Generating bottle
Eimer & Amend
\$2.35
388. Culture flask
Corning Glass Works
65¢. Eimer & Amend
389. Roux culture flask
Corning Glass Works
65¢. Eimer & Amend
390. Round bottom boiling flask, 72 litres
Corning Glass Works
\$25.00. Eimer & Amend
391. Solution bottle
Corning Glass Works
\$4.00. Eimer & Amend
392. Watch glass
Eimer & Amend
60¢
- *393. Scorifiers
Eimer & Amend
60¢
- *394. Retort
Corning Glass Works
\$3.60. Eimer & Amend
- *395. Capsules
Coors Porcelain Co.
15¢ to 25¢. Eimer & Amend
396. Rings
Coors Porcelain Co.
\$9.95. Eimer & Amend

LABORATORY GLASS AND PORCELAIN—*Continued*

*397. Dish

Coors Porcelain Co.
\$1.60. Eimer & Amend

*398. Beakers

Coors Porcelain Co.
55¢ to \$9.00. Eimer & Amend

399. Petri covers

Coors Porcelain Co.
15¢ and 20¢. Eimer & Amend

400. Jar

Coors Porcelain Co.
\$129.00. Eimer & Amend

401. Sample oil bottles

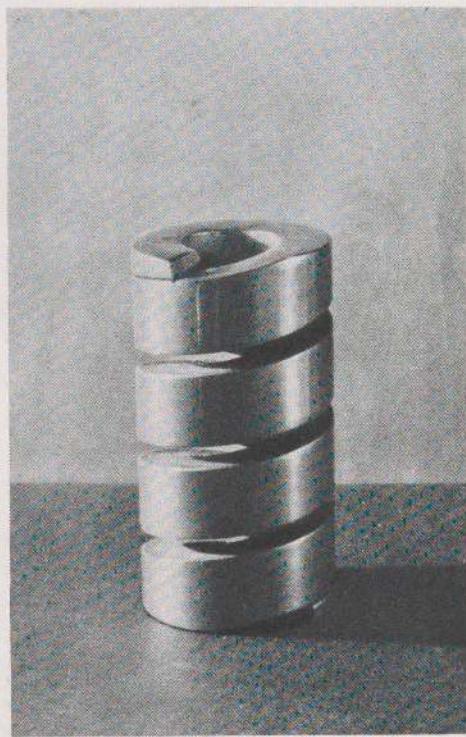
Owens-Illinois Glass Co.

402. Jar and cover

Eimer & Amend
\$2.25

1. Industrial Units

Illustrations



1

Bearing spring

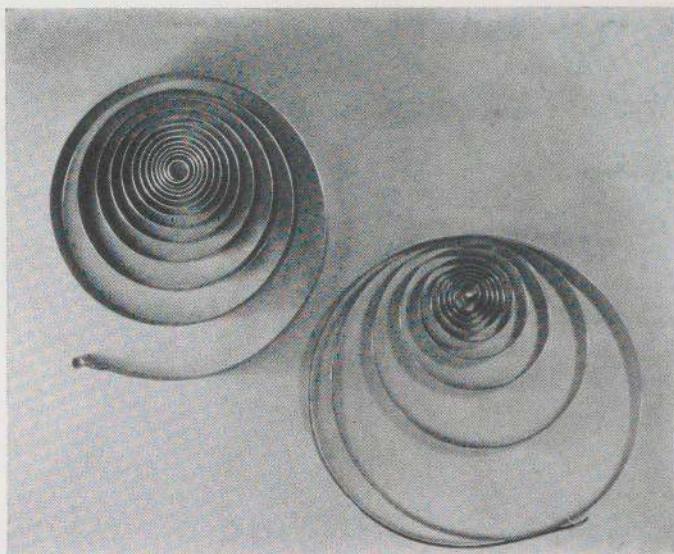
American Steel & Wire Co.
Subsidiary United States Steel Corp.



2

Section of spring

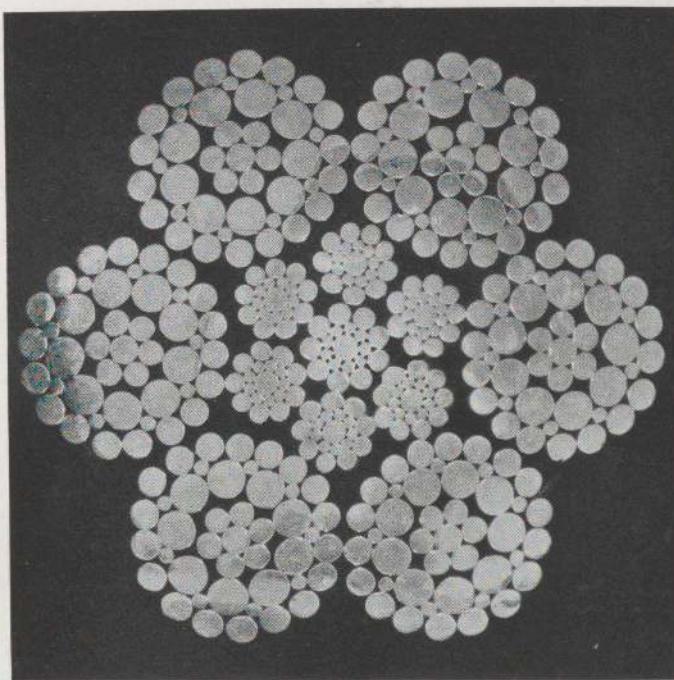
American Steel & Wire Co.
Subsidiary United States Steel Corp.



5, 6

Typewriter carriage spring and motor spring

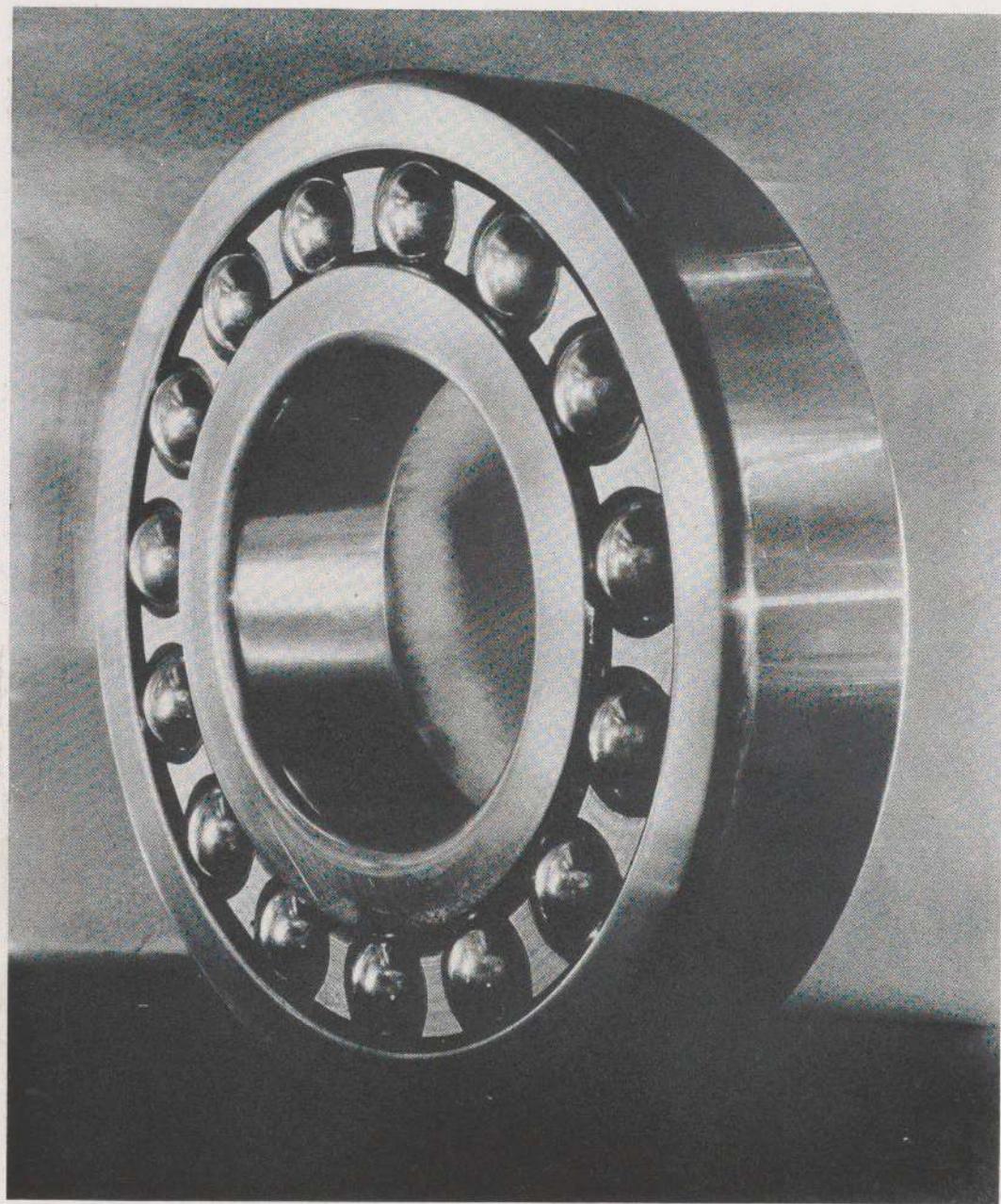
American Steel & Wire Co.
Subsidiary United States Steel Corp.



26

Section of wire rope $3\frac{1}{2}$ " in diameter

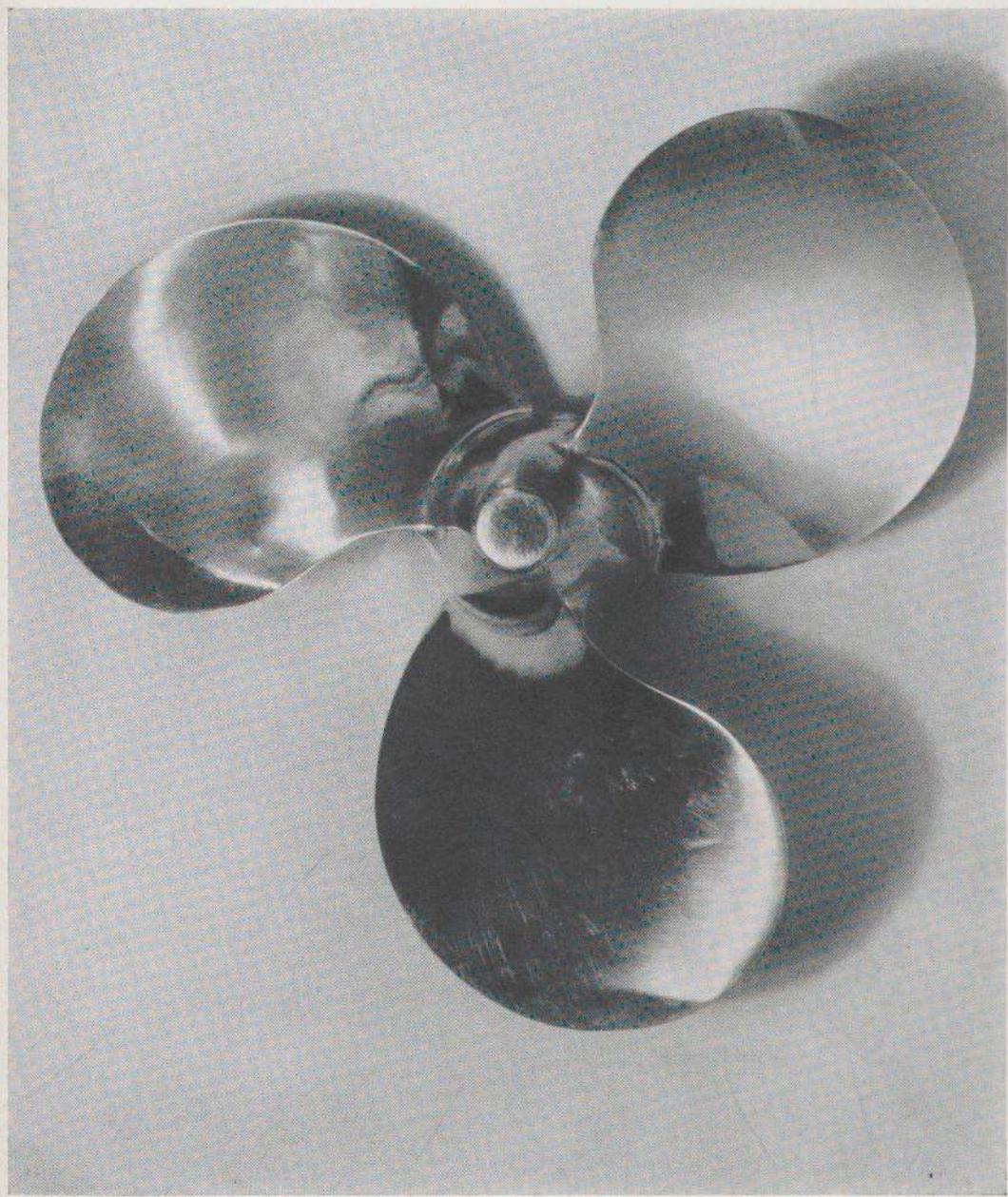
American Steel & Wire Co.
Subsidiary United States Steel Corp.



50

Self-aligning ball bearing

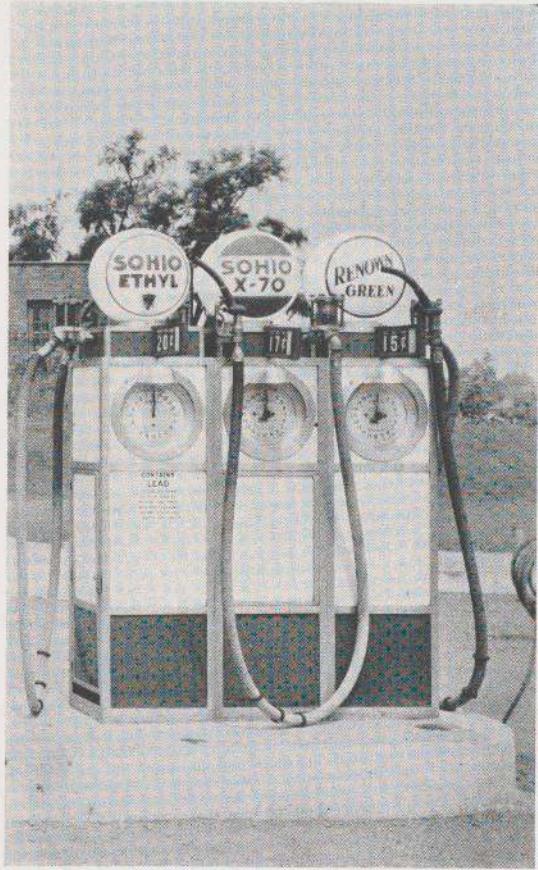
S K F Industries



41

Outboard propeller

Aluminum Company of America

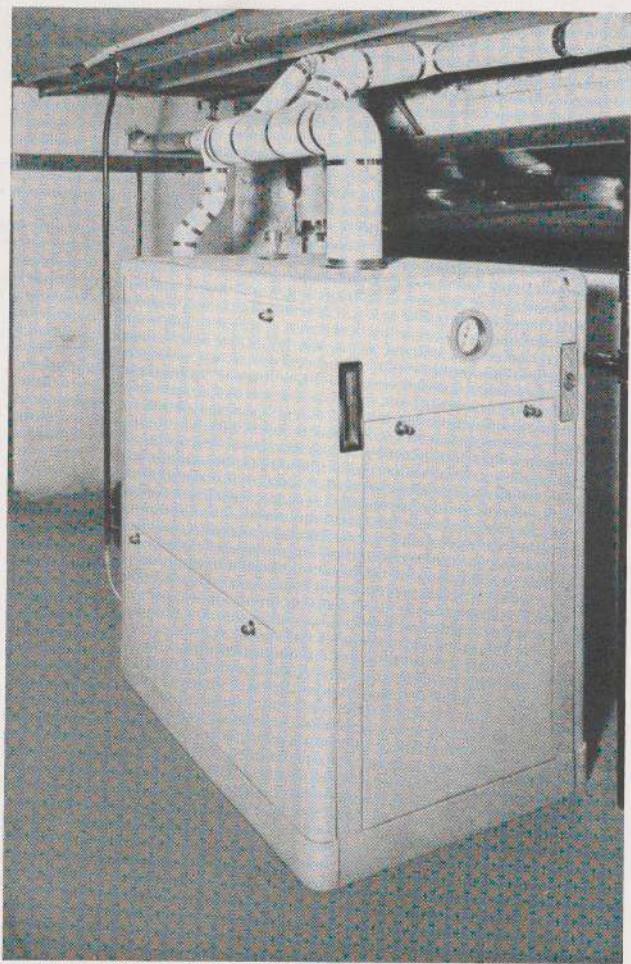


54

Gasoline pumps
Standard Oil Company of Ohio

2. Household and Office Equipment

Illustrations



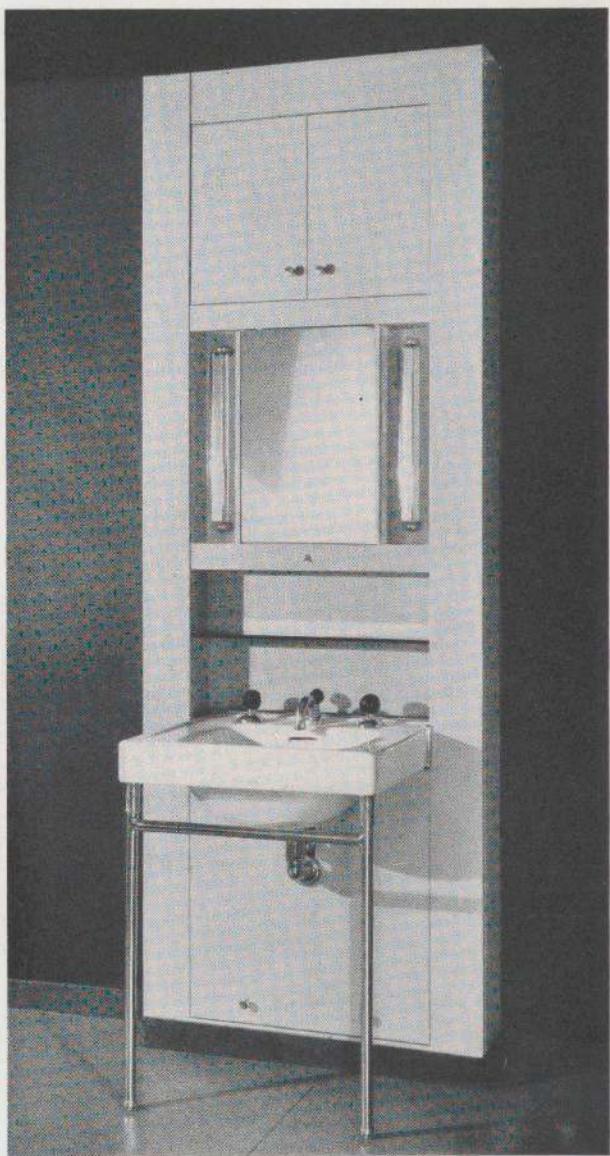
63

Electrol-Kewanee heating unit, model 10

Electrol, Inc.

Gerth & Gerth, designers

\$857.00



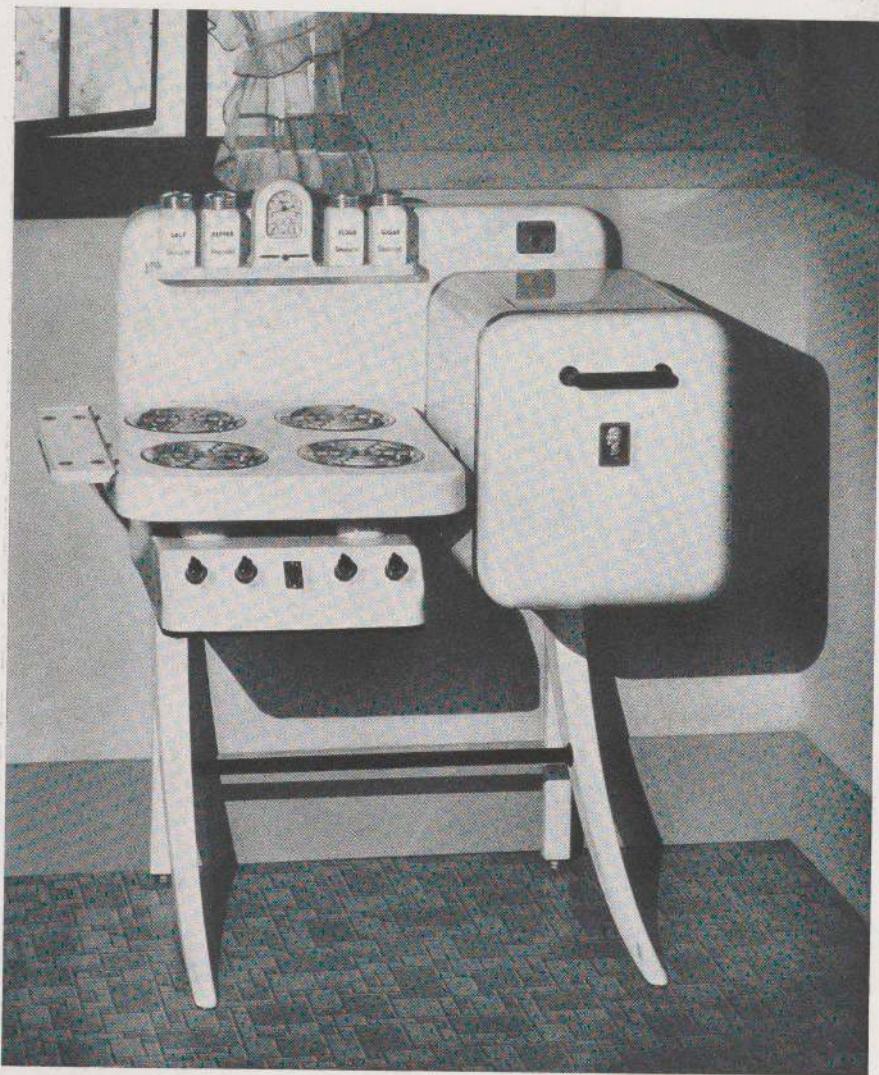
57

Lavatory panel of the Areo panel unit system, equipped
with special tubular fittings

The Accessories Co., Inc.
Division of American Radiator Co.

George Sakier, designer

Panel: \$60.00; Standard Sanitary lavatory: \$50.00.
Licensed plumbers



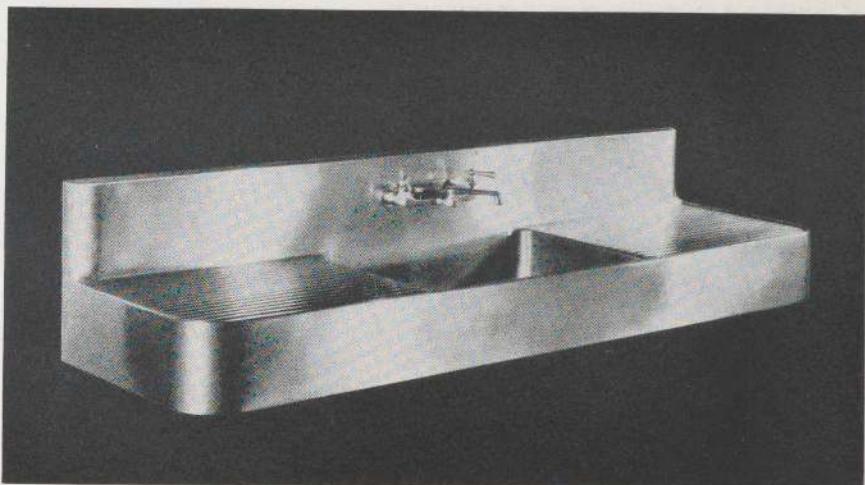
64

Electrochef range, model B-2

Electromaster Inc., Detroit, Michigan

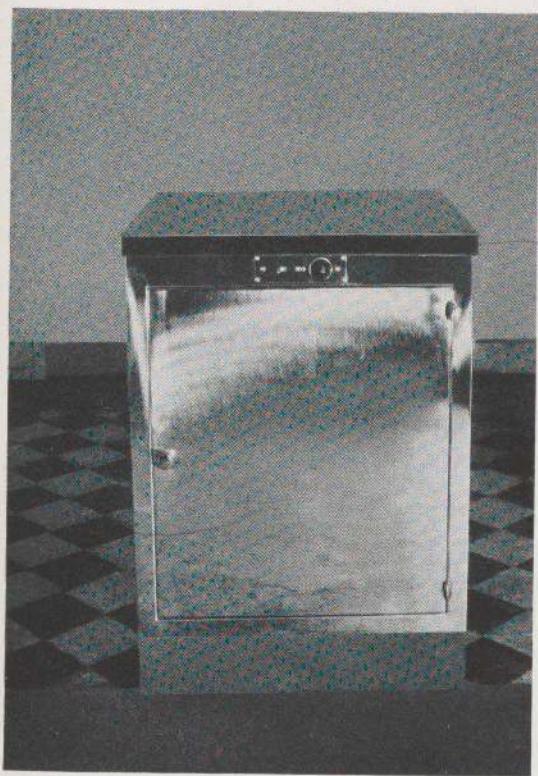
Emil Piron, designer

\$110.00



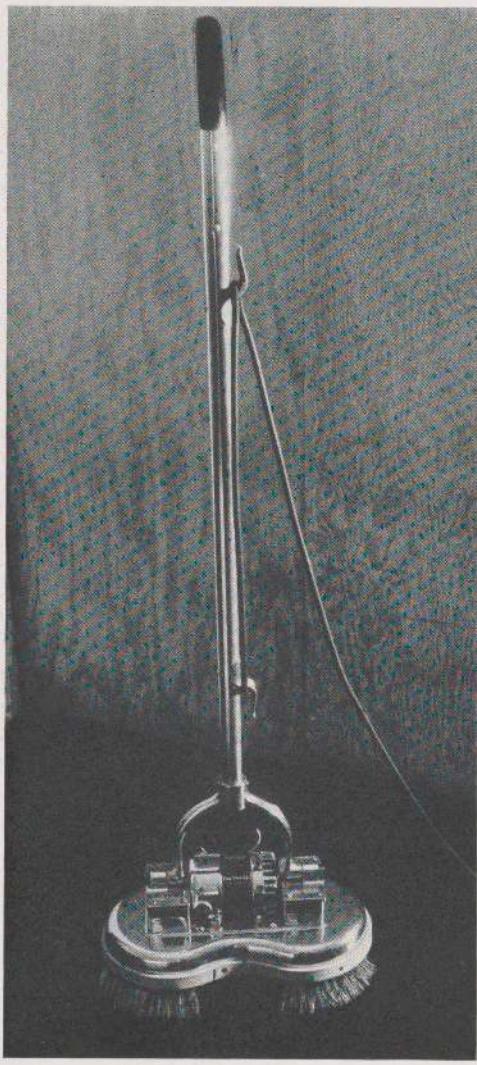
65

Streamline Monel metal sink
The International Nickel Co., Inc.
Gustav Jensen, designer
\$193.50. Licensed plumbers



66

Electric plate warmer, White House Line
Janes & Kirtland, Inc.
\$100.00. Department stores

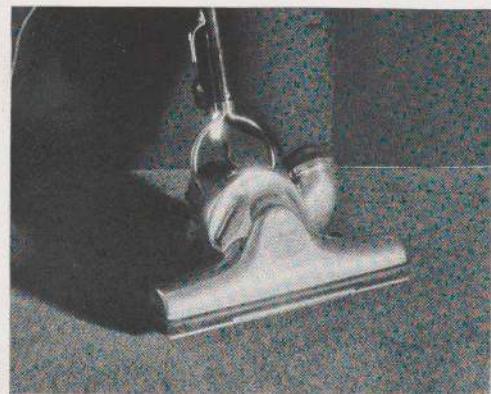


71

Fay electric floor machine, Diamond model

The Fay Co.

\$65.00. Department, furniture and hardware stores

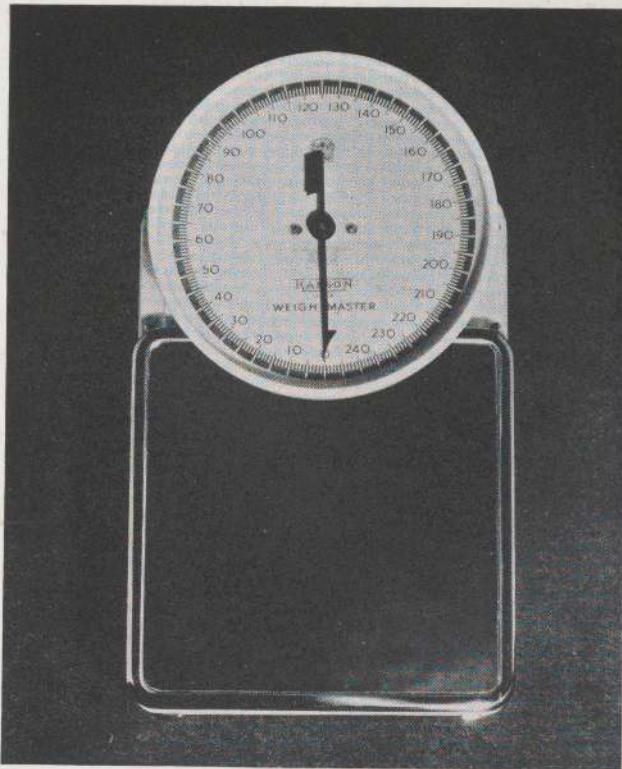


72

Hamilton Beach vacuum cleaner, model 8

Hamilton Beach Mfg. Co.
Subsidiary Scovill Mfg. Co.

\$34.75. Department, furniture and hardware stores



75

Health scale, number 711
Hanson Scale Co.
\$12.95. Department and hardware stores



73

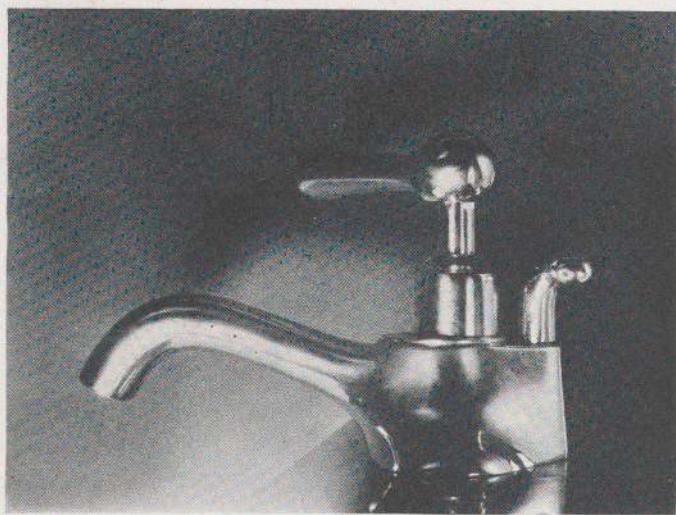
Silver Streak carpet sweeper
Bissell Carpet Sweeper Co.
\$5.00. Department, furniture and hardware stores



62

Flush valve

**Scovill Mfg. Co.
Plumbers' Brass Goods Division
Licensed plumbers**



61

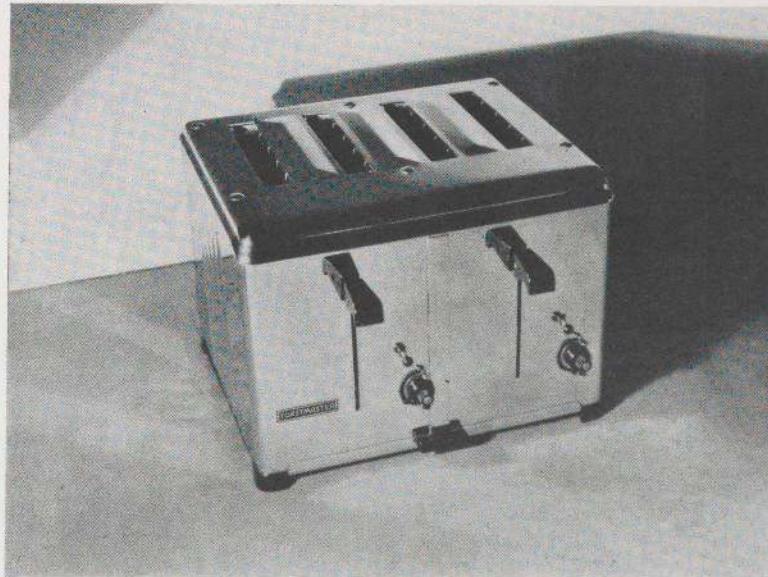
**Niedecken mixer faucet
Hoffmann & Billings Mfg. Co.
\$25.00 Henry Stein, 50 Cliff St.**



77

Wafflemaster, automatic electric waffle baker

Waters-Genter Co.
Division of McGraw Electric Co.
\$85.00. Tumbridge Sales Corp.



76

Toastmaster, automatic electric toaster

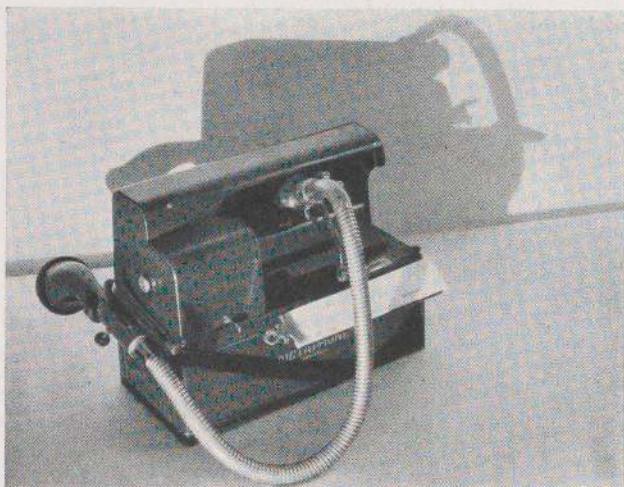
Waters-Genter Co.
Division of McGraw Electric Co.
\$85.00. Tumbridge Sales Corp.

87

Dictaphone, model 12

Dictaphone Corp.

\$200.00. Dictaphone Sales Corp.



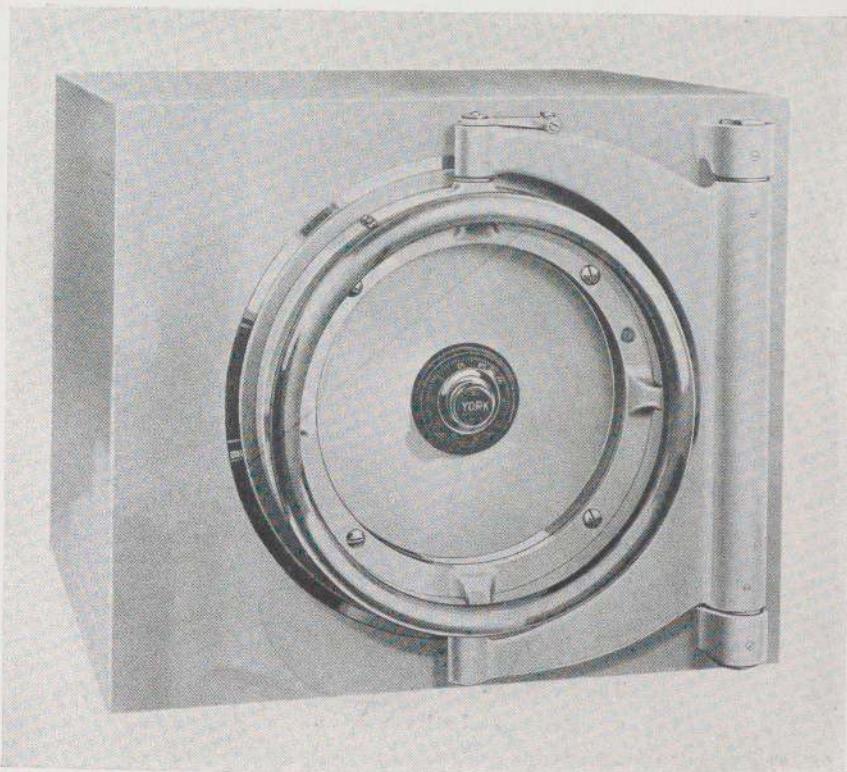
88

National Cash Register, model 1934

The National Cash Register Co.

\$325.00

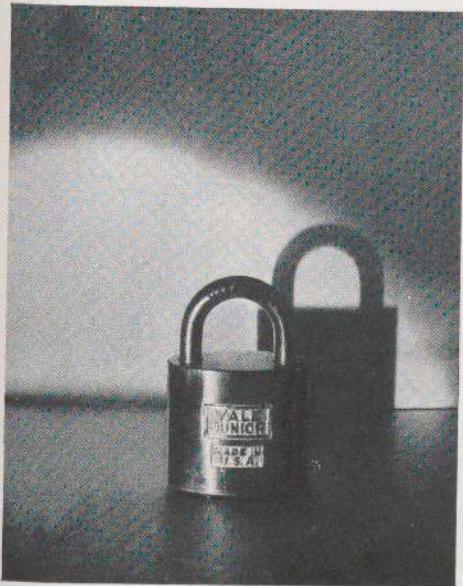




91

York round door chest, model 480

York Safe and Lock Co.



85

Yale junior lock

Yale & Towne Mfg. Co.

60¢. Hardware stores



78

Range with 4 glass coffee machines

The Silex Co.

\$56.95. E. B. Latham & Co.

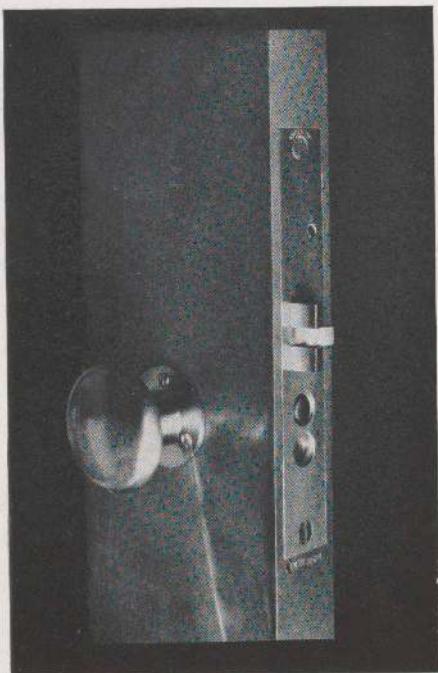
81

Door knob and lock

P. & F. Corbin

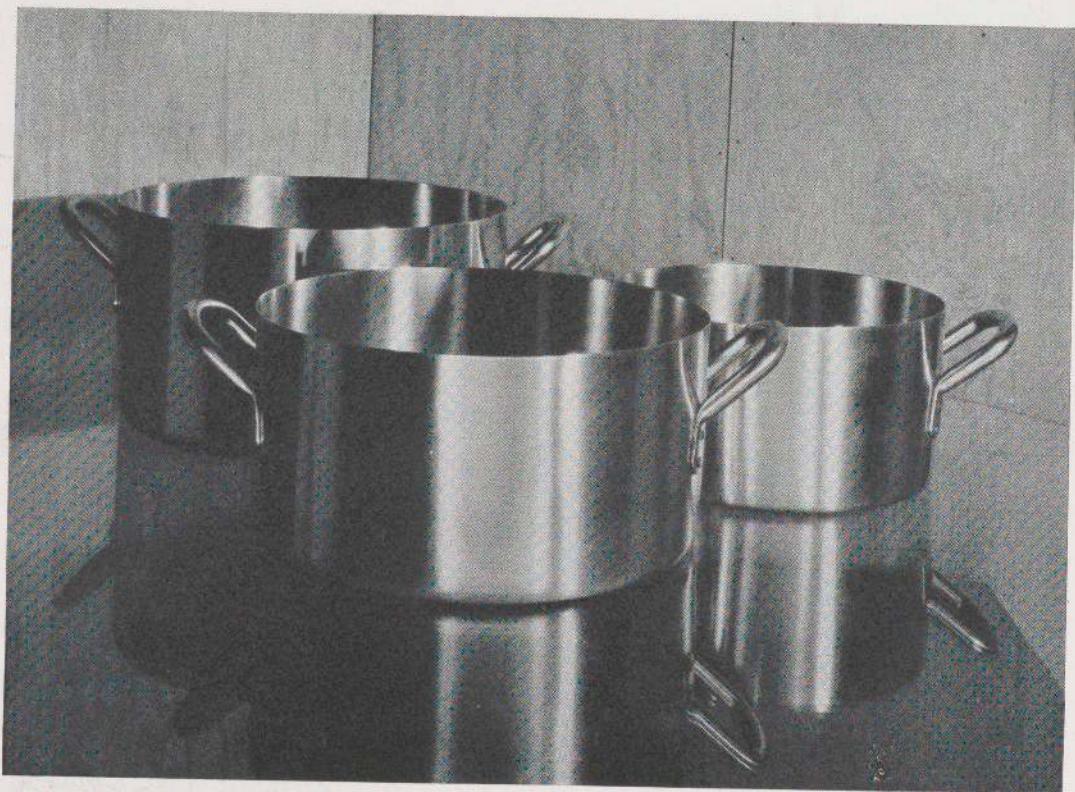
Howe & Leseaze, designers

\$14.75



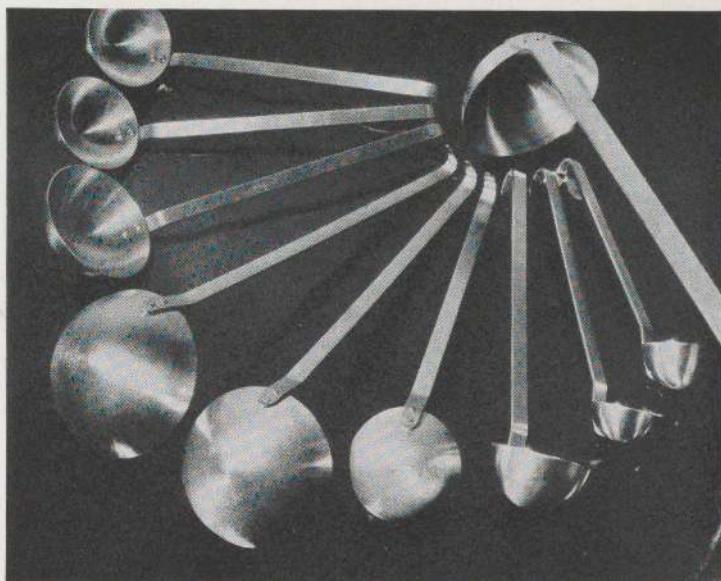
3. Kitchenware

Illustrations



113

Crusader hotel sauce pots
Lalance & Grosjean Mfg. Co.
\$14.55 to \$31.65.



117

Crusader hotel ladles

Lalance & Grosjean Mfg. Co.

\$1.08 to \$4.45



119

Crusader bakers' bowl

Lalance & Grosjean Mfg. Co.

\$25.00 to \$64.75

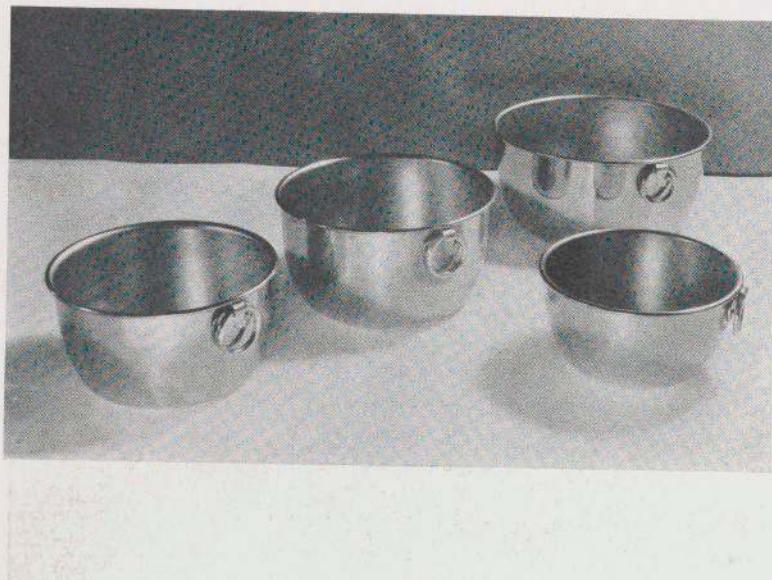


131

Stewpans

Imported by Markt & Hammacher

75¢ to \$1.35. Lewis & Conger



135

Mixing bowls

Revere Copper & Brass
Inc.

Rome Mfg. Division

90¢ to \$1.30.

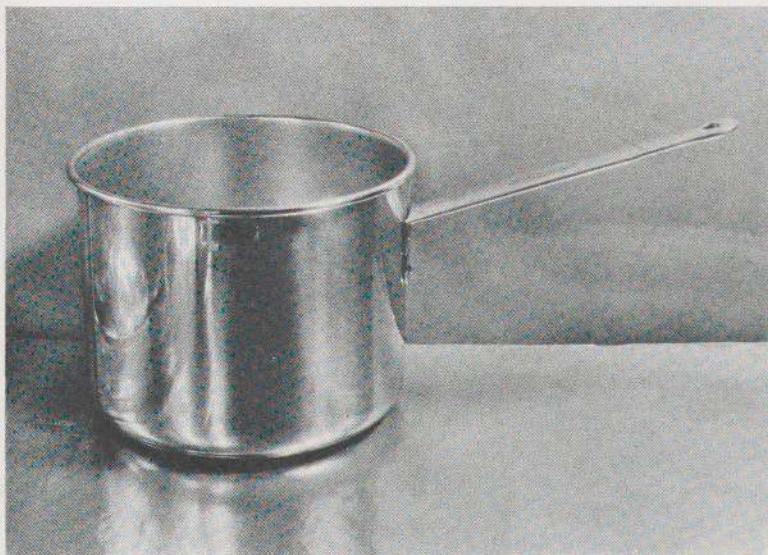
Department stores



135

Graduated measures,
Staybrite nonoxyd
metalware

L. D. Cahn Co.



132

Saucepan

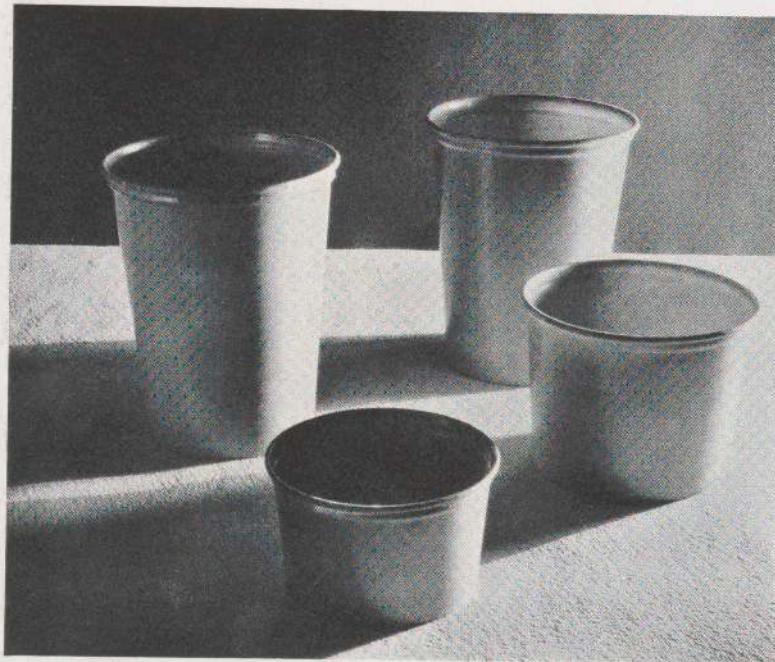
**Revere Copper & Brass
Inc.
Rome Mfg. Division**

\$1.80 to \$2.20. Department stores

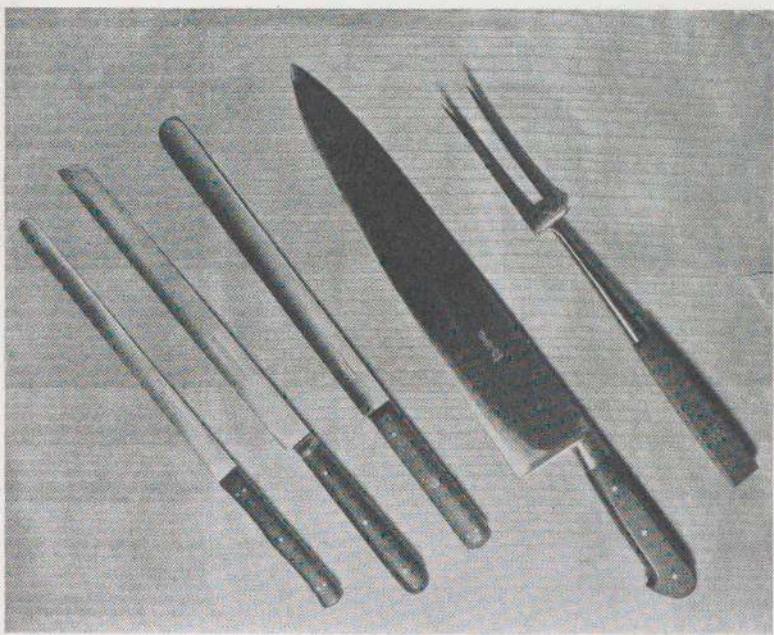


143
144

Beverage and bathroom tumblers, rustless steel
Polar Ware Co.
90¢ and \$1.65



149
151
Nestrite paper containers
Lily-Tulip Cup Corp.



145, 147

Imported cooks' knives and slicers

Lewis & Conger

\$2.00 to \$4.50

146

Imported cooks' fork

Lewis & Conger

\$1.88



152

Needle box, rustless steel

Polar Ware Co.

\$3.70

137

Wear-Ever round cake
pans

The Aluminum
Cooking Utensil Co.

30¢ to 50¢
Department stores



140

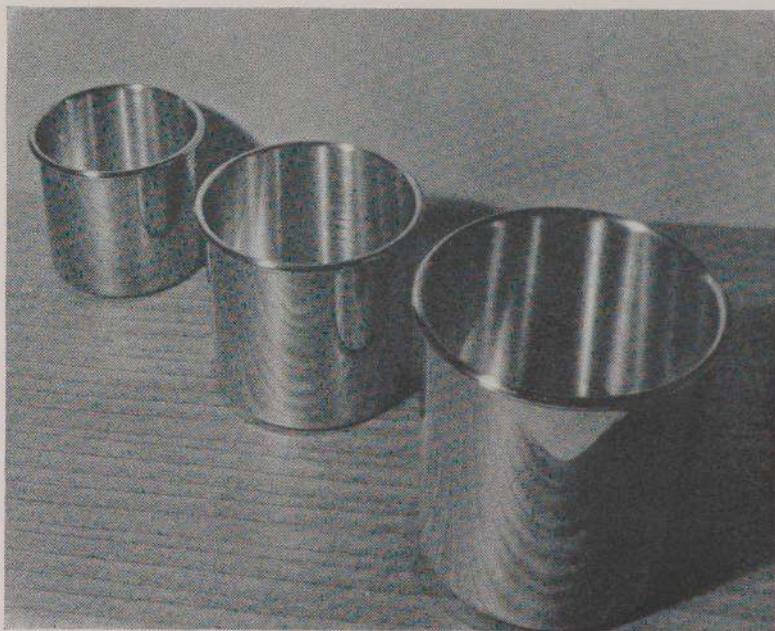
Wear-Ever tea kettle

The Aluminum
Cooking Utensil Co.

Lurelle V. A. Guild,
designer

\$2.95. Department
stores



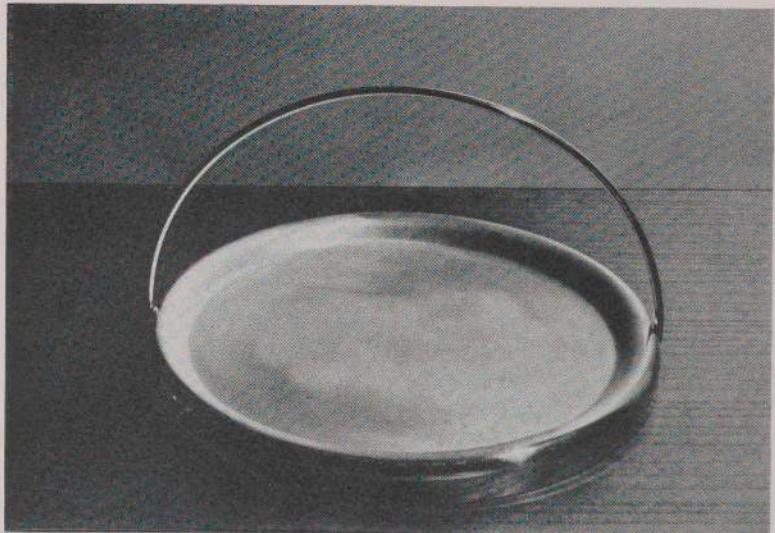


120

Wear-Ever food containers

The Aluminum Cooking Utensil Co.

93¢ to \$3.55. Department stores

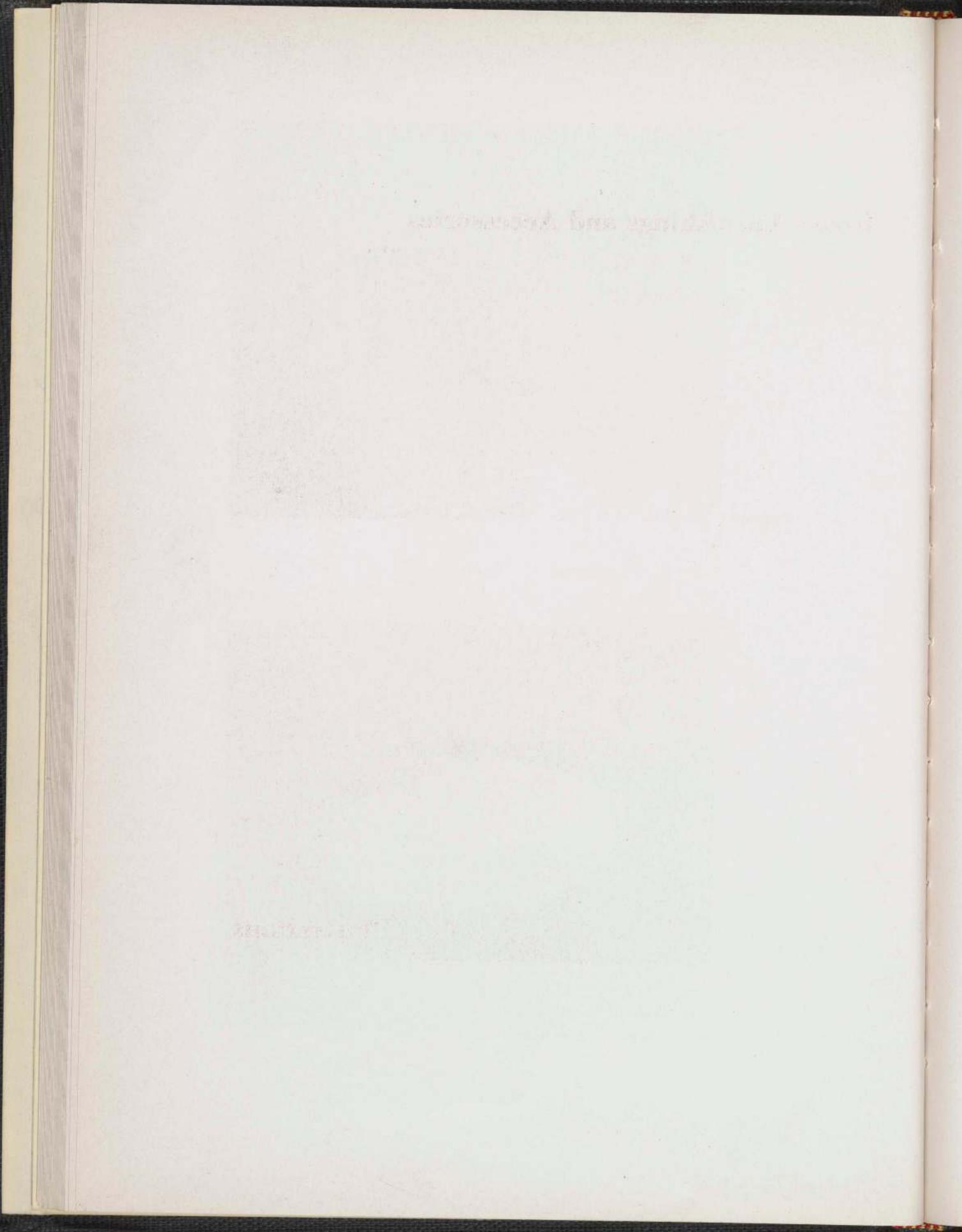


142

Wear-Ever griddle

The Aluminum Cooking Utensil Co.

\$3.95. Department stores



4. House Furnishings and Accessories

Illustrations

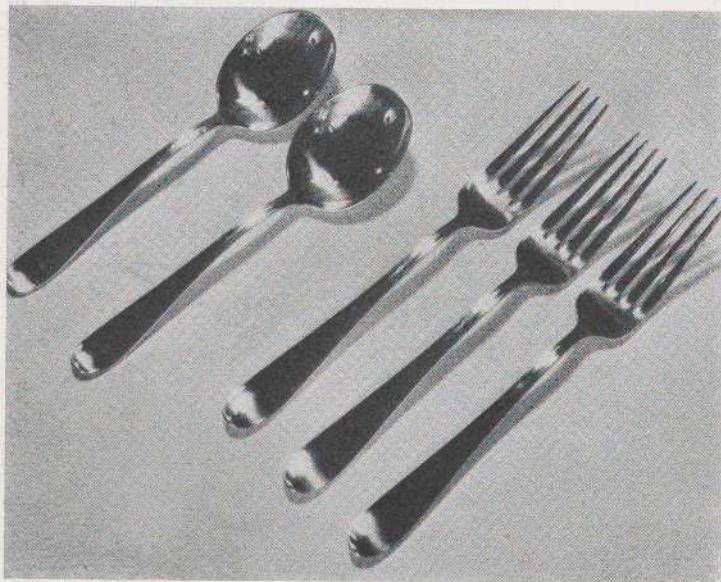
160-162



Dessert spoons, knives and forks, Covington Plain pattern
The Gorham Co.

A reproduction of an old English design by W. C. Codman
Spoons and knives, \$37.00 per dozen; forks, \$35.00 per dozen
Silversmiths and department stores

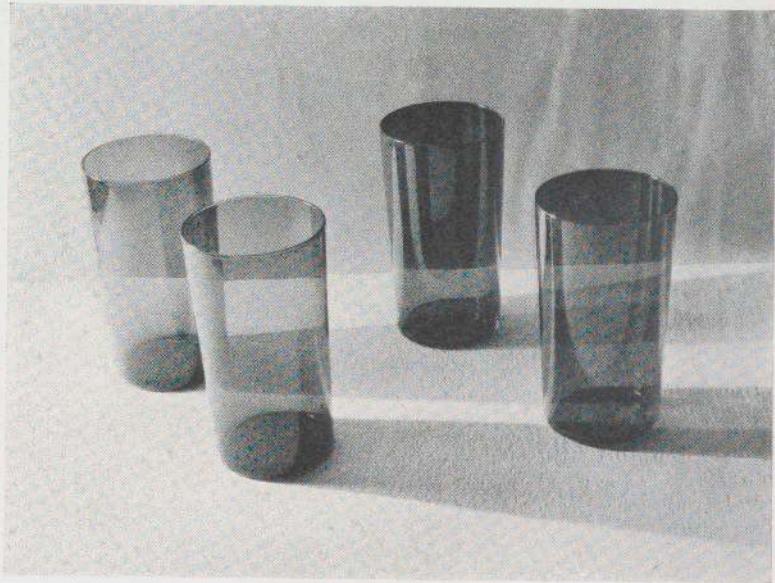
167, 169



Dessert spoons and forks,
Dolly Madison pattern

The Gorham Co.

Original early American
design by A. H. Staf
Spoons, \$46.00 per dozen;
forks, \$44.00 per dozen
Silversmiths and department stores

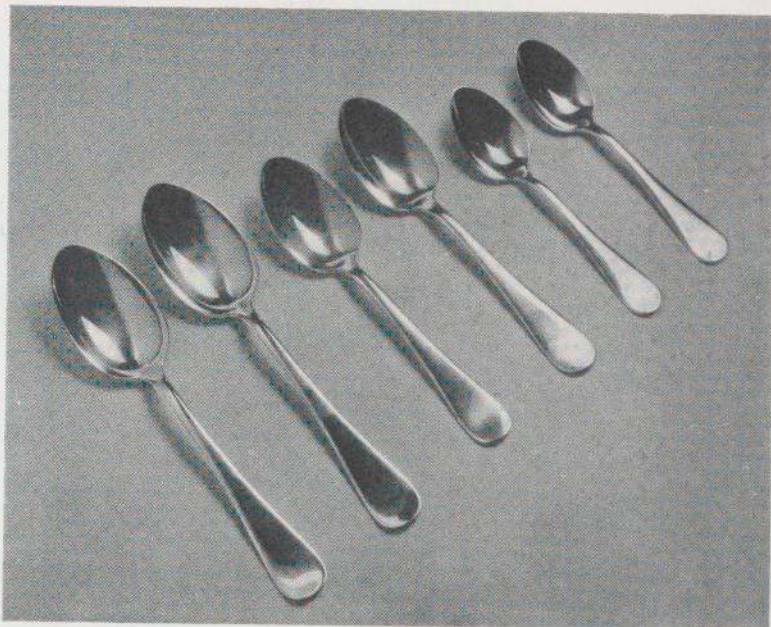


185, 186

Tumblers. Burgundy and blue glass

Fostoria Glass Co.

\$2.50 per dozen. Department stores and gift shops

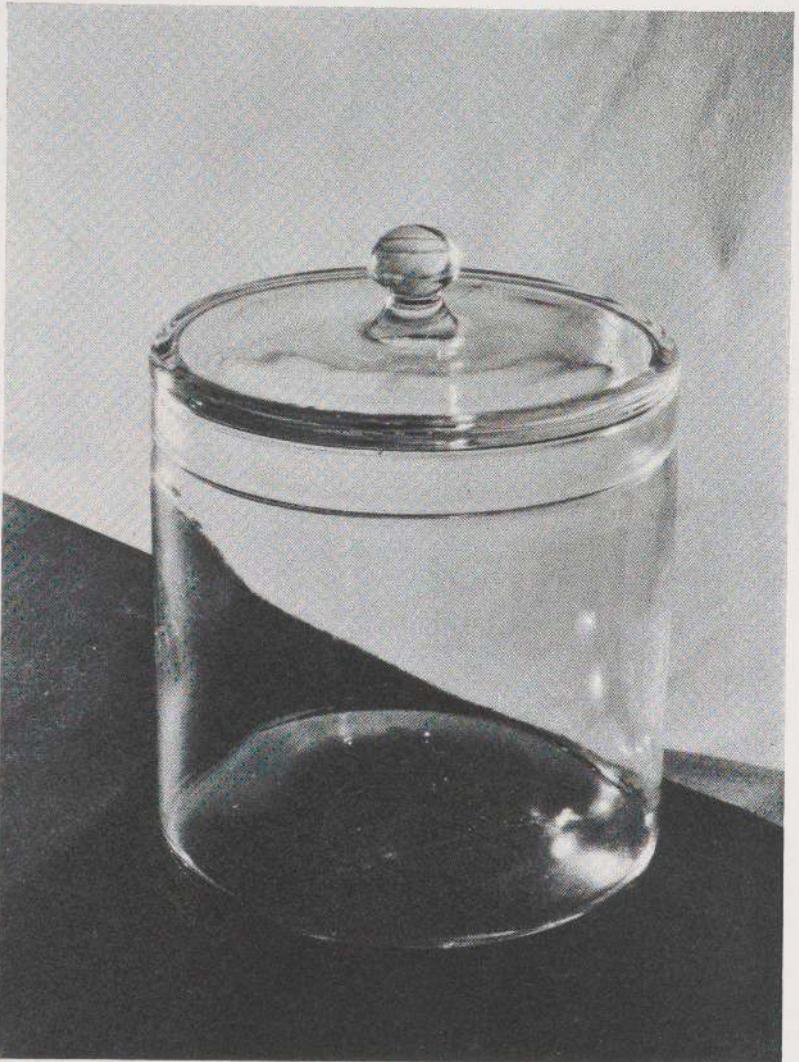


171-173

Windsor chromium teaspoons, dessert spoons and table spoons

Lent by Lewis & Conger

25¢, 42¢ and 48¢ each



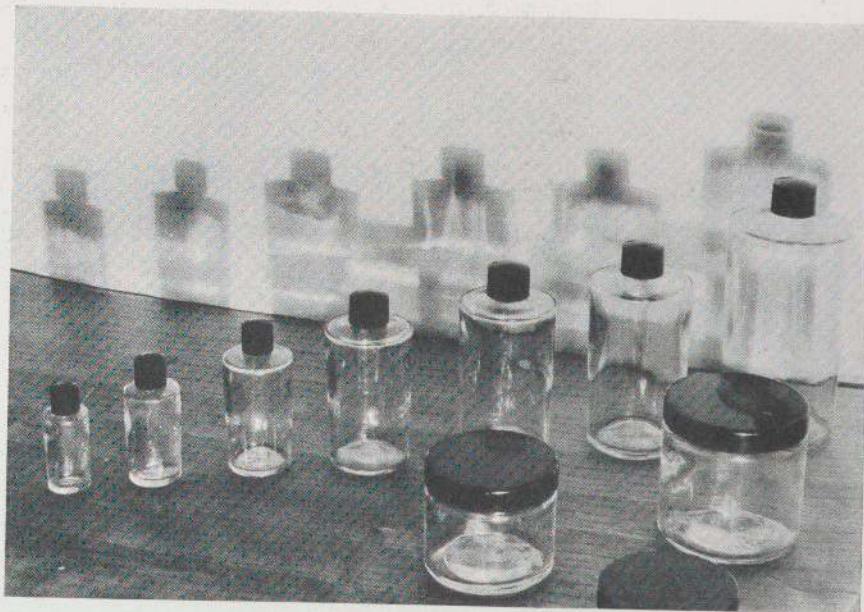
215

Jar with cover
Owens-Illinois Glass Co.



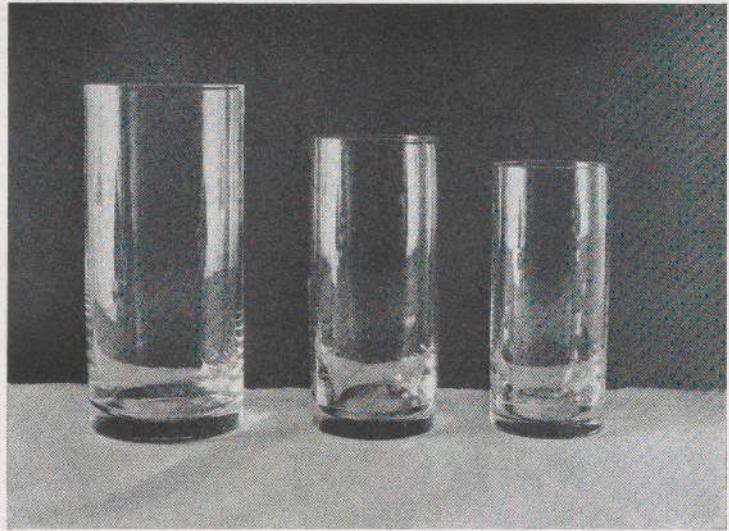
213

Oblong perfume bottles
Owens-Illinois Glass Co.



211, 214

Cream jars and taper round bottles
Owens-Illinois Glass Co.



237

Vases

Corning Glass Works—Steuben Division

Walter Dorwin Teague, designer

\$2.75 to \$3.75. Steuben Glass, Inc., 748 Fifth Avenue



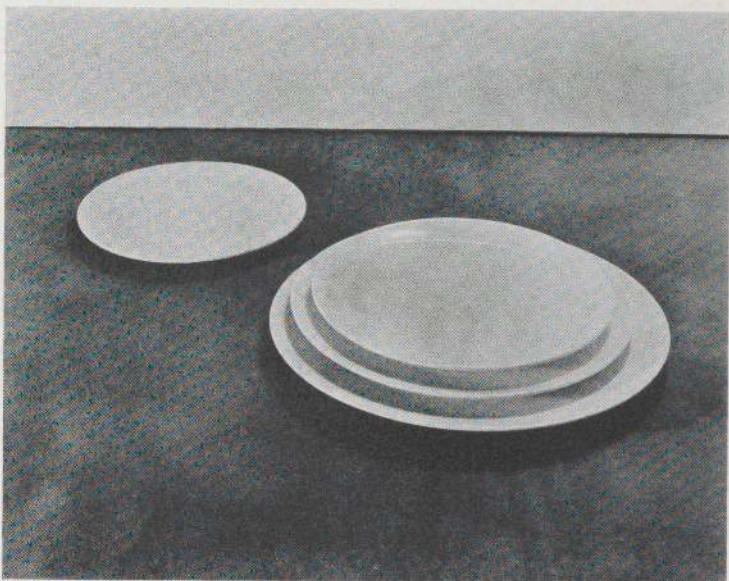
238

Black glass vases

Corning Glass Works—Steuben Division

Walter Dorwin Teague, designer

\$2.75 to \$3.75. Steuben Glass, Inc., 748 Fifth Avenue



178-181

White porcelain plates

Lenox Inc.

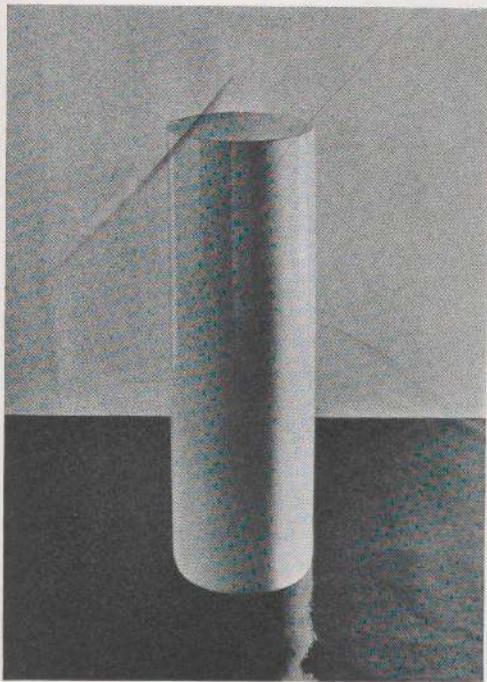
\$13.25 to \$21.00 per dozen. Department stores and gift shops

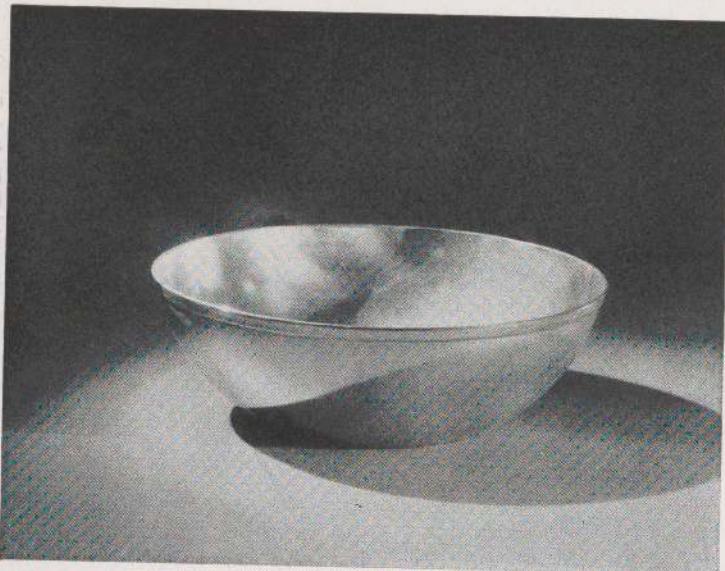
232

White porcelain vase

Lenox Inc.

\$3.00. Department stores and gift shops





225

Pretzel bowl, chromium

Chase Brass & Copper Co.,
Inc. Specialty Sales Division

\$2.00. Department stores
and gift shops



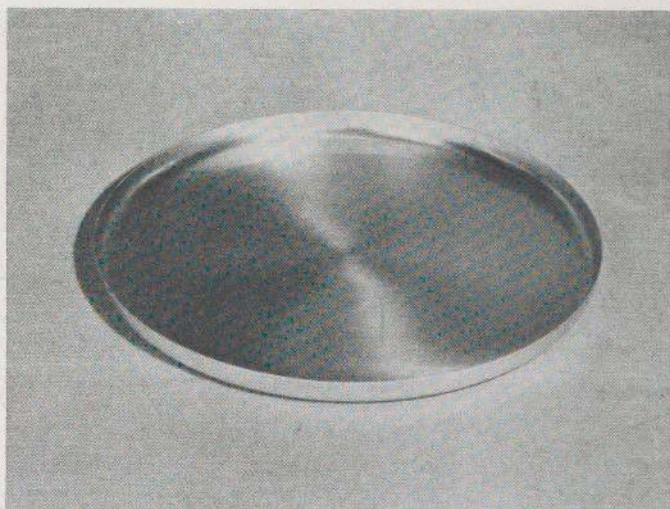
223

Flower bowl, copper

Chase Brass & Copper Co.,
Inc. Specialty Sales Division

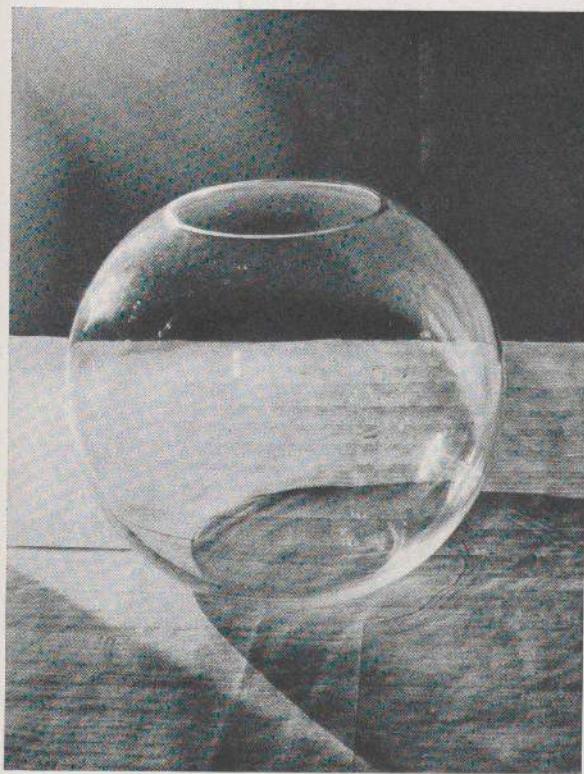
Walter Von Nessen, designer

\$8.00. Department stores
and gift shops



221

Serving tray, chromium
Chase Brass & Copper Co., Inc. Specialty Sales Division
Walter Von Nessen, designer
\$4.00. Department stores and gift shops



235

Spherical vase
Corning Glass Works—Steuben Division
Walter Dorwin Teague, designer
\$8.50. Steuben Glass, Inc., 748 5th Ave.



207-209

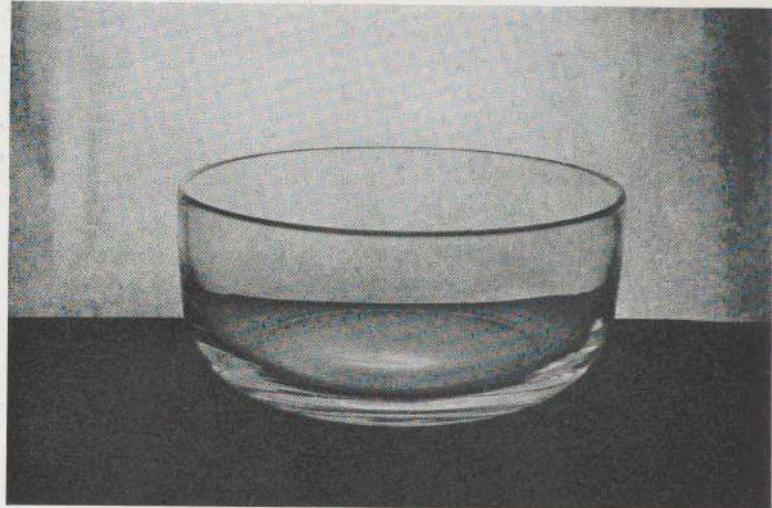
Wood salad bowl, berry bowl and small berry bowls

Russel Wright Studio

Russel Wright, designer

Salad bowl, \$3.30; berry bowl, \$3.00; small bowls, \$1.60 each

Department stores and gift shops



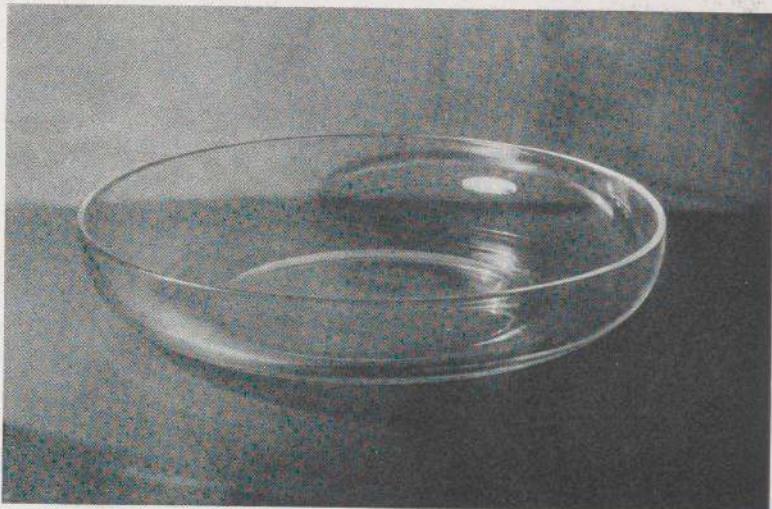
228

Bowl

Corning Glass Works—Steuben Division

Walter Dorwin Teague, designer

\$4.25. Steuben Glass, Inc., 748 Fifth Avenue



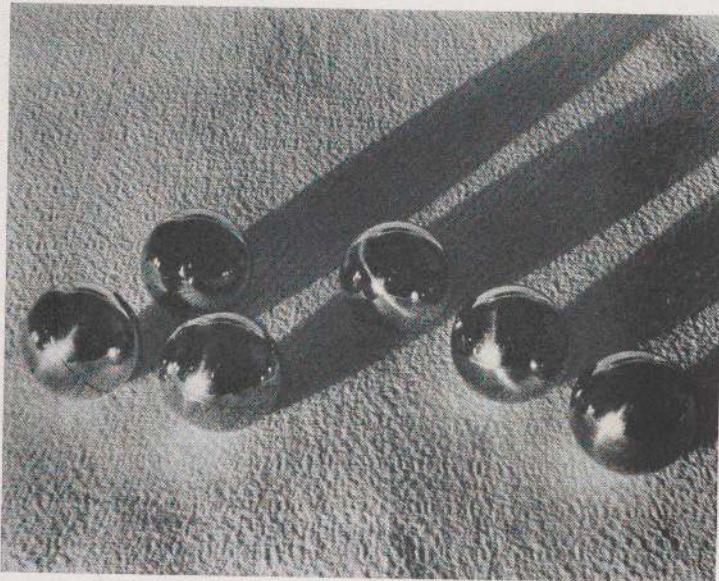
227

Bowl

Corning Glass Works—Steuben Division

Walter Dorwin Teague, designer

\$42.00 (with octagonal mirror base)

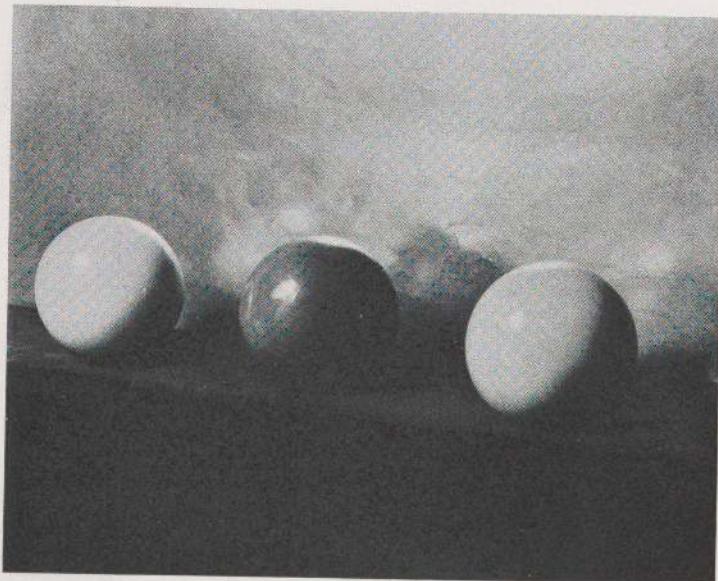


269

Silver ice (for chilling
drinks)

Lent by Saks-Fifth Avenue

\$2.50 for box of six



268

Billiard balls

Lent by Saks-Fifth Avenue

\$7.50 in leather box



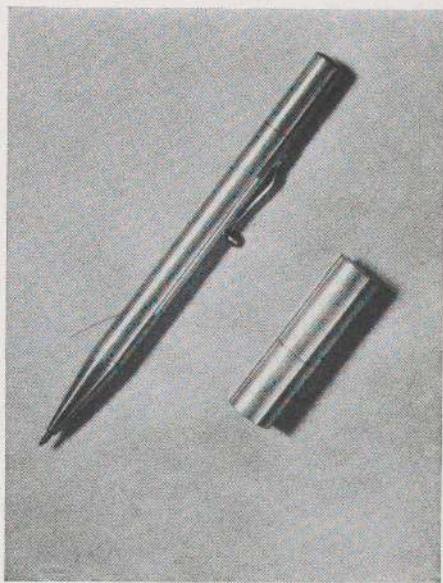
257

Inkstand and calendar

I. S. Pertofsky

Howe & Lescaze, designers

\$32.00. Howe & Lescaze, architects

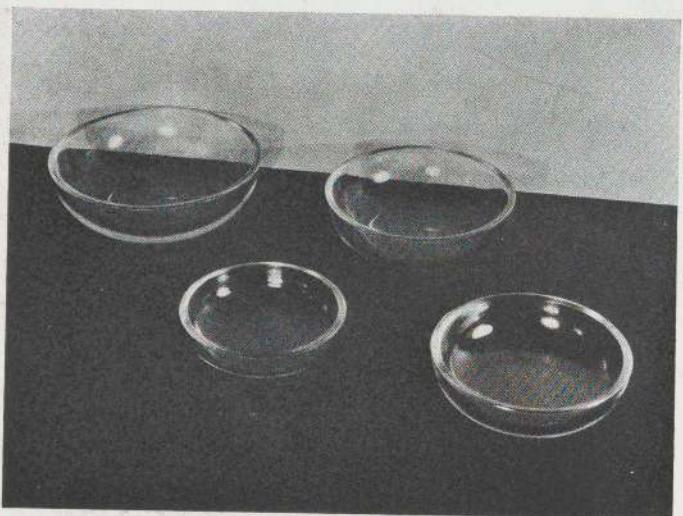


254, 255

Lektrolite Cylinda lighter and Lektrolite pencil
lighter, sterling silver

Platinum Products Co.

Cylinda lighter, \$12.00; pencil, \$25.00.
Department stores and gift shops



243

Ash tray set

Fostoria Glass Co.

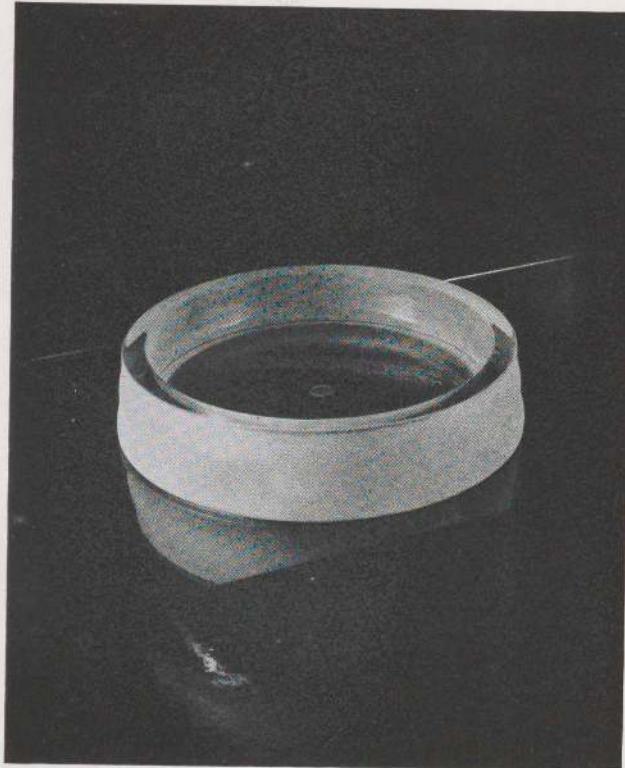
\$6.00 per dozen. Department stores and gift shops

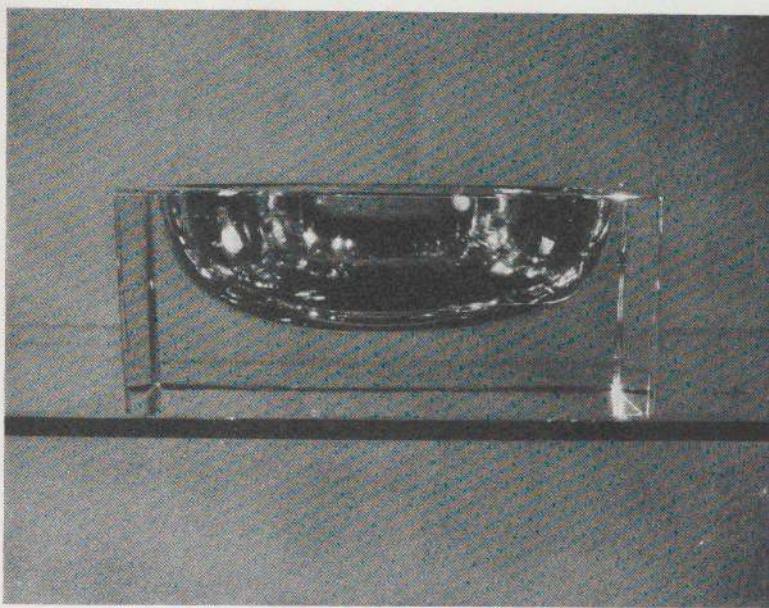
241

Ash tray

Lent by Arundell Clarke, Ltd.

\$2.50





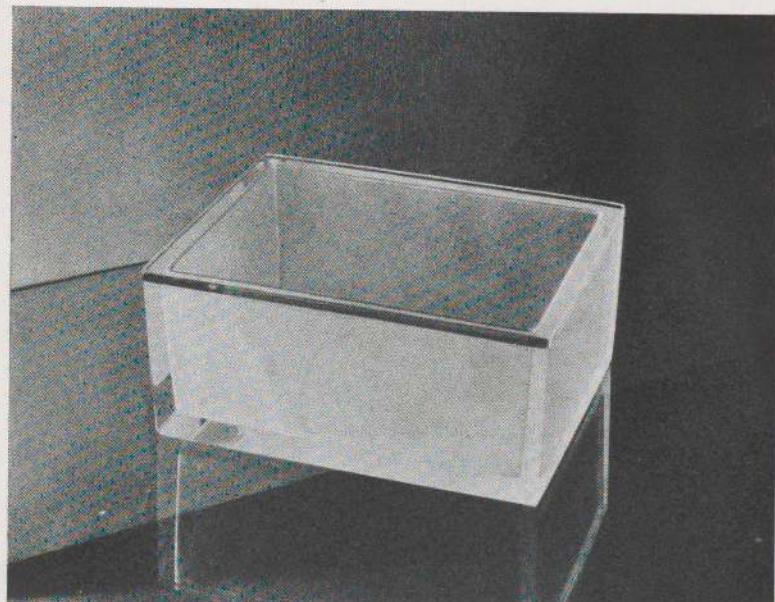
242

Ash tray

Corning Glass Works—
Steuben Division

Frederick Carder,
designer

\$7.50. Steuben Glass,
Inc., 748 Fifth Avenue



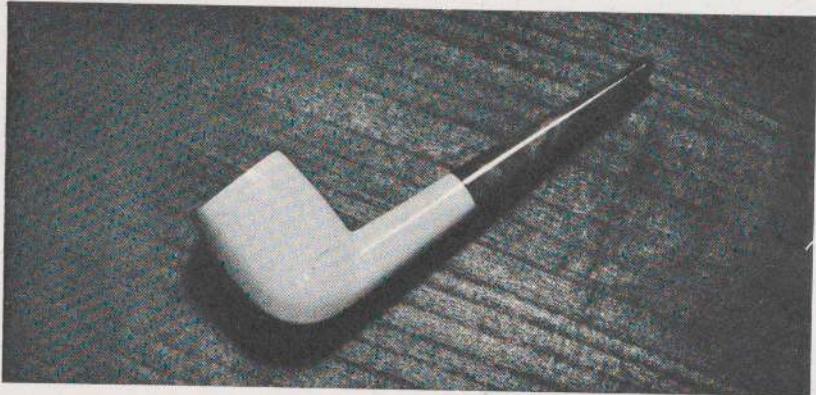
256

Cigarette box

Corning Glass Works—
Steuben Division

Frederick Carder,
designer

\$4.50. Steuben Glass,
Inc., 748 Fifth Avenue

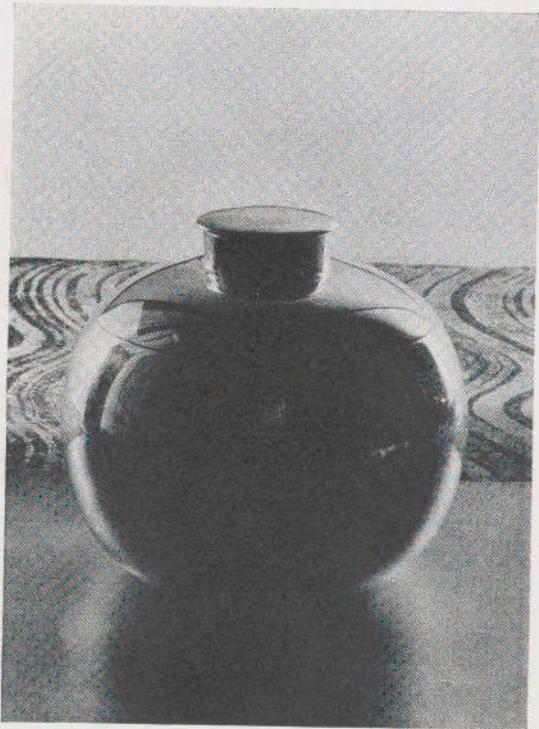


248

Meerschaum pipe

Alfred Dunhill of London, Inc.

\$25.00. Dunhill shops, tobacco shops and department stores

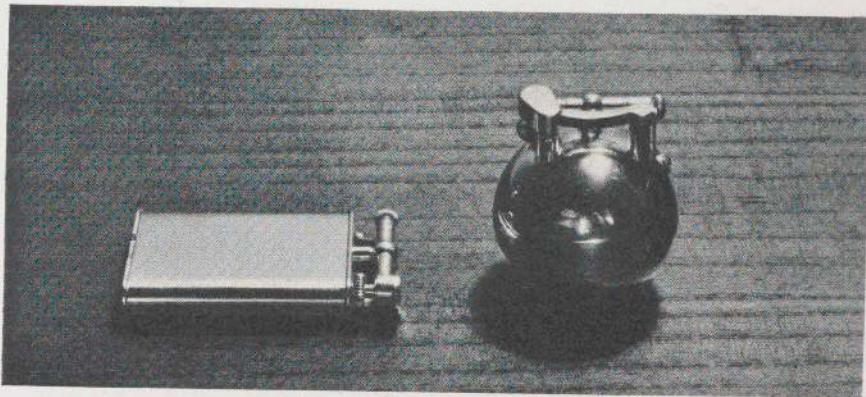


253

Bomb Rumidor

Distillers Products Corp.

\$7.00. Department stores and tobacco shops



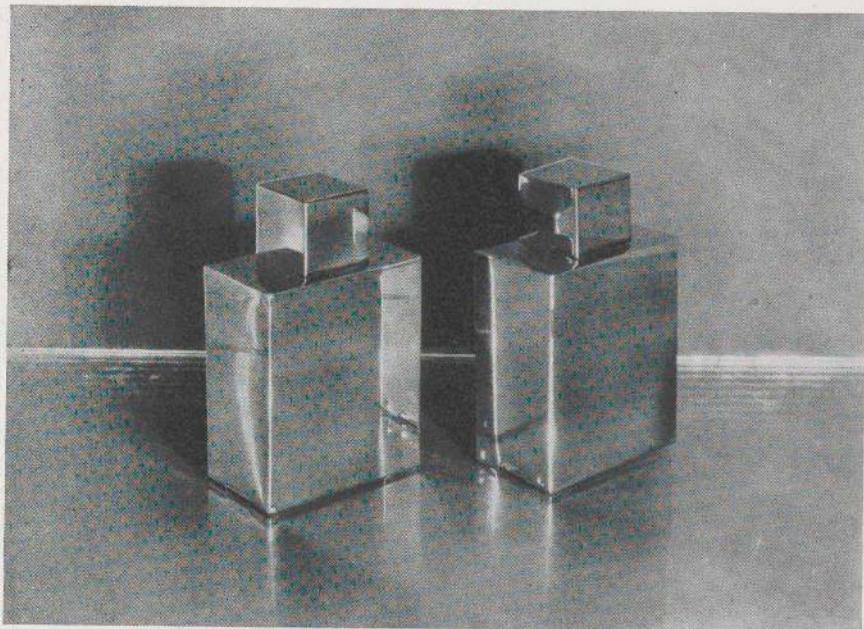
249
251

Tall wafer lighter and ball lighter

Alfred Dunhill of London, Inc.

Wafer lighter, \$10.00; ball lighter, \$15.00

Dunhill shops, tobacco shops and department stores

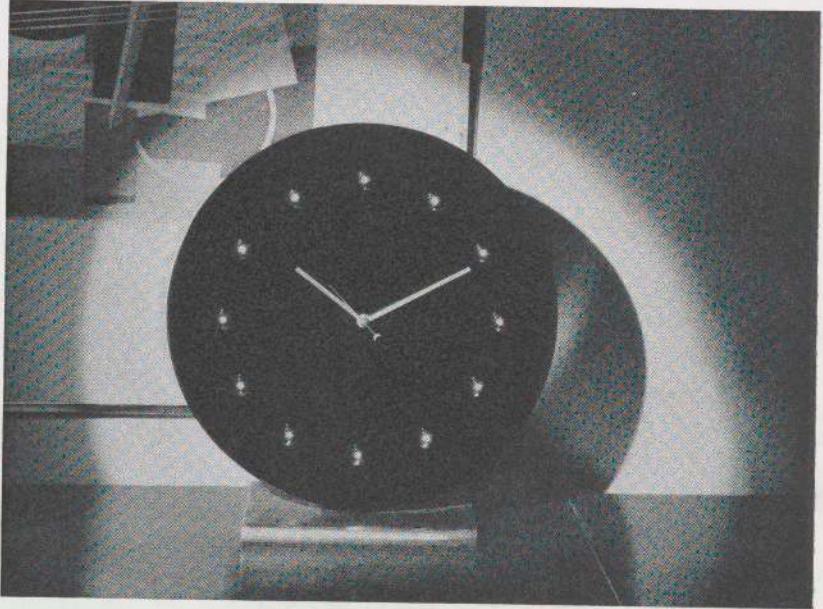


266

Imported chromium scent bottles

Lent by Saks-Fifth Avenue

\$7.50 in black leather case



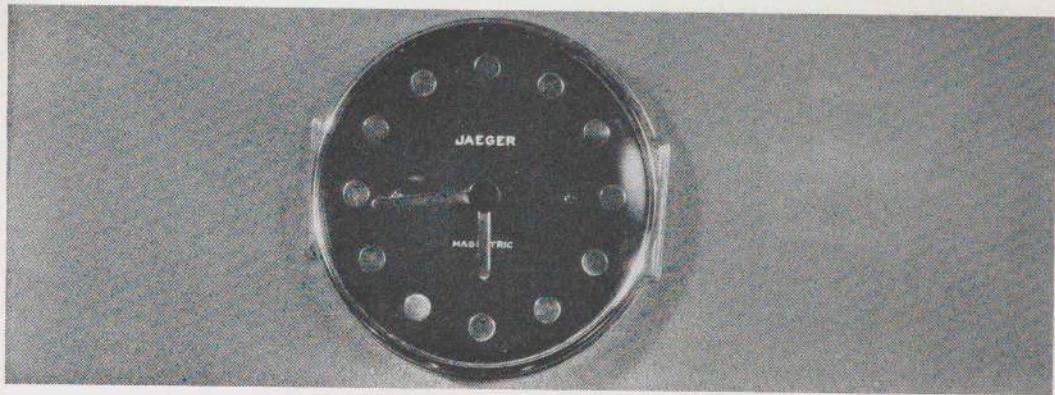
270

Electric clock

Herman Miller Clock Co.

Gilbert Rohde, designer

\$16.50. Department stores and gift shops

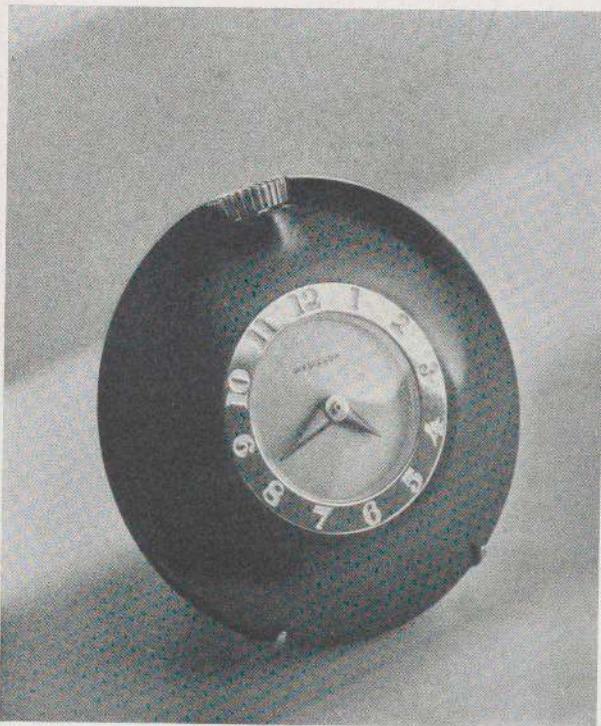


272

Magnetic clock

Jaeger Watch Co.

Jaeger Watch Co., designers, in collaboration with the Art and Color Section of the Fisher Body Corp. for General Motors



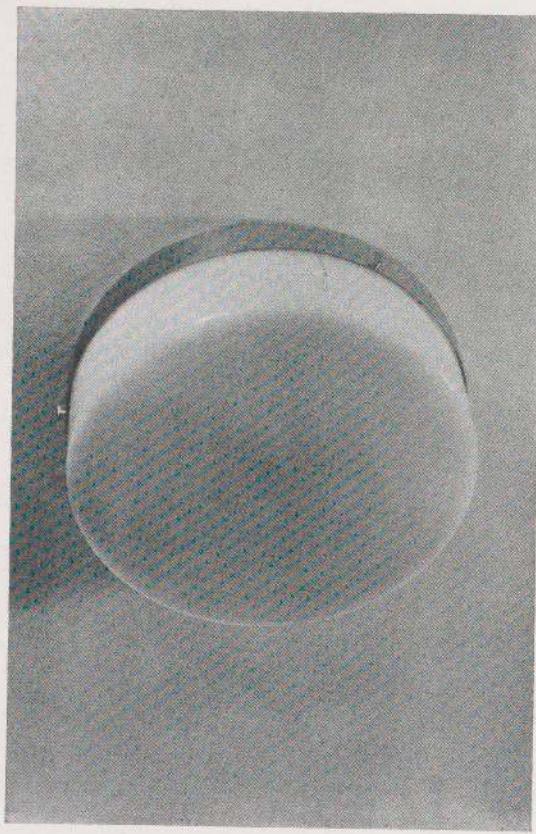
Hi Williams

271

Westclox handbag watch, bakelite case
Western Clock Co.

De Vaulchier & Blow, designers

\$2.95. Department stores, gift shops,
drug stores



276

Tubular wall bracket

Kurt Versen

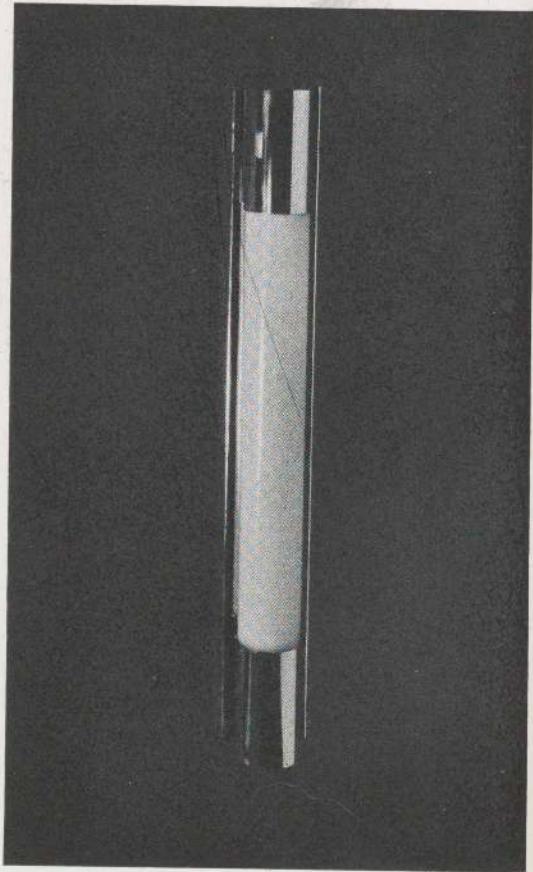
\$22.00

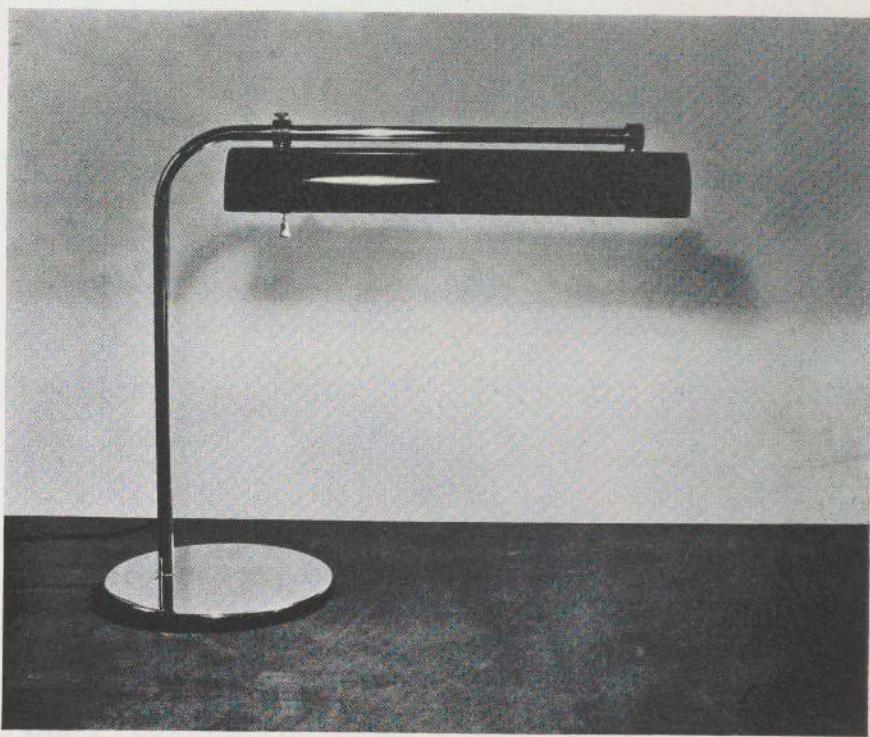
277

Wall bracket with cylindrical bowl

Kurt Versen

\$17.00





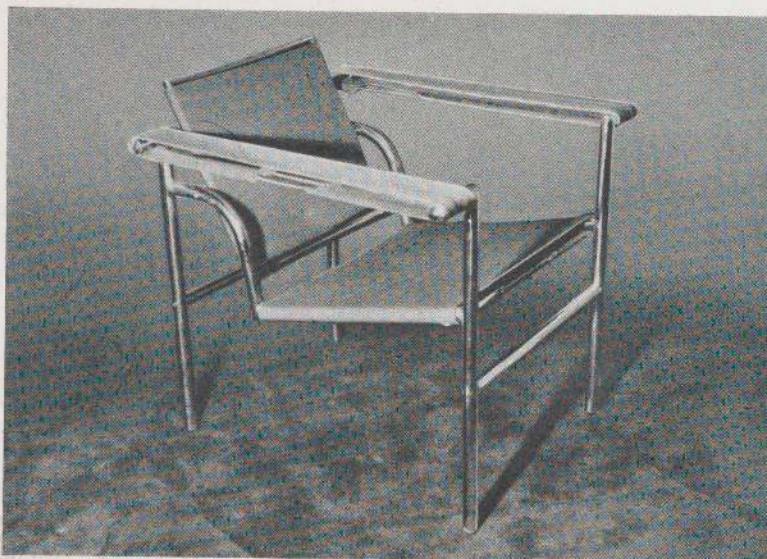
273

Desk lamp

Kurt Versen

Howe & Lescaze, designers

\$31.00



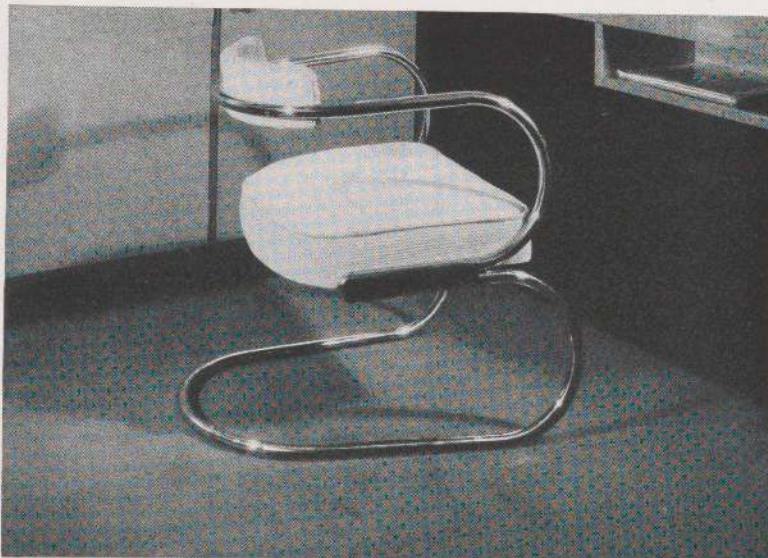
280

Chair

Thonet Bros., Inc.

Le Corbusier, designer

\$63.00



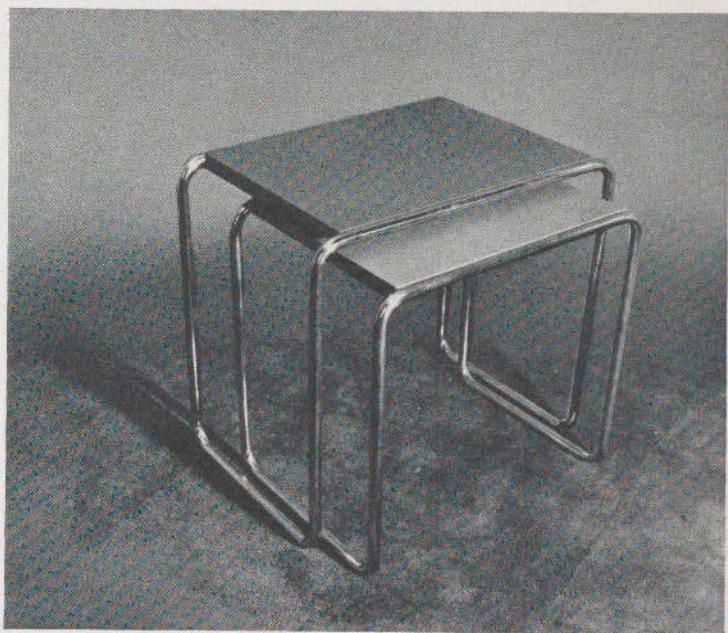
282

Beta chair

The Howell Co. (Brown & Nightingale, New York distributors)

Nathan George Horwitt, designer

\$30.00. Department and furniture stores



281

Nest tables

Thonet Bros., Inc.

\$28.50

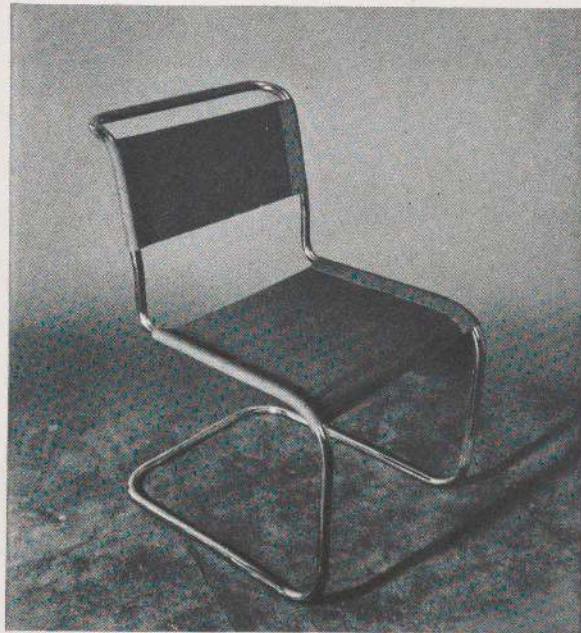
279

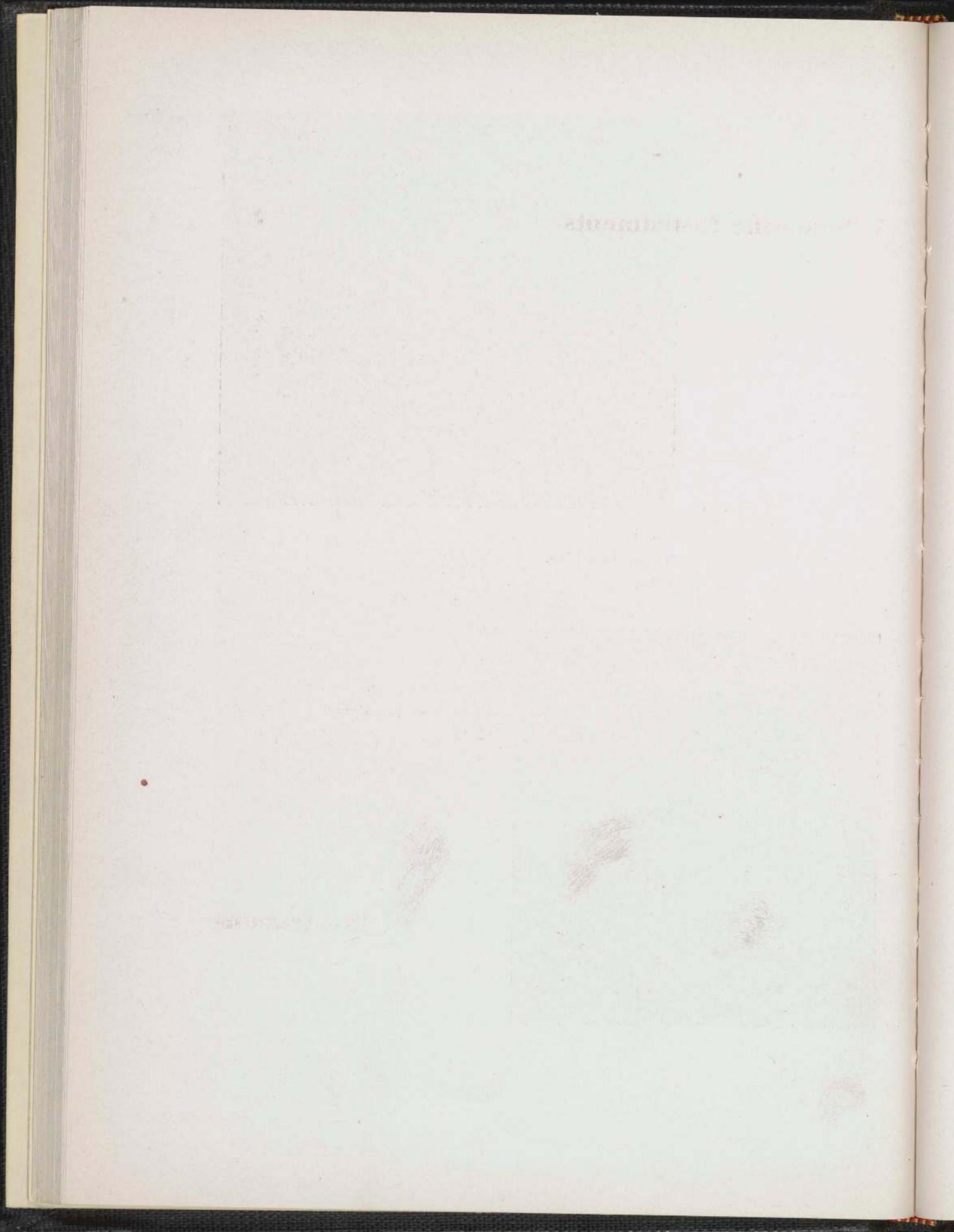
Chair

Thonet Bros., Inc.

Marcel Breuer, designer

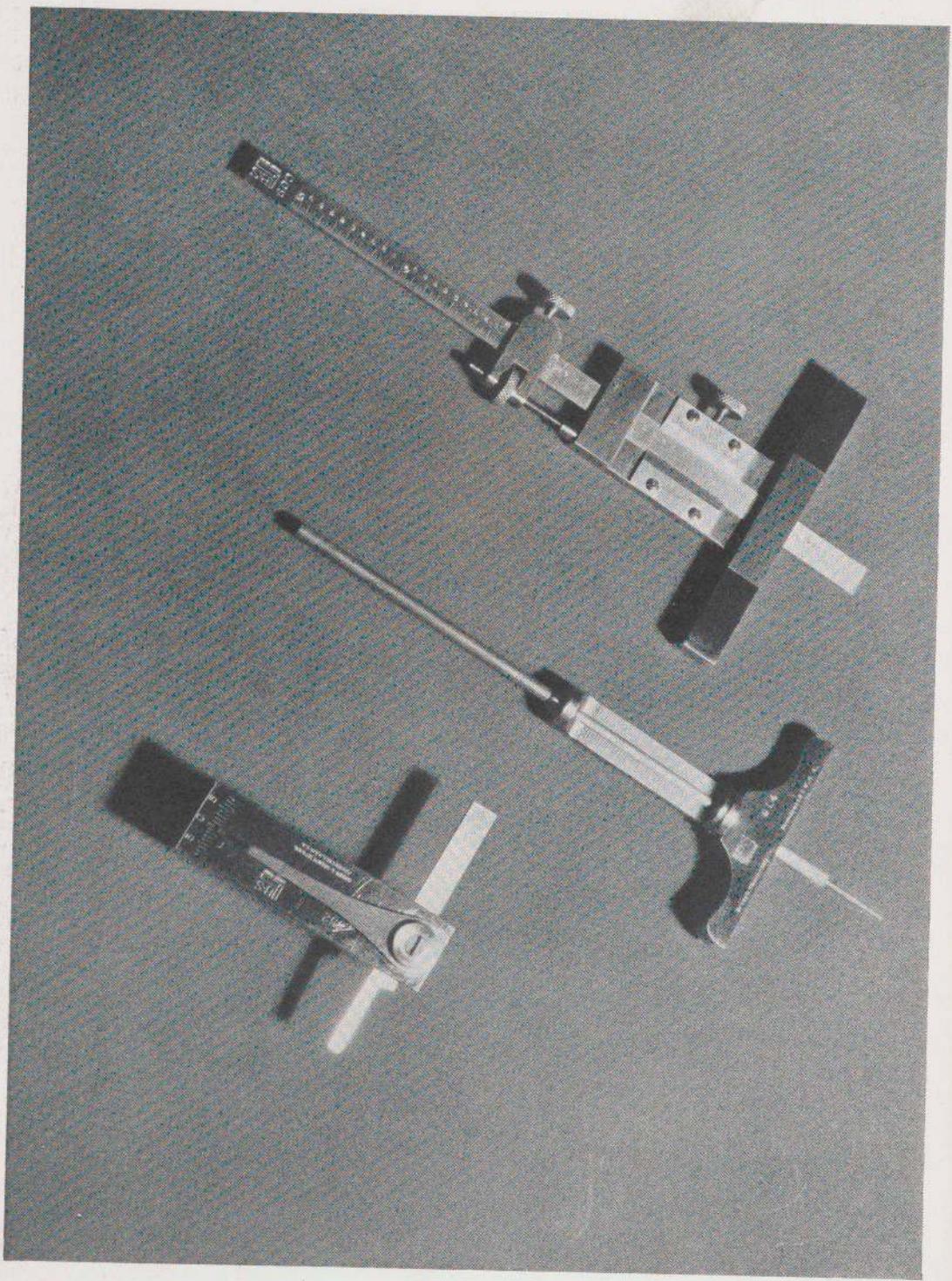
\$20.50

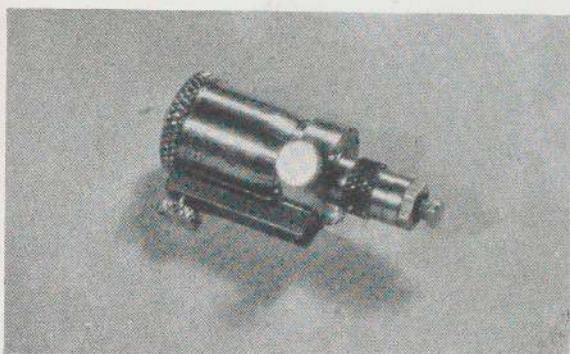




5. Scientific Instruments

Illustrations





293

Inside micrometer
For taking internal measurements from
1 to 2 inches

Brown & Sharpe of New York, Inc.
\$7.50. Hardware stores



289

Vernier depth gauge
For measuring depth with aid of vernier
scale to 1/1000 inch

Brown & Sharpe of New York, Inc.
\$16.25. Hardware stores

291

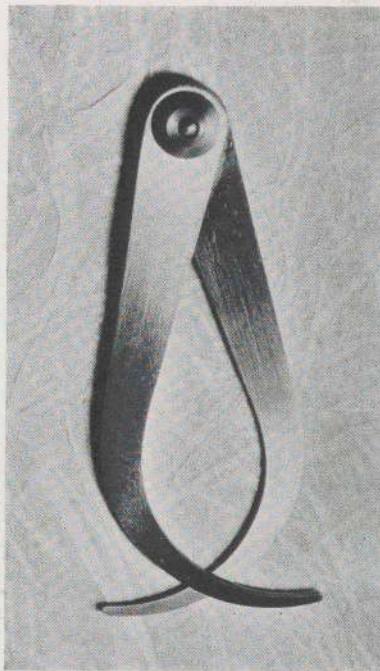
Graduated rod depth gauge for measuring
depth of holes

Brown & Sharpe of New York, Inc.
\$4.50. Hardware stores

307

Diemakers' square
For checking included angle of clearance
in making dies

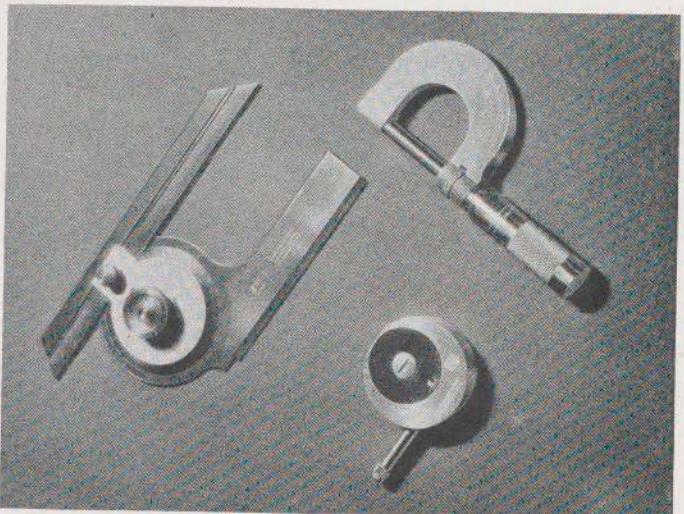
Brown & Sharpe of New York, Inc.
\$5.50. Hardware stores



294

Outside firm joint caliper
For obtaining outside measure-
ments (used in connection with
scale)

Brown & Sharpe of New York, Inc.
60¢. Hardware stores



313

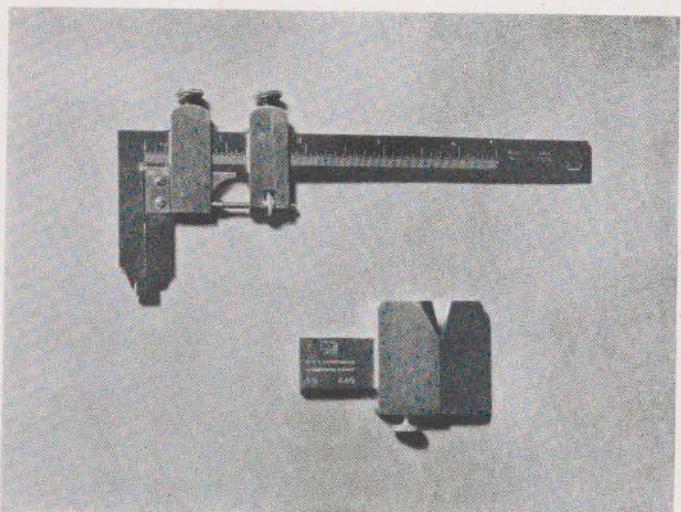
Bevel protractor
For obtaining angle of bevel
in actual material
Brown & Sharpe of New
York, Inc.
\$10.50. Hardware stores

292

Plain English micrometer
For measuring thickness, etc.
of steel to 1/1000 inch
Brown & Sharpe of New
York, Inc.
\$9.50. Hardware stores

310

Vest pocket speed indicator
To indicate speed of lathes,
shafts of motors, etc.
Brown & Sharpe of New
York, Inc.
\$1.50. Hardware stores



295

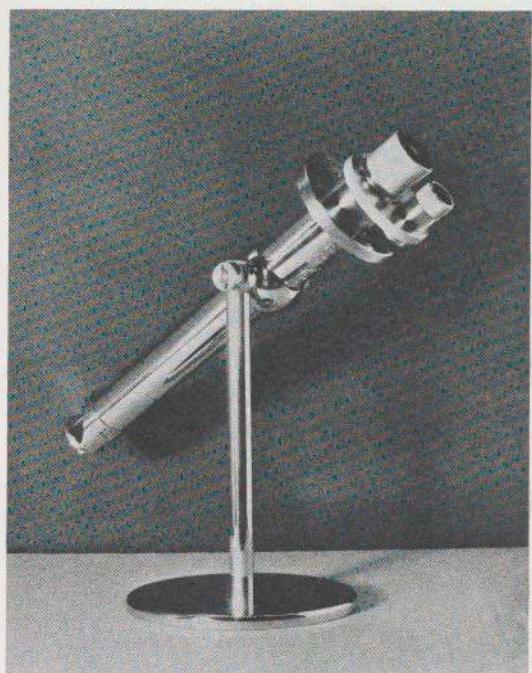
Caliper square with adjusting
screw
For obtaining inside and outside
measurements to 1/64 and 1/100
inch
Brown & Sharpe of New York,
Inc.

\$10.20. Hardware stores

311

29 degrees worm thread tool
gauge
For checking angles of helical
threads
Brown & Sharpe of New York,
Inc.

\$7.50. Hardware stores



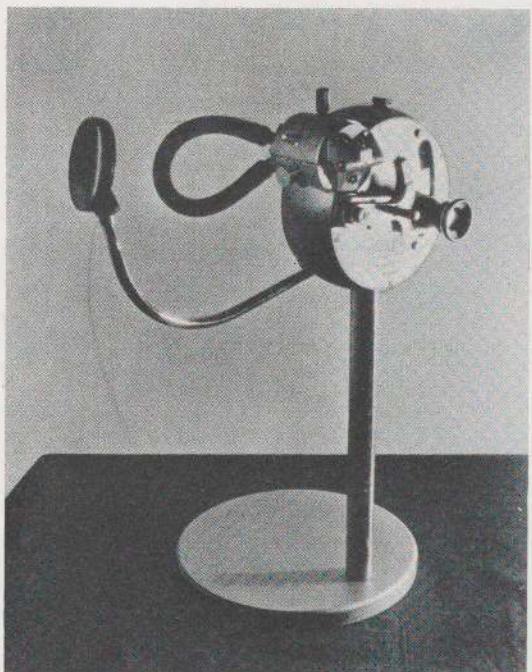
340

Pocket Polarimeter

For ascertaining the concentration of sugar solutions and solutions of optically active substances

Carl Zeiss, Inc.

\$83.25



333

Sugar and oil refractometer

For measuring the refractive index and the dispersion of liquids as well as solids

Carl Zeiss, Inc.

\$211.20

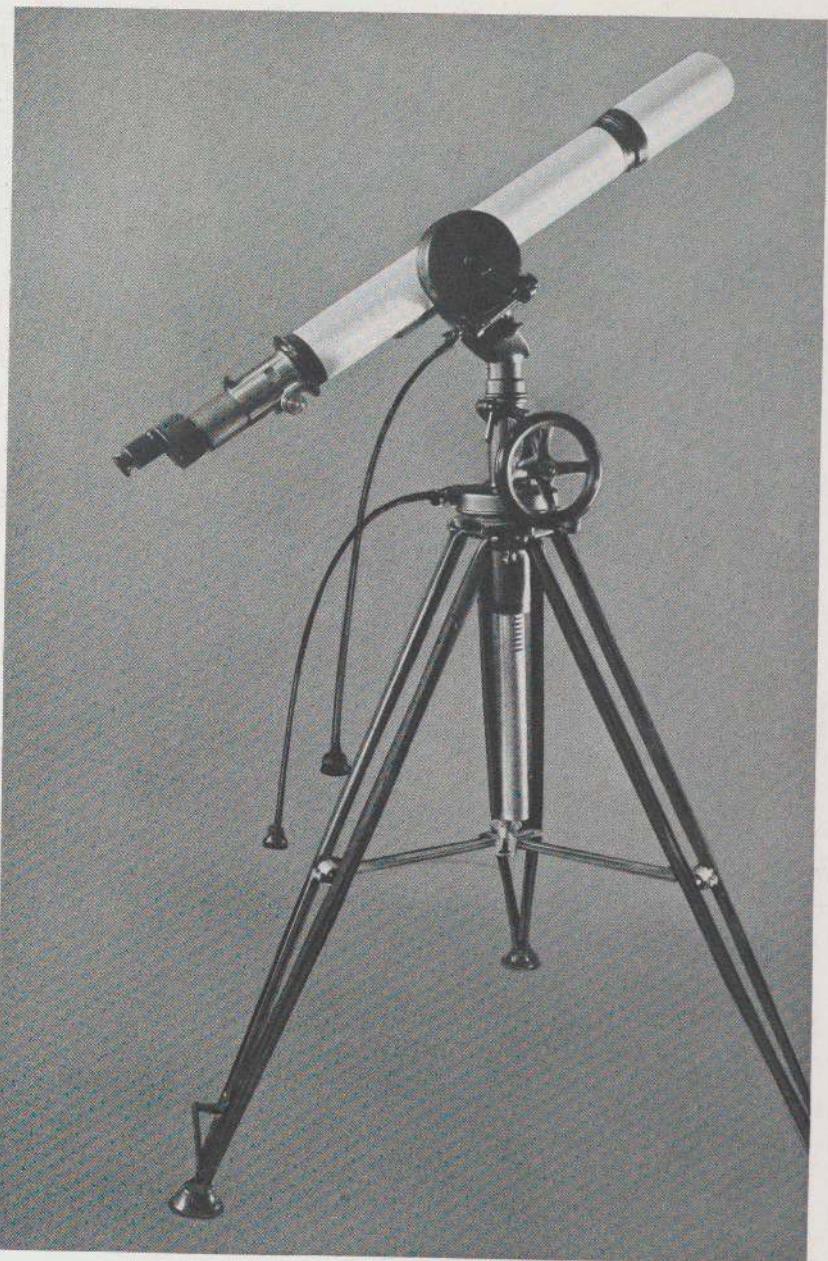


314

Laboratory microscope **ESA-105**

Carl Zeiss, Inc.

\$159.00

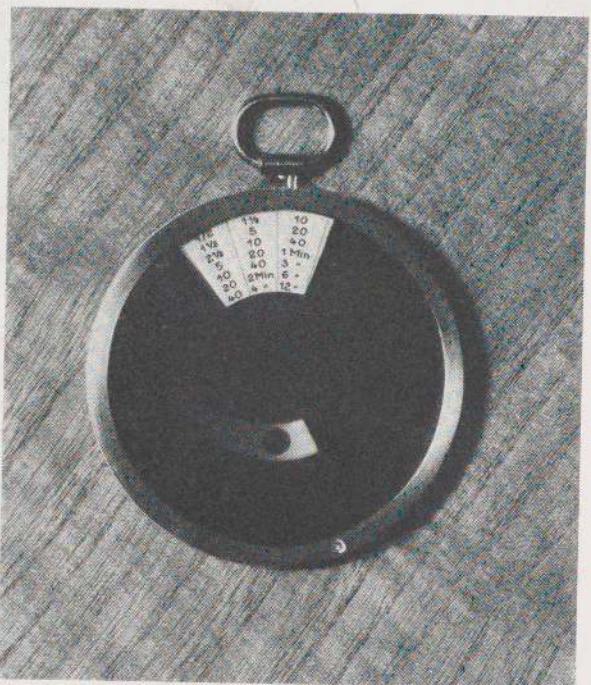


329

Telescope, 80 mm

Carl Zeiss, Inc.

\$1,166.25

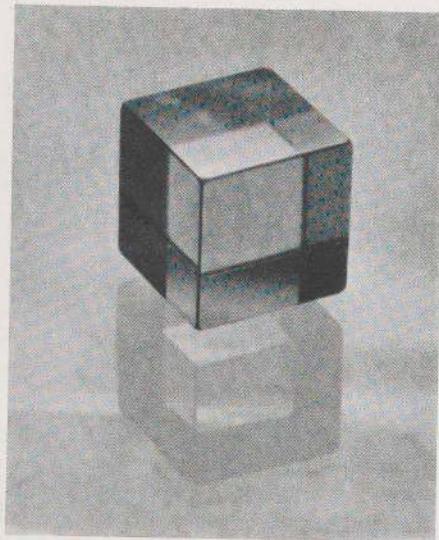


326

Diaphot
Exposure indicator for photographers

Carl Zeiss, Inc.

\$2.20

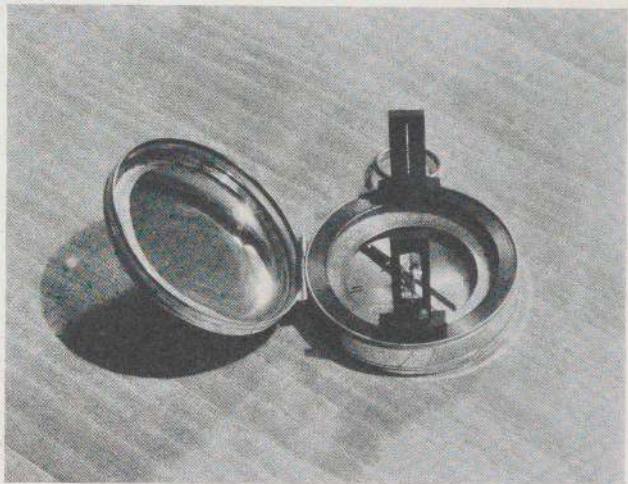


331

Cube of didymium glass
For demonstrating with a spectroscope the sharp
absorption bands characteristic of didymium salts

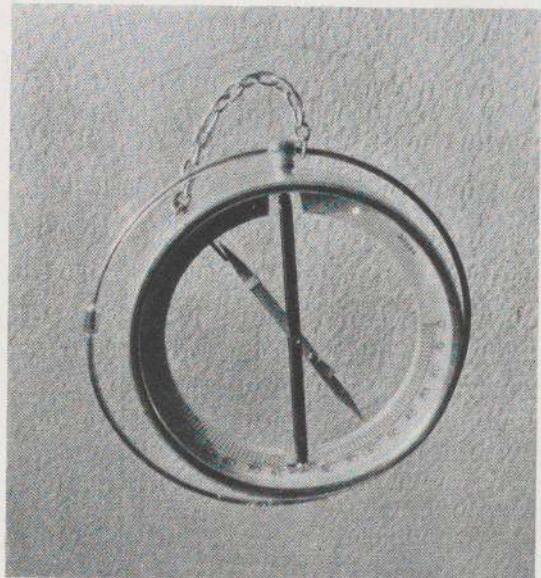
Carl Zeiss, Inc.

\$5.00



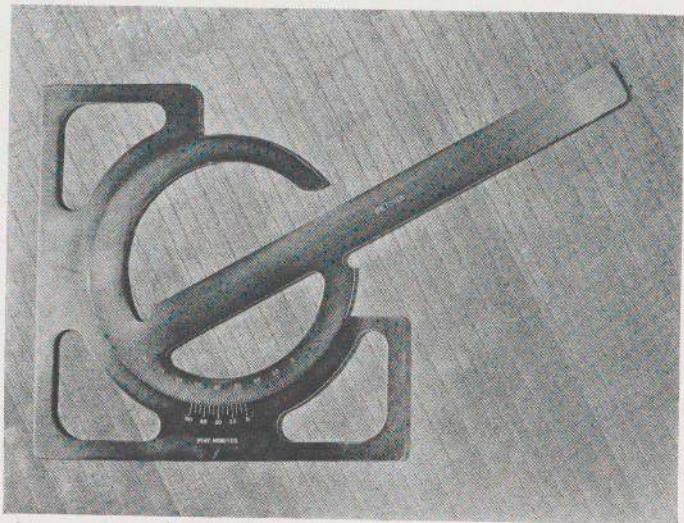
350

Pocket sight compass
Eugene Dietzgen Co., Inc.
\$8.35



351

Short & Mason miner's compass
To indicate direction of ore
Taylor Instrument Companies
**\$40.00. Department, optical and hardware
stores**

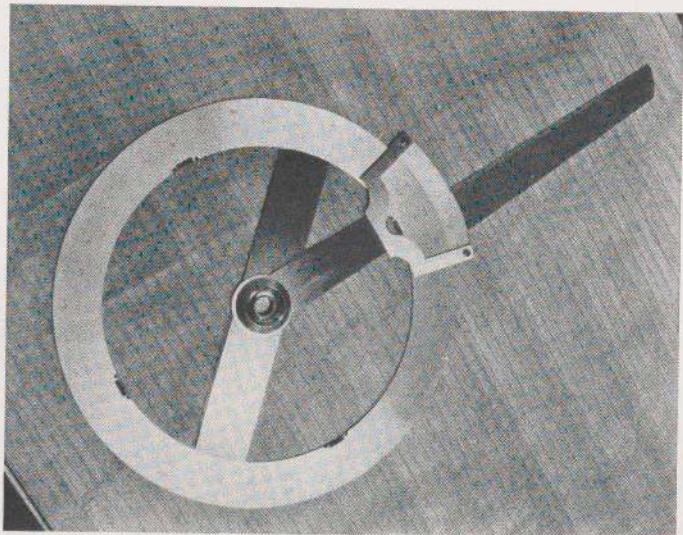


348

Protractor

Eugene Dietzgen Co., Inc.

\$10.00



347

Protractor

Eugene Dietzgen Co., Inc.

\$41.80

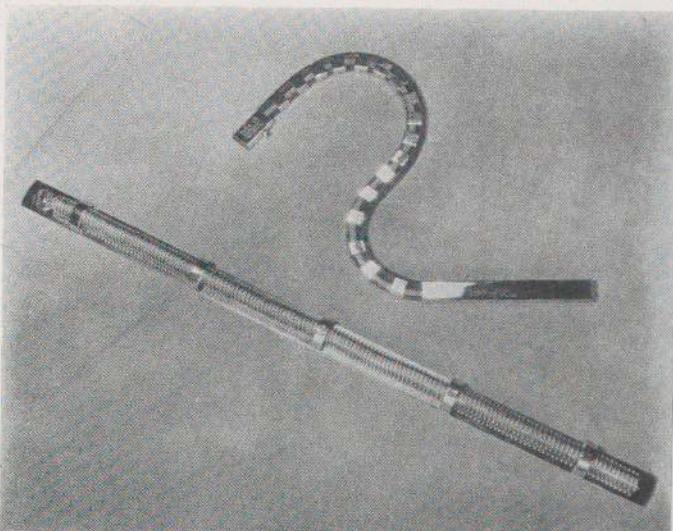


352

Brass plumb bob

Eugene Dietzgen Co., Inc.

\$1.90



344

345

Adjustable curve number 2160

Eugene Dietzgen Co., Inc.

\$2.25

Adjustable curve number 2161 A

Eugene Dietzgen Co., Inc.

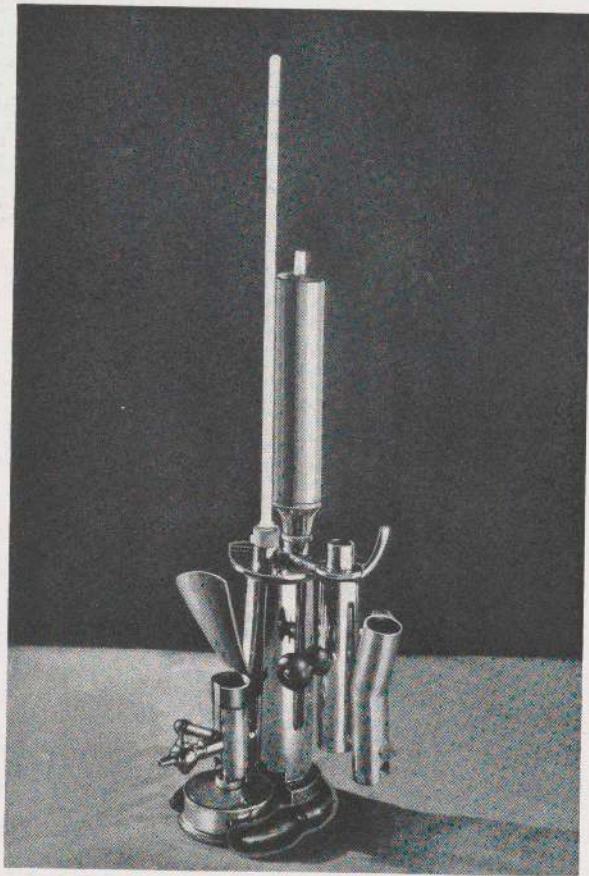
\$2.65

335

Juerst ebulliometer
For ascertaining the alcoholic content
of beverages

Eimer & Amend

\$75.00

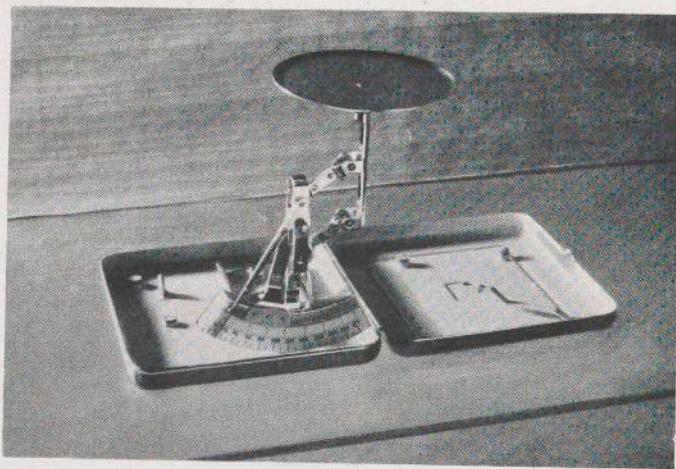


360

Dietometer
For obtaining the weight of
food in preparing diets

Eimer & Amend

\$9.00



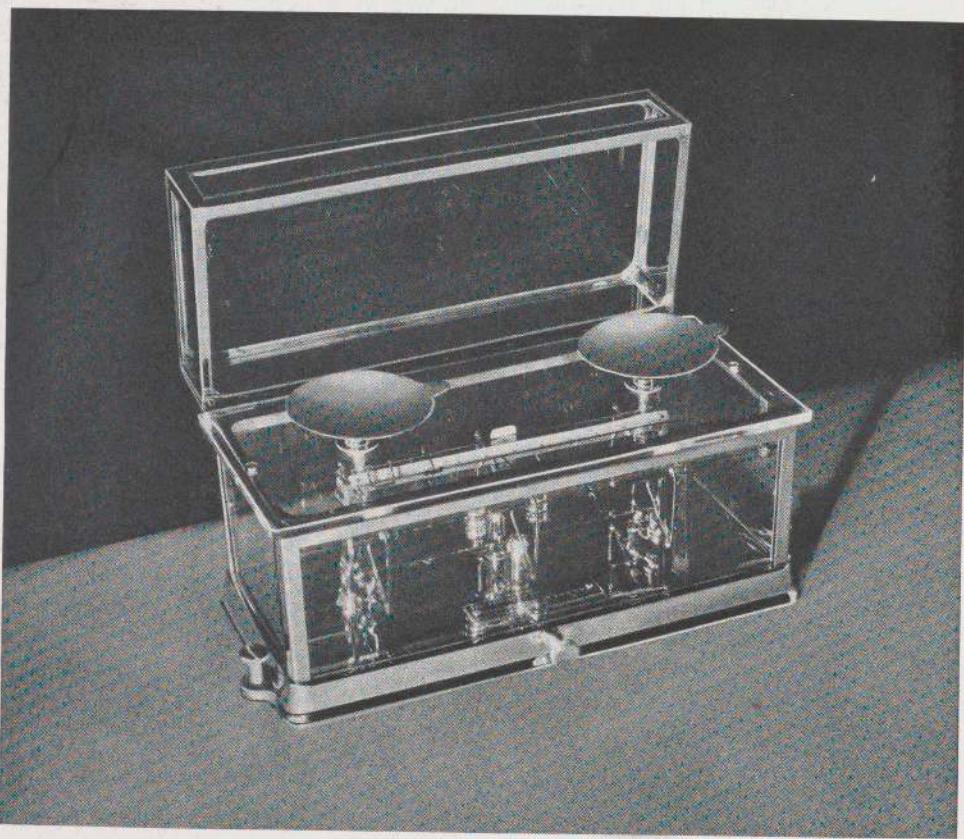


336

**MacMichael viscosimeter
For ascertaining the viscosity of fluids**

Eimer & Amend

\$210.00

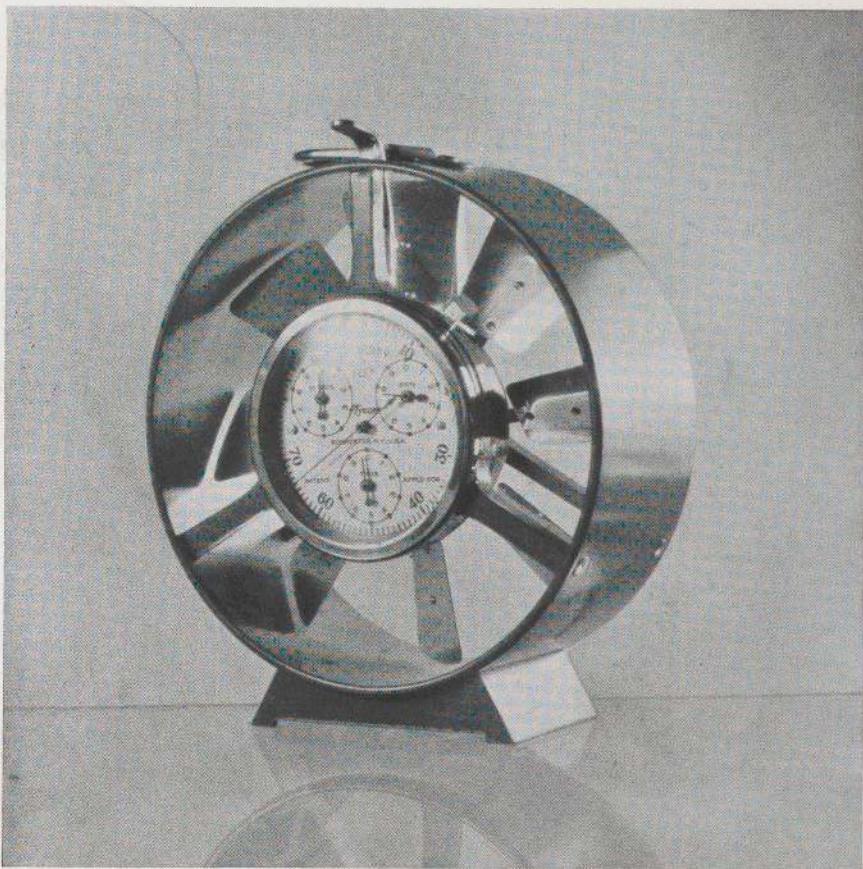


361

Torsion prescription scale number 285

The Torsion Balance Co.

\$80.00



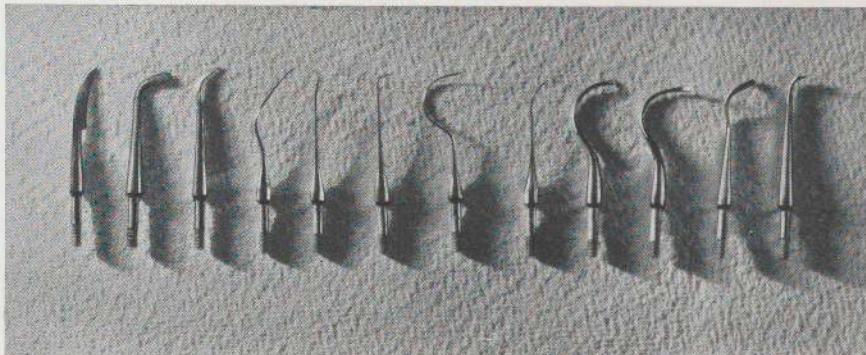
365

Anemometer

For measuring air speeds

Taylor Instrument Companies

\$50.00. Department, optical and hardware stores



359

Dental instruments

The S. S. White Dental Mfg. Co.



366

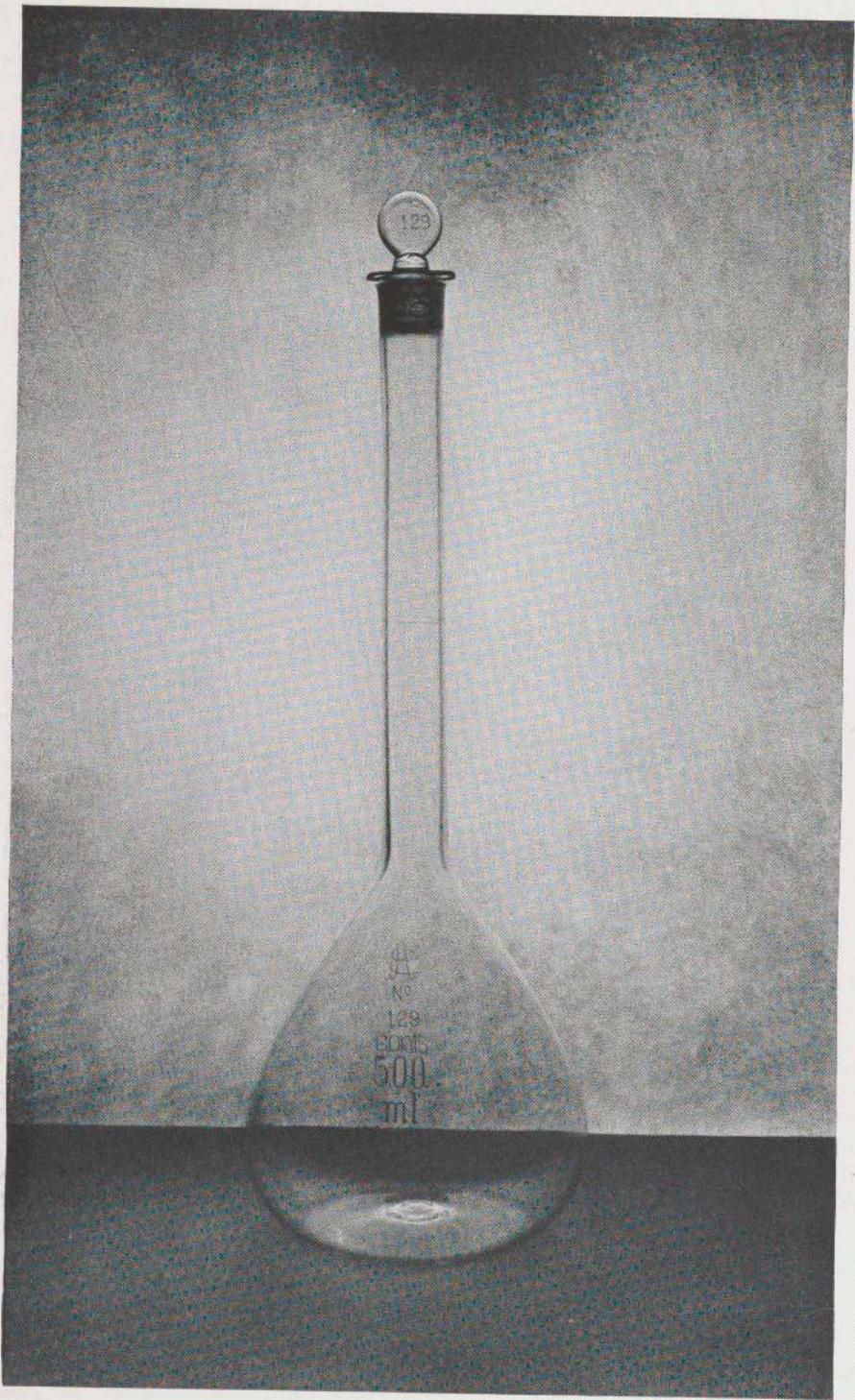
X-ray unit, model "B", stationary type

Ritter Dental Mfg. Co., Inc.

\$820.00

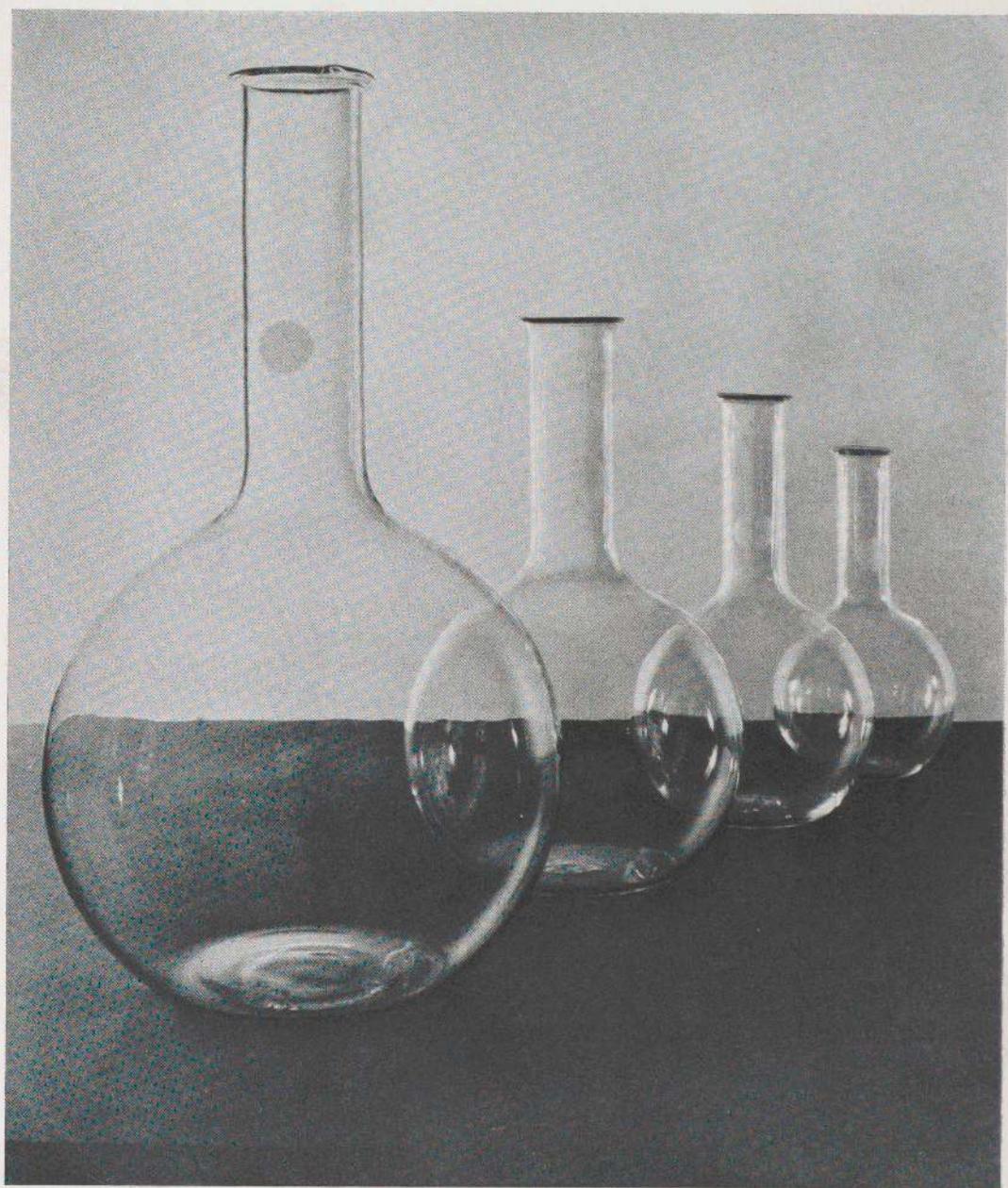
6. Laboratory Glass and Porcelain

Illustrations



381

Measuring flask
Eimer & Amend
\$1.60

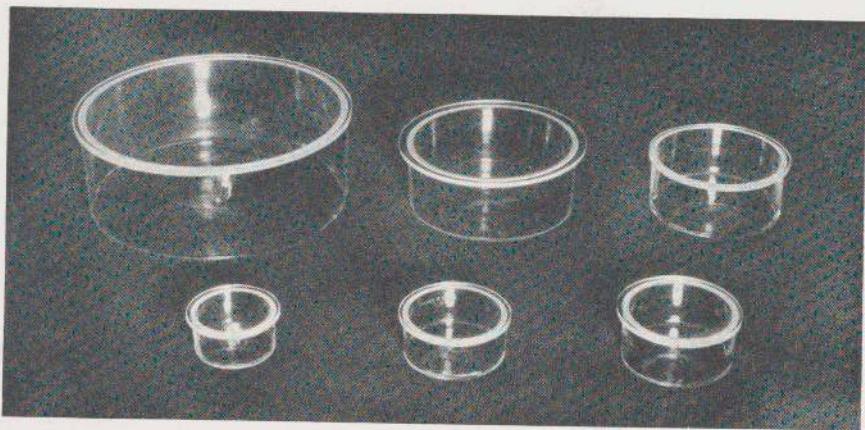


368

Boiling flasks

Corning Glass Works

57¢ to \$3.30. Eimer & Amend

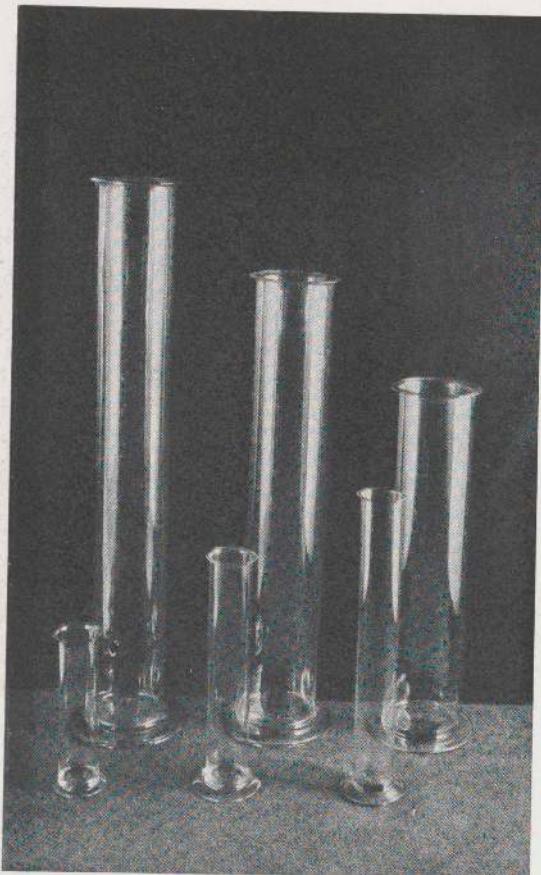


379

Stender dishes

Eimer & Amend

50¢ to \$2.00



374

Hydrometer jars

Footed cylinders used to float hydrometer, an instrument which indicates the specific gravity of a solution

Eimer & Amend

40¢ to \$2.75

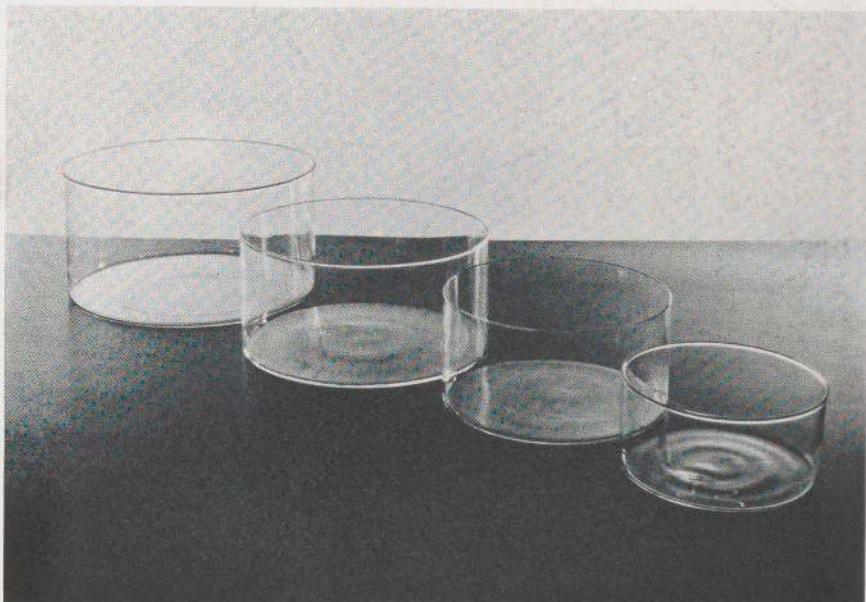
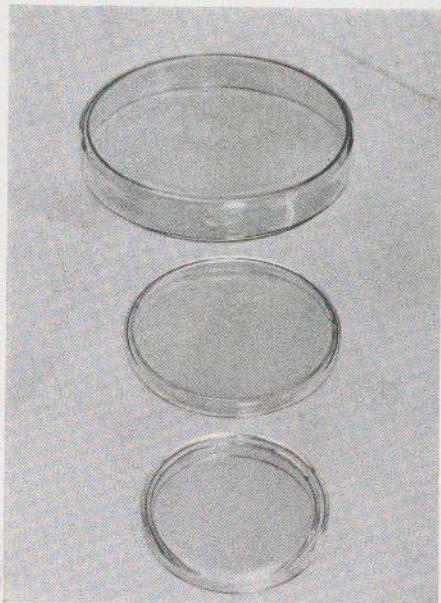
377

Petri dishes

Used in growing cultures

Eimer & Amend

24¢ to 70¢



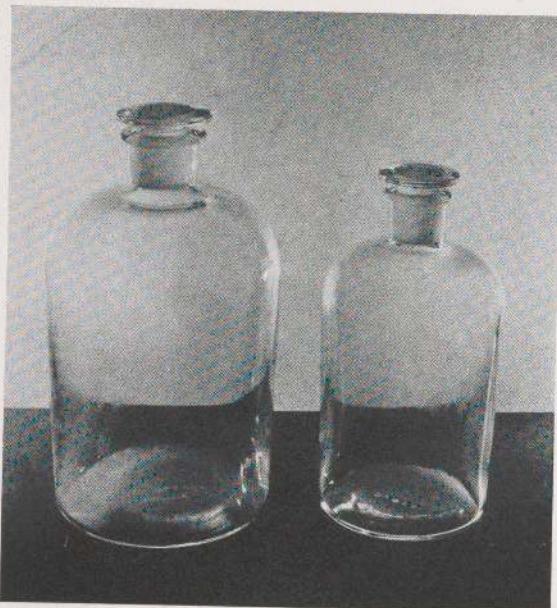
367

Crystallizing dishes

Used in obtaining crystals from saturated solutions by evaporation

Corning Glass Works

45¢ to \$1.25. Eimer & Amend

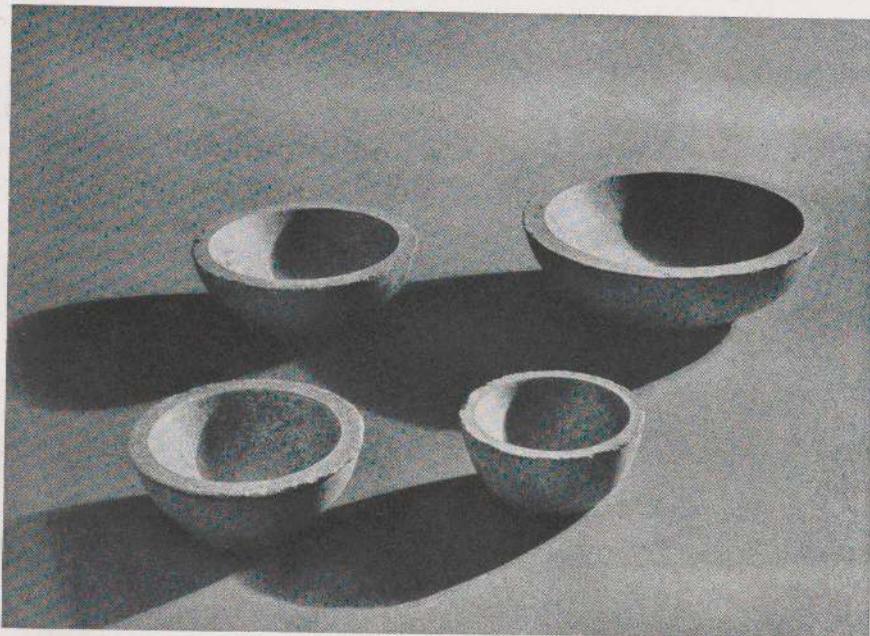


372

Reagent bottles

Corning Glass Works

65¢ to \$3.00. Eimer & Amend



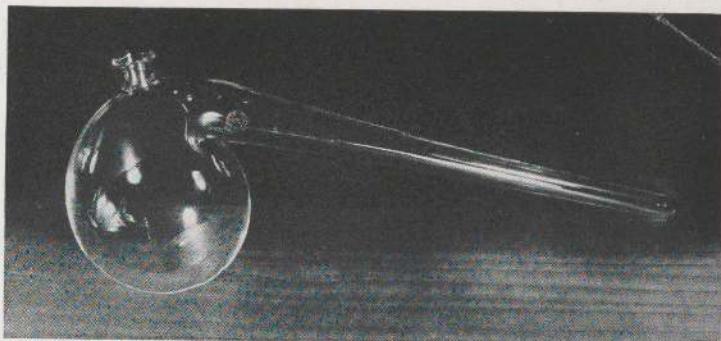
393

Scorifiers

**Used in assay-
ing the metal-
lic content of
ores**

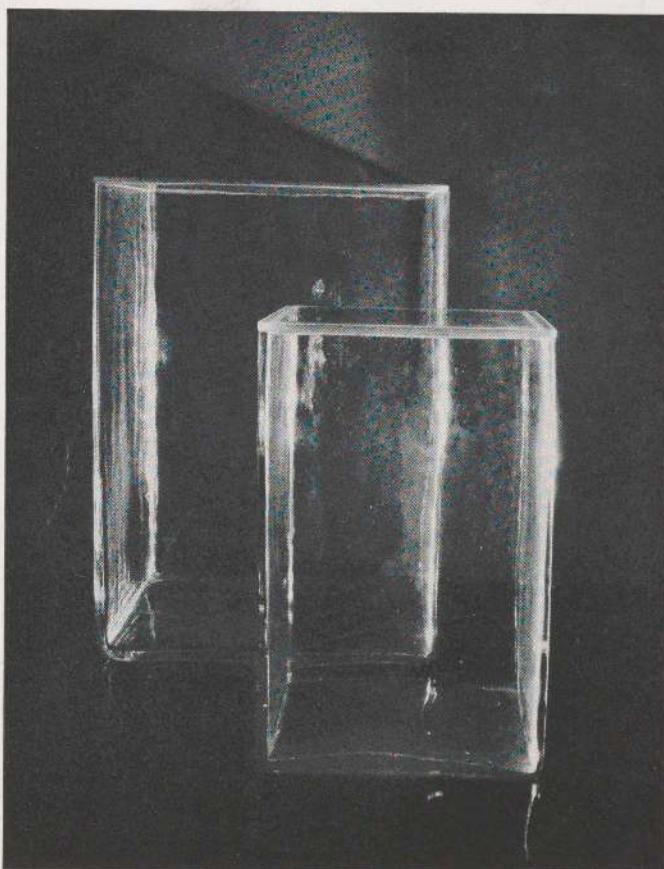
**Eimer &
Amend**

60¢



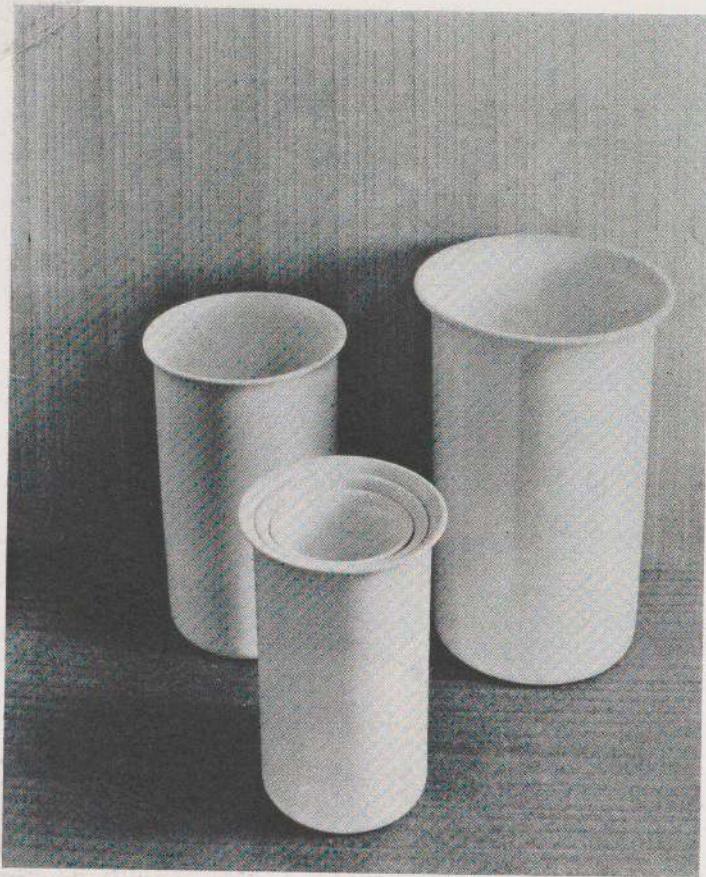
394

Retort
Used in distilling liquids
Corning Glass Works
\$3.60. Eimer & Amend



375

Battery jars
Used in making storage batteries
Eimer & Amend
\$4.70 to \$13.25



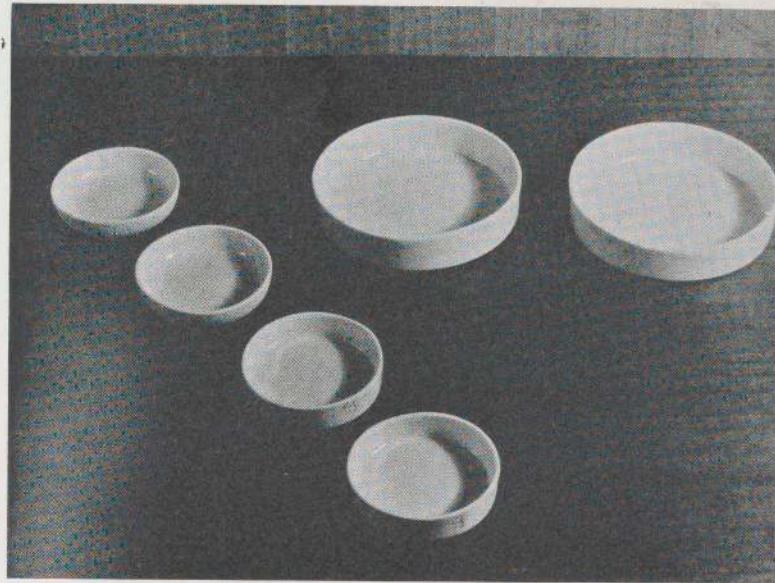
398

Beakers

Used for dissolving, drying or boiling solutions

Coors Porcelain Co.

55¢ to \$9.00. Eimer & Amend



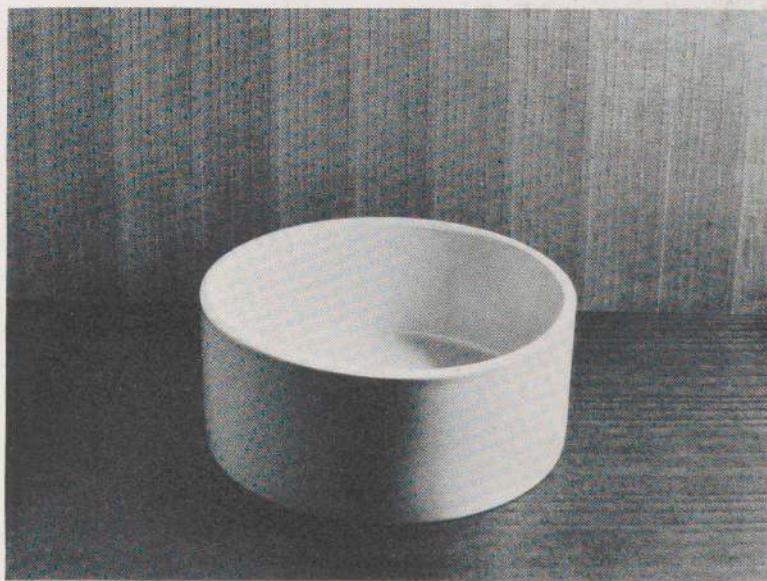
395

Capsules

Used for drying or incinerating chemicals

Coors Porcelain Co.

15¢ to 25¢. Eimer & Amend

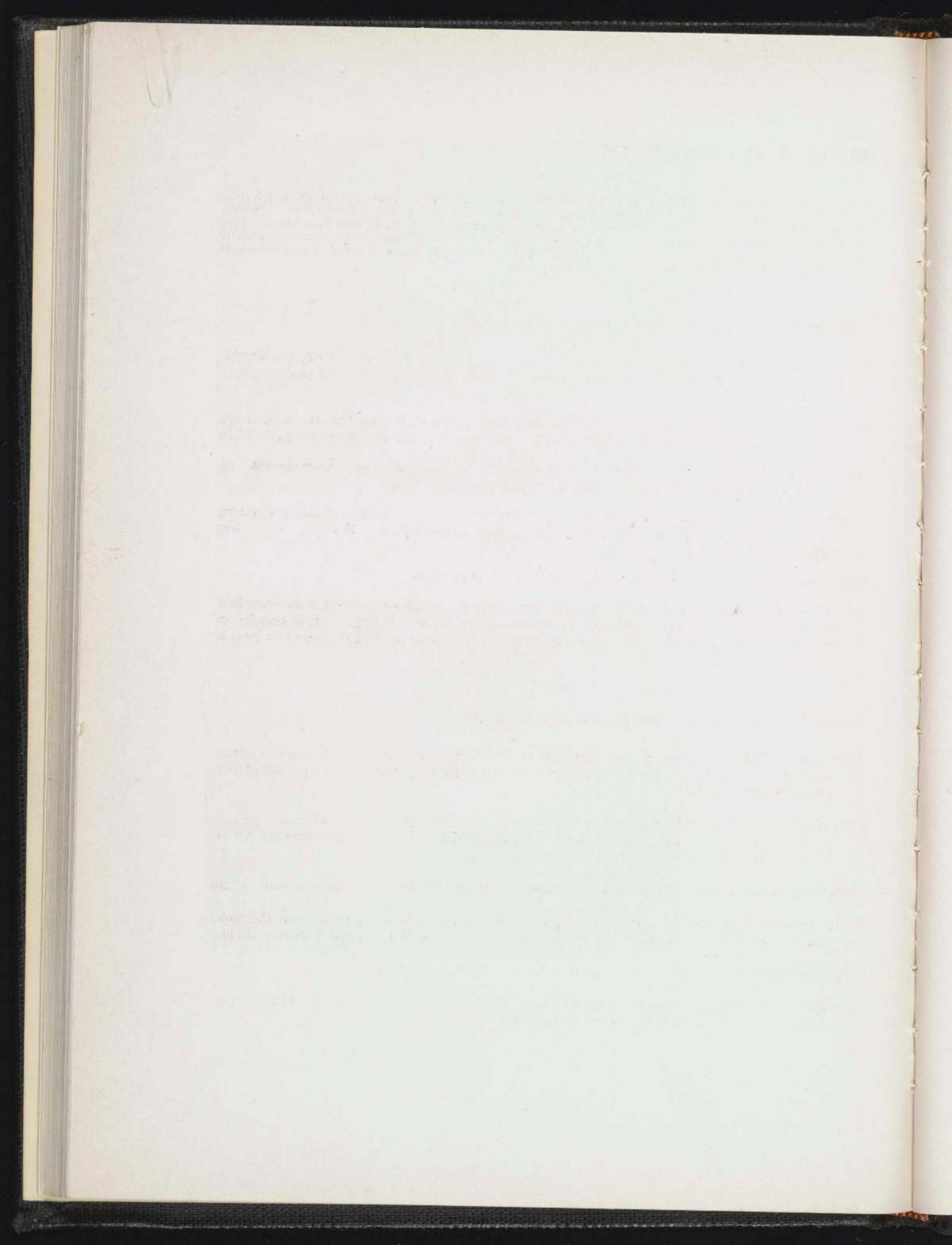


397

Dish

Coors Porcelain Co.

\$1.60. Eimer & Amend



MUSEUM PUBLICATIONS

The books published by the Museum of Modern Art in connection with its numerous exhibitions form a concise library of living art, painting, sculpture, and architecture. The critical and historical notes, explanations by the artists, biographies and bibliographies contain information not readily found elsewhere. There is a wealth of illustration—over 893 plates of the work of over 300 modern painters, sculptors and architects. The Museum makes no profit on these books. It sells them considerably below the cost of production, as a part of its educational service to students and the public.

Nineteenth Century Painters and Sculptors

Cezanne, Gauguin, Seurat, van Gogh. The four great pioneers of modern painting. Critical and biographical studies by Alfred H. Barr, Jr. 152 pages; 97 plates; paper bound—\$2.00

Homer, Ryder, Eakins. Essays by Bryson Burroughs, Frank Jewett Mather, and Lloyd Goodrich on these American "old masters." 68 pages; 34 plates; paper bound—\$2.00

Corot and Daumier. Two painters much admired by living artists. Introduction by Alfred H. Barr, Jr. 128 pages; 108 plates; paper bound—\$2.00

Toulouse-Lautrec and Odilon Redon. Introduction by Jere Abbott. Notes on artists, actors, and singers of Lautrec's circle by Daniel Catton Rich. 72 pages; 39 plates; paper bound—\$2.00

The Bliss Collection. Memorial Exhibition. Out of print

American Folk Art. Most comprehensive survey so far published about American folk art, including sculpture. 28-page introduction by Holger Cahill. Bibliography of 86 books and periodicals. 131 pages; 80 plates; paper bound—\$1.50; bound in boards—\$3.50

Twentieth Century Painters and Sculptors

Painting in Paris. Foreword and critical notes by Alfred H. Barr, Jr. A succinct introduction to the work of the most influential school of living artists. 88 pages; 50 plates; paper bound—\$2.00

Paintings by 19 Living Americans. This and the following catalog are anthologies of work by the best known contemporary American artists. Biographical notes by Alfred H. Barr, Jr. 88 pages; 38 plates; paper bound—\$2.00

Painting and Sculpture by Living Americans. 67 pages; 34 plates; paper bound—\$1.50

German Painting and Sculpture. Work of the leading German artists, with foreword and extensive notes by Alfred H. Barr, Jr. 91 pages; 49 plates; paper bound—\$2.00

Lehmbruck and Maillol. Out of print

Murals by American Painters and Photographers. Essays by Lincoln Kirstein and Julien Levy. 62 pages; 61 plates; paper bound—\$.50

American Painting and Sculpture, 1862-1932. A selection from American painting and sculpture, divided about equally between 19th and 20th century works. Introduction by Holger Cahill. 128 pages; 79 plates; paper bound—\$1.50; bound in boards—\$3.50

American Sources of Modern Art. Introduction on the art of ancient America and its relationship to the art of today by Holger Cahill. Bibliography of over 100 titles. 104 pages; 56 plates; paper bound—\$1.50; bound in boards—\$3.50

Painting and Sculpture from Sixteen American Cities. Contemporary work by 119 artists, with biographies. Edited by Alfred H. Barr, Jr. 61 pages; 116 illustrations; paper bound—\$1.00; bound in boards—\$2.50

Monographs on Individual Artists

Henri-Matisse. "Notes of a Painter" by Henri-Matisse; the only publication in English of these important observations. Critical essay by Alfred H. Barr, Jr. 128 pages; 82 plates; paper bound—\$2.00; bound in boards—\$3.00

Charles Burchfield, Early Watercolors. Foreword by Alfred H. Barr, Jr. and notes by the artist. 24 pages; 10 plates; paper bound—\$1.00

Paul Klee. Out of print

Diego Rivera. Out of print

Max Weber, Retrospective Exhibition. Work by one of the most important American modernists. Foreword by Alfred H. Barr, Jr., and notes by the artist. 40 pages; 16 plates; paper bound—\$1.00

Maurice Sterne. Introduction by Horace Kallen and notes by the artist. Biography by Holger Cahill. 52 pages; 23 plates; bound in boards—\$2.50

Edward Hopper. "Notes on Painting" by Edward Hopper. Essays by Charles Burchfield and Alfred H. Barr, Jr. 81 pages; 48 plates; paper bound, \$1.00; bound in boards, \$2.50

Architecture

Modern Architecture. Introduction by Alfred H. Barr, Jr. Nine short monographs, and lists by Henry-Russell Hitchcock, Jr., and Philip Johnson. An essay on the housing problem by Lewis Mumford. Complete bibliographies. 200 pages; 65 plates; paper bound—\$1.50; bound in boards—Out of print

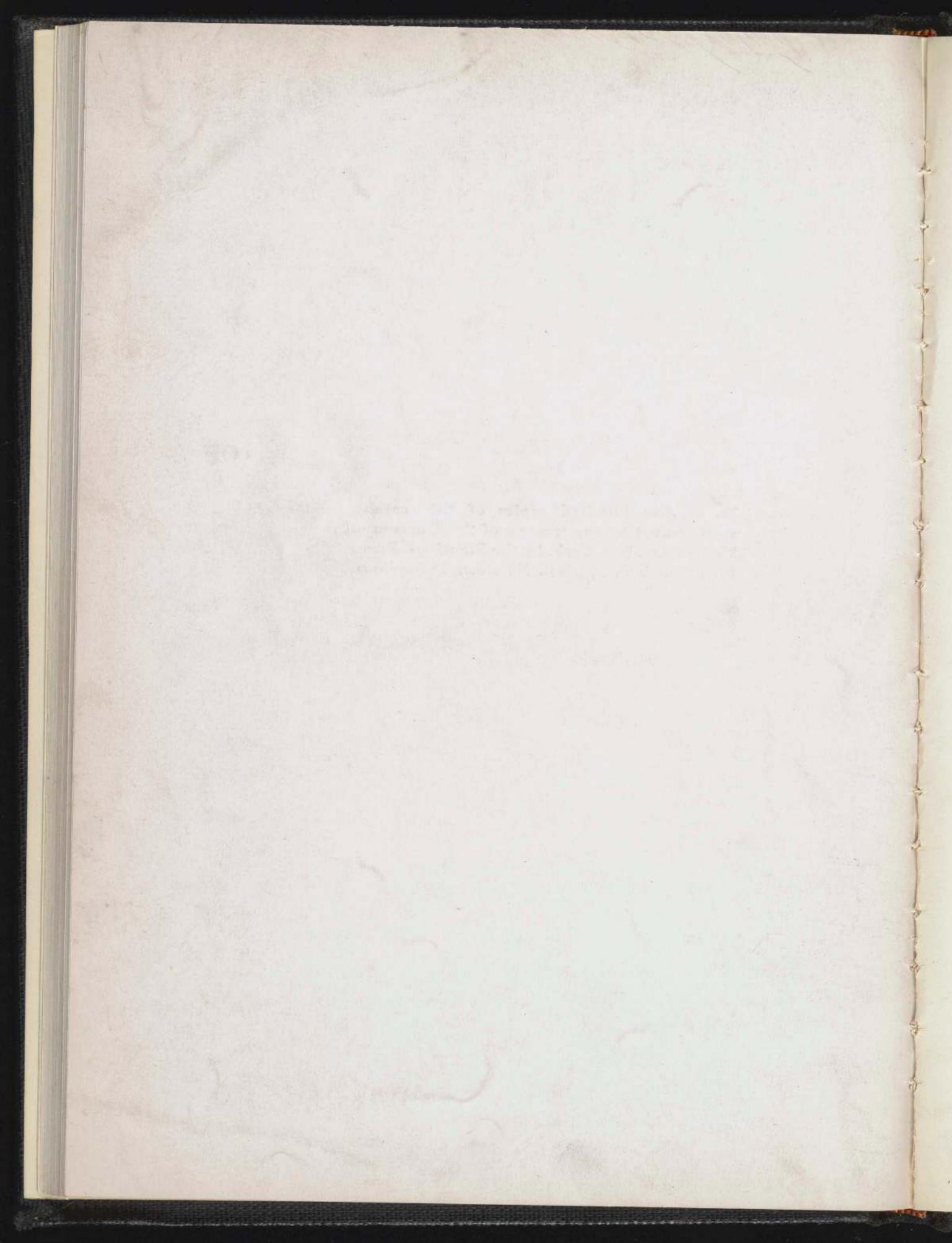
Theatre

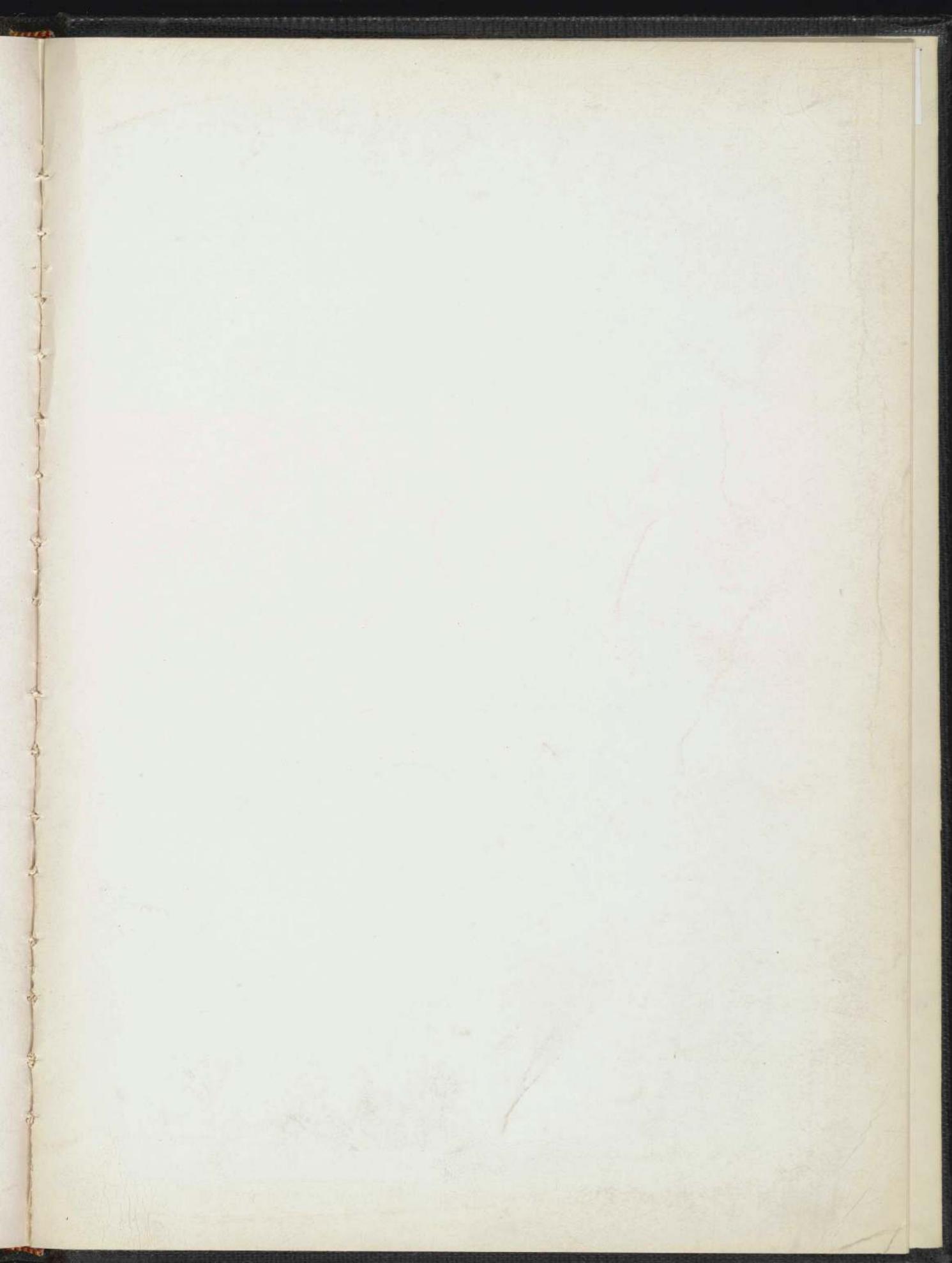
Theatre Art. Four centuries of Theatre Art. Edited and with introduction by Lee Simonson. Contributions by John Anderson, Paul Alfred Merbach, Oliver M. Sayler, John Mason Brown. 146 pages; 76 plates—\$1.50; cloth bound—\$2.00

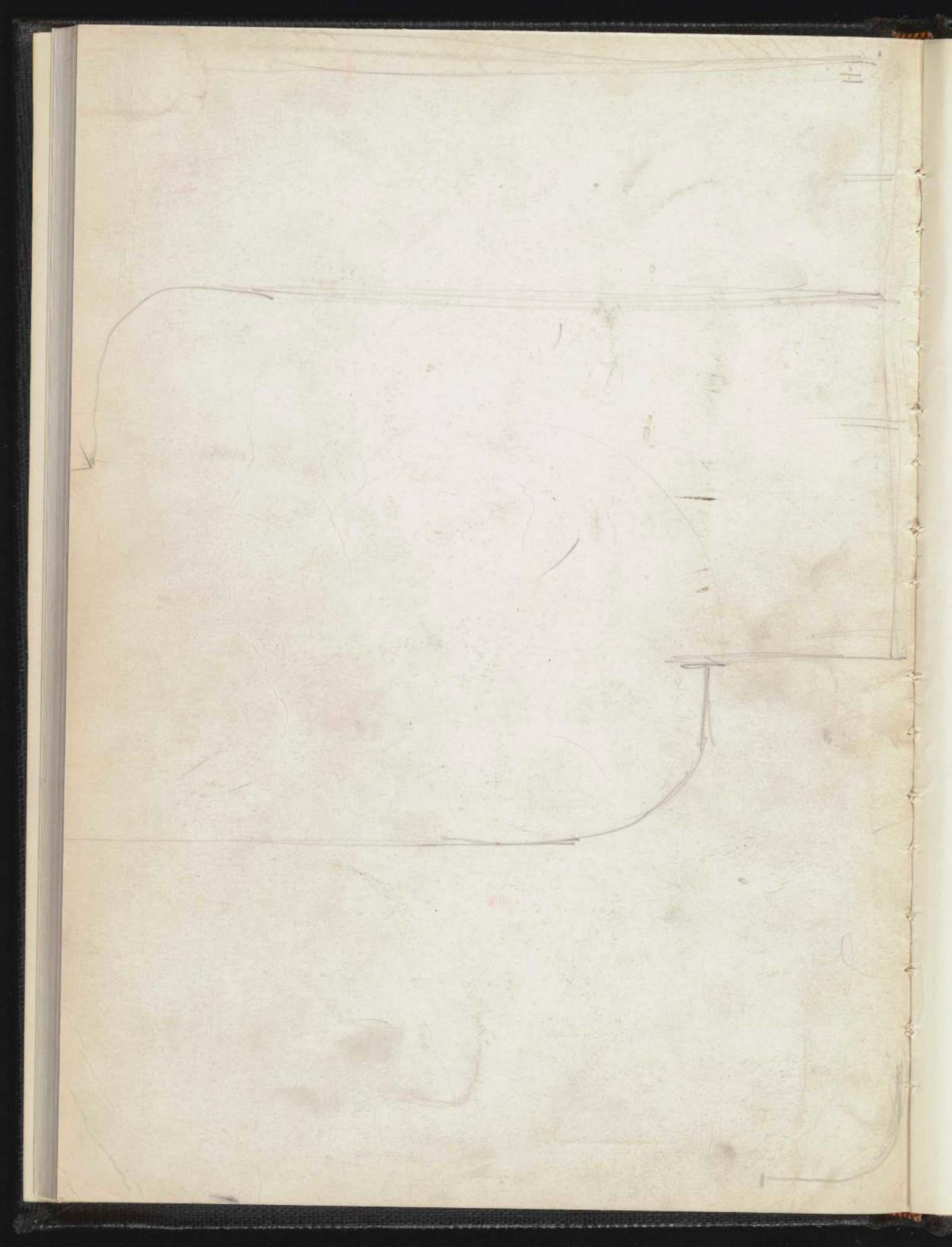
Rivera Portfolio

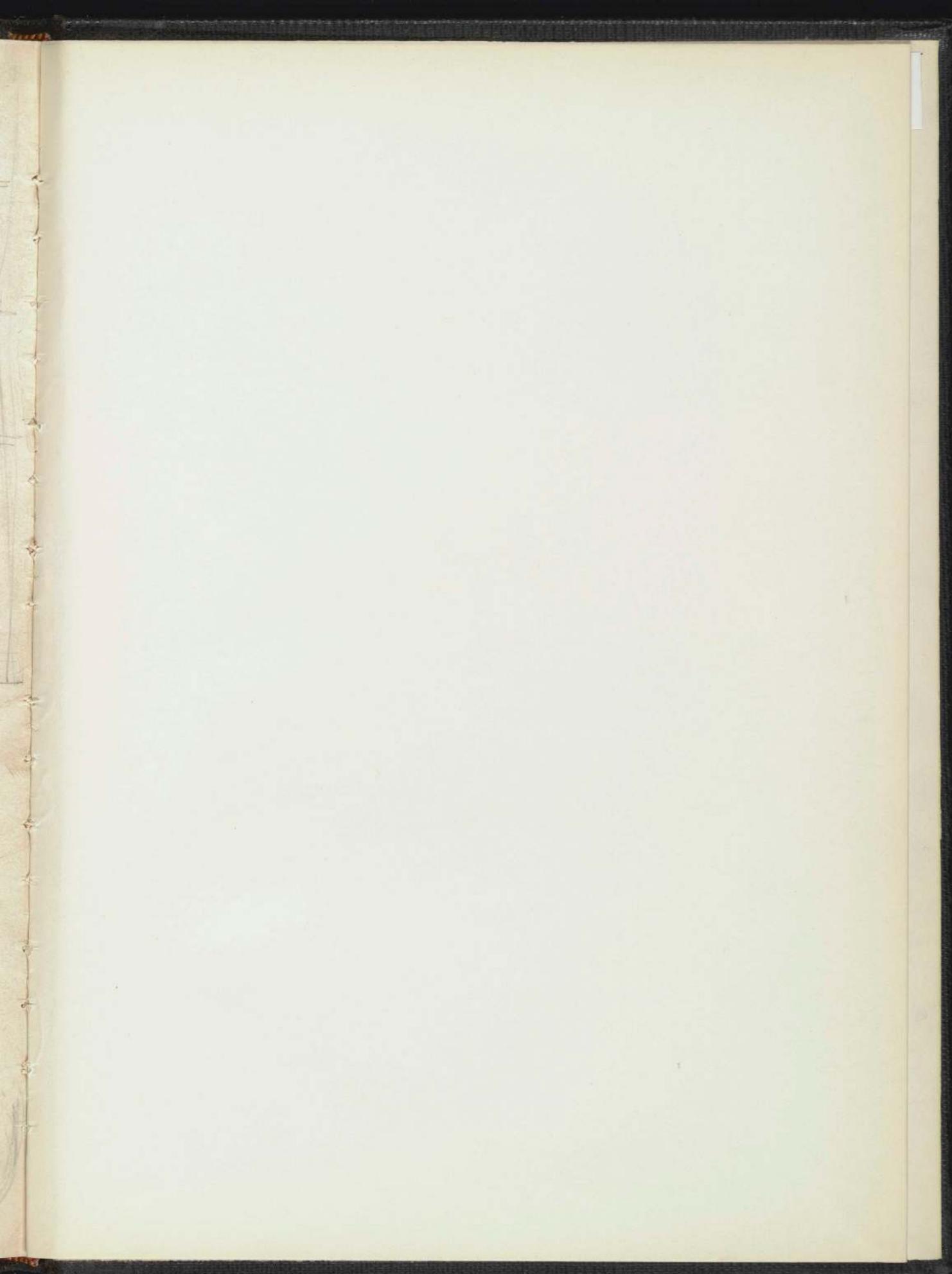
Diego Rivera—A Portfolio of Color Reproductions of Mexican Frescoes. Notes by Jere Abbott. These are the first color reproductions published of the famous frescoes in Chapingo, Cuernavaca and Mexico City. Contains 19 full-color plates and 15 monotypes—\$25.00

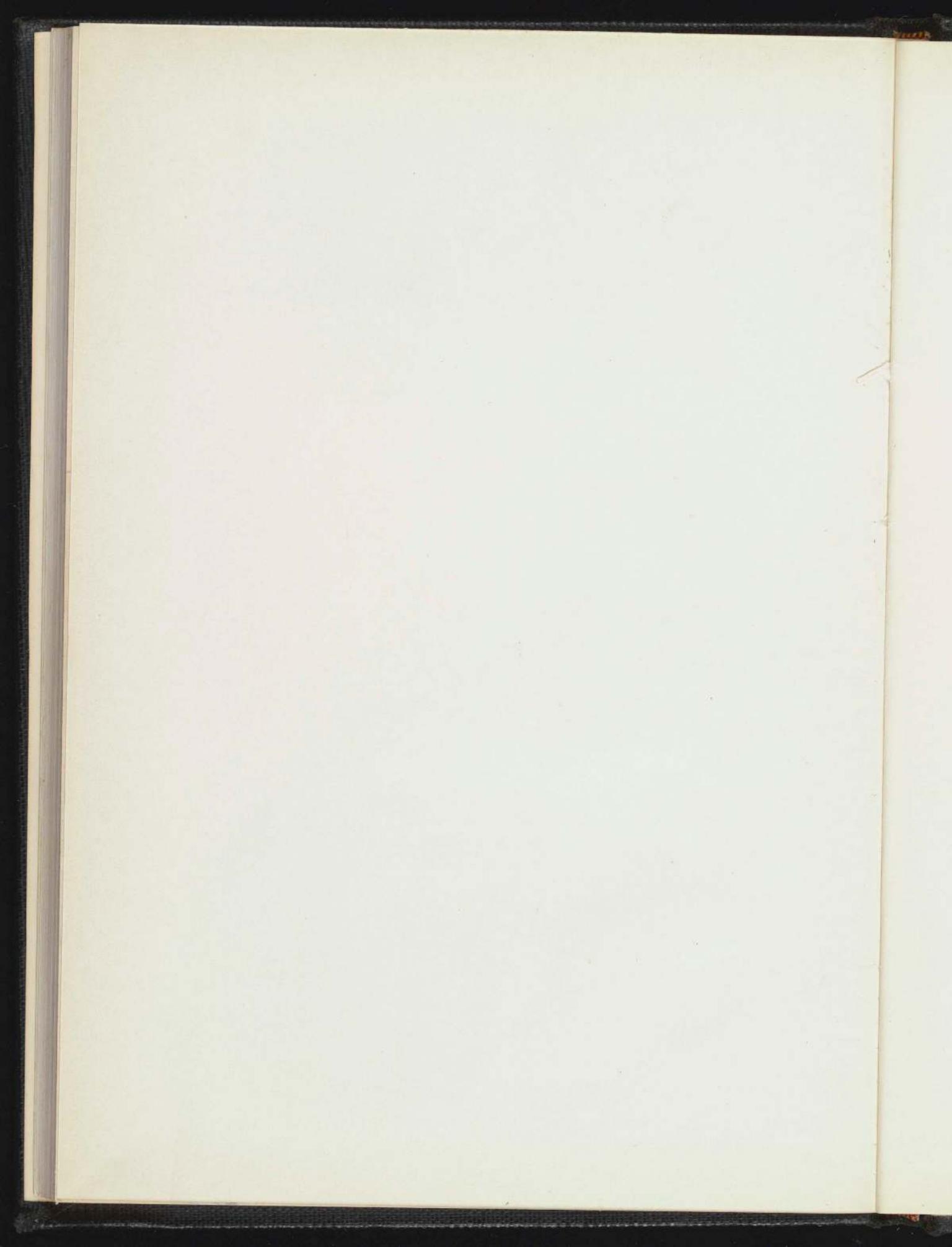
**Twenty-five hundred copies of this catalog
were printed for the trustees of the Museum of
Modern Art, New York, by the Blanchard Press,
Inc., New York, March, Nineteen Thirty-four.**







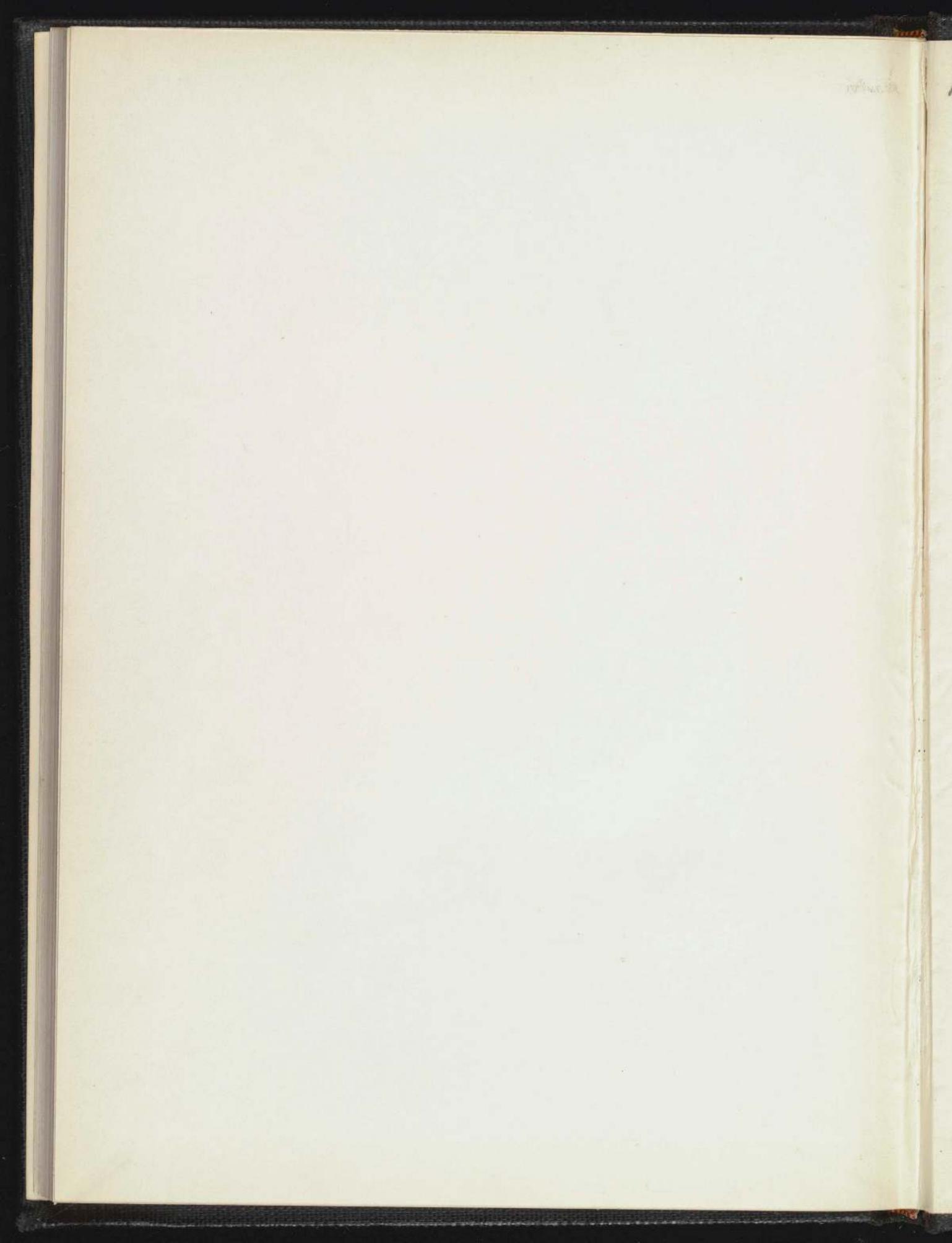




ern Art



72



Master 12/62

The Museum of Modern Art



300061872

