

July 1947

TECHNOLOGY REVIEW

Title Reg. in U. S. Pat. Office



FORGINGS...

To Control
PRESSURE

THE
HARVEY

METAL CORPORATION

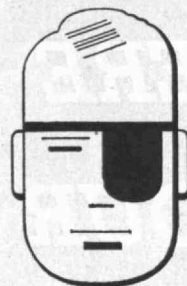
HAROLD B. HARVEY '05 • *Engineers & Manufacturers* • SHERRY O'BRIEN '17

74th STREET and ASHLAND AVENUE • CHICAGO 36, ILLINOIS

FORGINGS IN ALUMINUM • BRASS • BRONZE • COPPER • MAGNESIUM • MONEL • ALLOYS

MACHINING FACILITIES

\$328.00



COST OF ONE MAJOR EYE ACCIDENT

1.50



AVERAGE COST OF ONE PAIR SAFETY GOGGLES

\$326.50

..... SAVED

BY PREVENTING 1 EYE ACCIDENT

Above is the simple arithmetic of what one major eye accident involves—and the relatively *infinitesimal* cost of the means to prevent it. Some authorities put the direct cost of major eye accidents even higher—at \$351 and estimate the hidden or indirect expense as *4 times as much* in terms of idle machines, lowered production, cost of time lost by injured employee, foremen and others and additional factors. Why risk even one eye accident that

can add to today's burden of pyramided costs? 98% of eye accidents can be prevented by the use of safety goggles, according to the Society for the Prevention of Blindness. Your AO Safety Representative has complete facts and figures which prove that adequate eye protection can lower *your* costs.

American Optical
COMPANY
Safety Division

SOUTHBRIDGE, MASSACHUSETTS
BRANCHES IN PRINCIPAL INDUSTRIAL CITIES

HERE IS YOUR INSURANCE

AGAINST THE COST
OF CARELESSNESS!

A single hurried or careless job with an *ordinary* heavy marine rope can throw a distortion or back-kink into it that seriously shortens its life, weakens its strength, and adds to your operating costs.

Slevelay's marvelous combination of *strength, flexibility, easy-handling* and resistance to careless use comes from its exclusive, concentric sheaths of unspun fibers. These "sleeves" prevent the interchange of the rope's inner and outer yarns, which is the actual cause of distortion. The larger the rope, the greater the risk of back-kink in ordinary rope through inexperienced handling—and *the greater* the value of *Slevelay* in *avoiding* that common form of rope destruction.

Slevelay, made *exclusively* by *Plymouth*, is available through your local Plymouth supplier, in 5½ inch circumference and larger sizes.

PLYMOUTH CORDAGE COMPANY
Plymouth, Massachusetts.

PLYMOUTH
Cordage Products



THE ROPE YOU CAN TRUST BECAUSE IT IS ENGINEERED FOR YOUR JOB

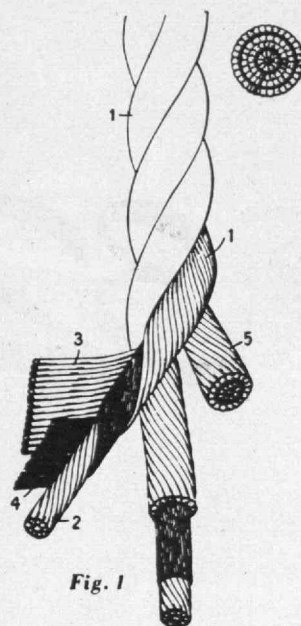


Fig. 1

Why Slevelay Has No Back-Kink

The diagram above shows why and how Slevelay's unique construction gives this Plymouth Marine rope its exclusive combination of *strength, flexibility* and *freedom from back-kink*. The following key explains the outstanding features of Slevelay construction:

1.

(above) outer surface of strand, (below) same strand, showing course of spun yarns.

2.

Center yarns, which in "Slevelay" are left-twisted, being opposite to the twist imparted to center yarns in rope of usual construction.

3.

Cover yarns.

4.

The "sleeve"—a thin, broad sheet of barrier fiber, partitioning center yarns from cover yarns.

5.

End view of strand.

Providing Walking Safety WITH ABRASIVES!



NORTON FLOORS are Non-slip... *Wet or Dry*

STORES
RESTAURANTS
OFFICE
BUILDINGS
INDUSTRIAL
PLANTS
HOSPITALS
SCHOOLS
RAILROAD AND
BUS STATIONS
AIRPORT
TERMINALS

THE same characteristics of hardness and toughness which make Alundum abrasive so useful in grinding wheels, also give it valuable properties as a wear-resistant and non-slip flooring material.

Alundum Stair and Floor Tiles, for example, provide a flat, smooth surface that is non-slip even when wet. And they will not wear slippery from foot traffic. There are also Alundum Mosaics for use where small tiles are desired and Alundum Aggregates to add safety and durability to terrazzo and cement floors and stairs.

You will find NORTON FLOORS providing safe walkways in thousands of buildings the country over. Catalog 1935-A gives the full story including sizes and colors. Write for a copy — no obligation.

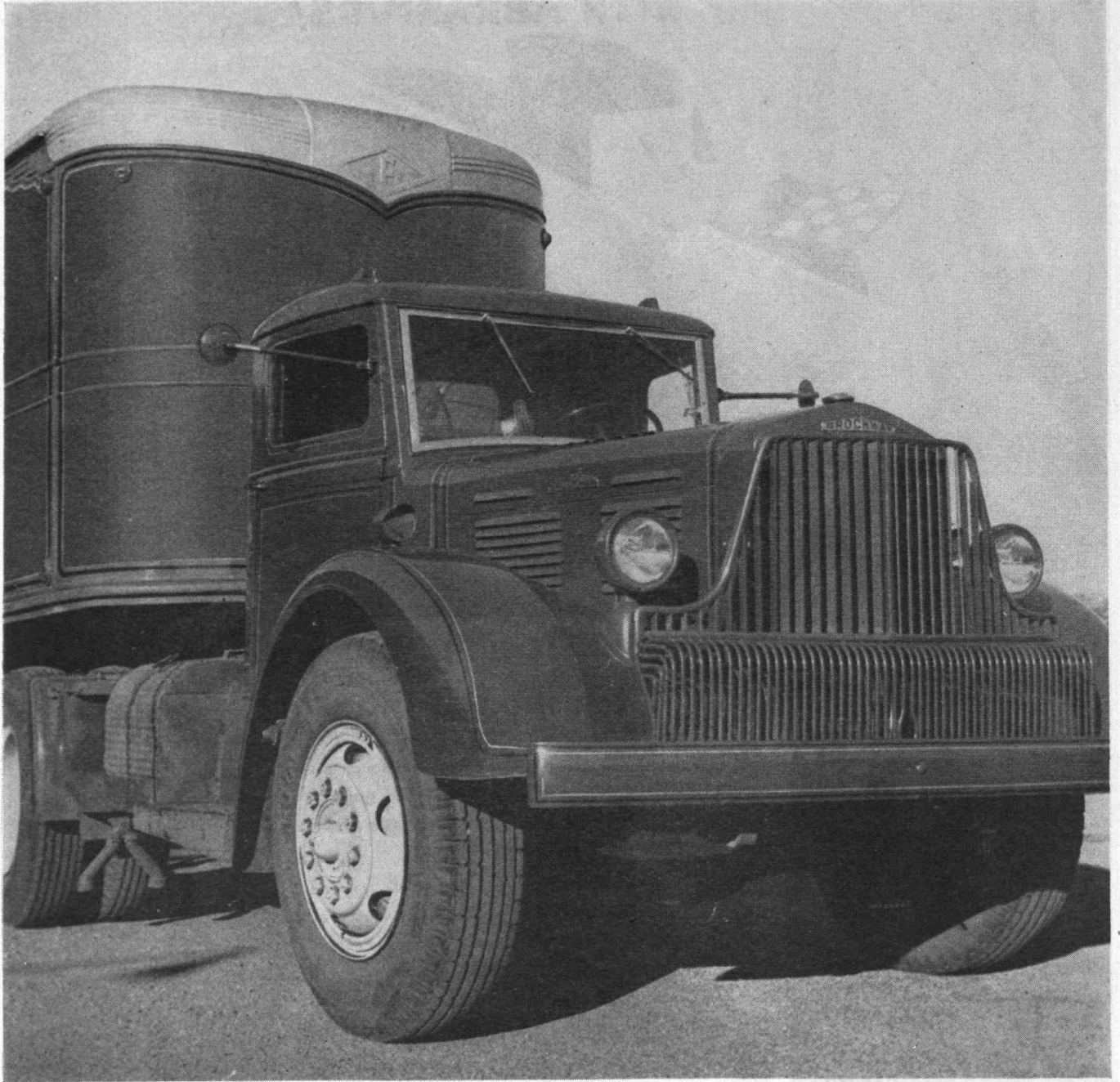
NORTON COMPANY, WORCESTER 6, MASS.
Behr-Manning, Troy, N. Y., is a Norton Division



NORTON ABRASIVES

ABRASIVES - GRINDING WHEELS - GRINDING AND LAPPING MACHINES - REFRACTORIES - POROUS MEDIUMS - NON-SLIP FLOORS - NORBIDE PRODUCTS - LABELING MACHINES

BROCKWAY TRUCKS



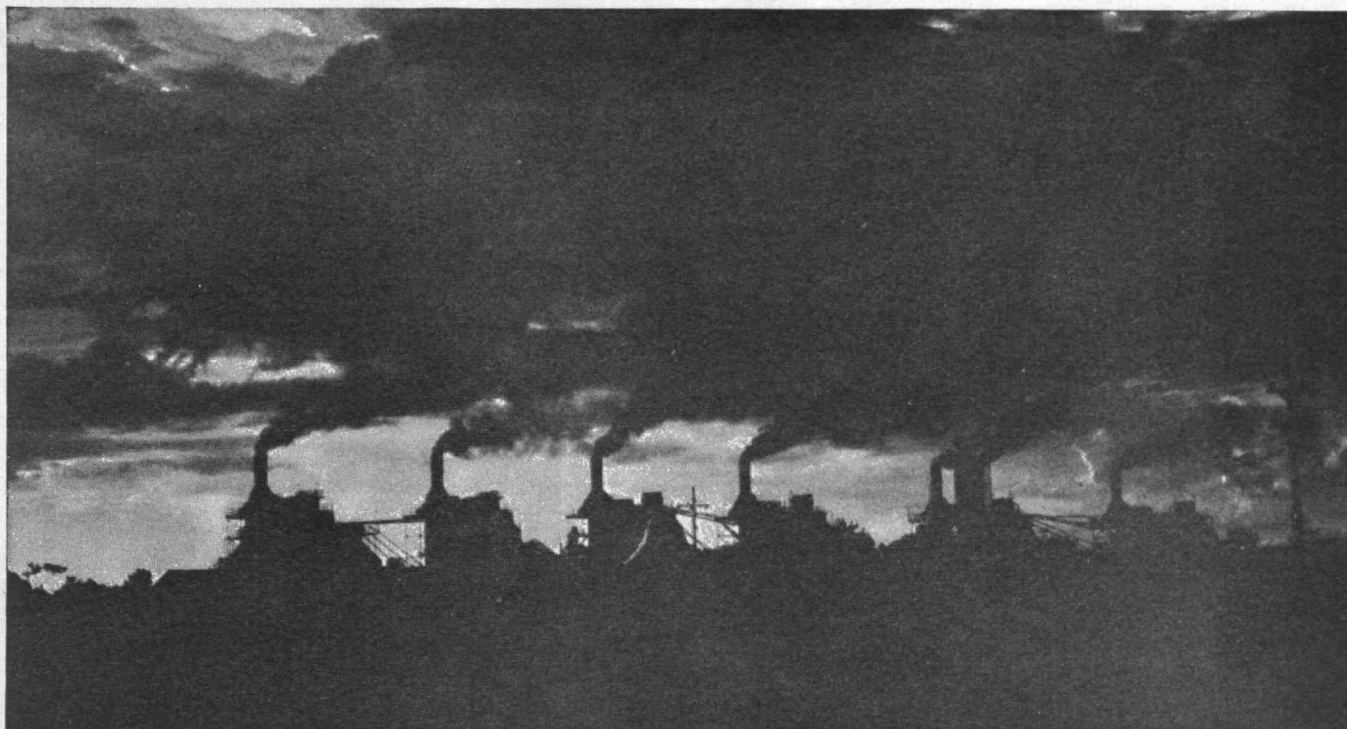
BROCKWAY MOTOR COMPANY, INC.

Manufacturers of

BROCKWAY MOTOR TRUCKS

FACTORY & GENERAL OFFICE: CORTLAND, NEW YORK

FACTORY BRANCHES AND DEALERS IN PRINCIPAL CITIES



FOR INDUSTRY

Carbon Black
Natural Gas
Natural Gasoline
Pumping Equipment
Pine Tar
Charcoal



Cabot raw materials meet a remarkably diversified list of industrial needs.

The Cabot Companies are among the world's leading producers of carbon black for rubber, ink, paint, varnish, lacquer, plastics and other products requiring this remarkable pigment.

The pine distillates of Retort Chemical Division have widespread application in rubber, ships' coatings, paper, heat quenching oil for steel and cast iron, and in stains.

Cabot raw materials reach these and other varied destinations along a route which begins at research and development, and continues through production control to the manufacturer who uses Cabot raw materials.

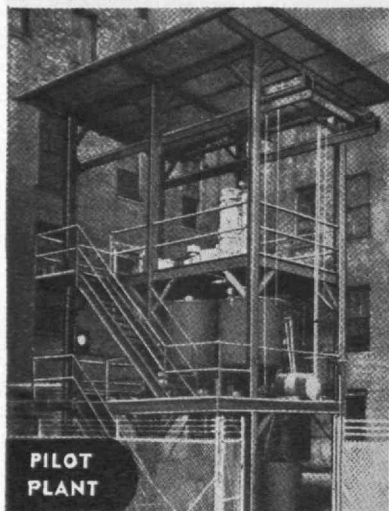
CABOT CARBON CO.
TEXAS ELF CARBON CO.
GENERAL ATLAS CARBON CO.
CABOT SHOPS, INC.

GODFREY L. CABOT, INC.

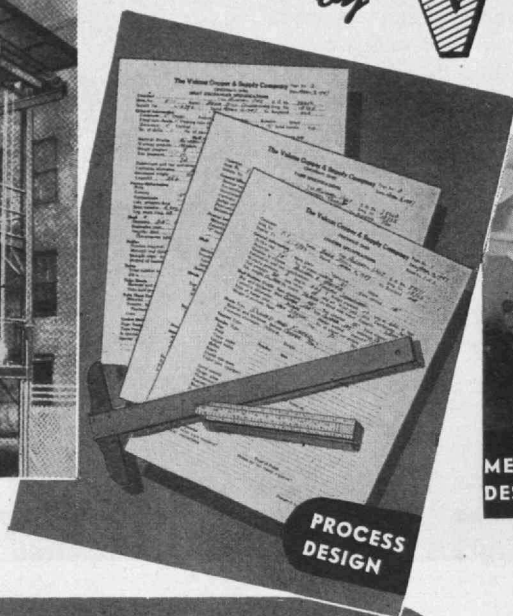
77 FRANKLIN STREET • BOSTON 10, MASS.

Complete Organization Service

by **VULCAN**
CINCINNATI



**PILOT
PLANT**



**PROCESS
DESIGN**



**MECHANICAL
DESIGN**

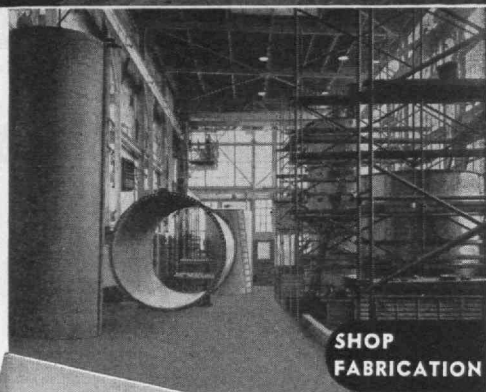
VULCAN DESIGNS and BUILDS COMPLETE PLANTS and EQUIPMENT for the PROCESS INDUSTRIES

VULCAN service begins with laboratory and pilot plant operation, and after technical and economic analysis of data, proceeds through process and mechanical design to shop fabrication, field erection and initial operation.

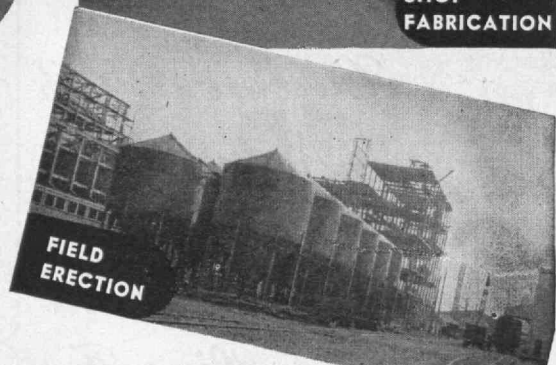
Full responsibility for a complete operating plant or processing unit rests with the Vulcan organization, insuring an economical installation backed by extensive engineering experience.

VULCAN

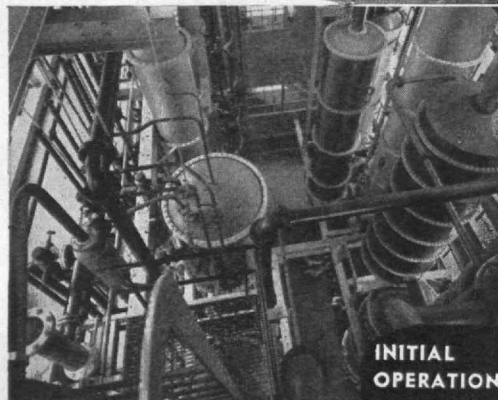
**DISTILLATION
EVAPORATION
EXTRACTION
PROCESSES and EQUIPMENT**



**SHOP
FABRICATION**



**FIELD
ERECTION**



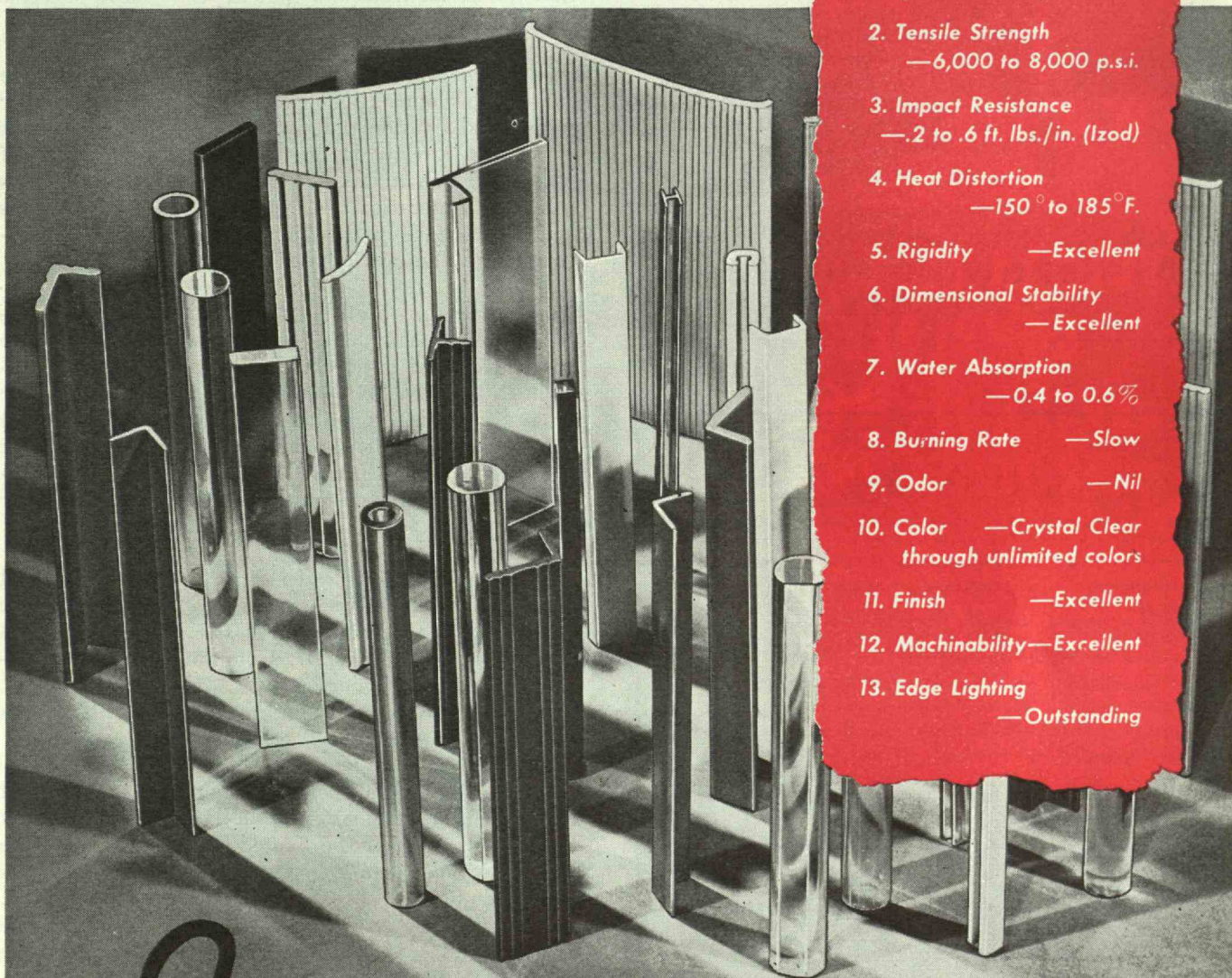
**INITIAL
OPERATION**

THE VULCAN COPPER & SUPPLY CO., CINCINNATI, OHIO

SANDEE EXTRUDED METHYL METHACRYLATE SECTIONS

METHYL methacrylate under the trade names *Plexiglas* and *Lucite* proved during the war that serviceability equalled its outstanding beauty. Sandee is happy to add *extruded acrylic sections* to its ever growing list of successful Sandee extrusions.

Now, simple and complex shapes in small and moderate sizes and in crystal clear, transparent or translucent color can be extruded to add all of the inherent beauty and serviceability of this material to your products. Rods and tubes in sizes under $\frac{1}{2}$ " diameter could also be extruded to meet your specifications. Study the excellent physical and chemical properties of this material, add its outstanding visual appeal, then call on Sandee for those long sought, specially designed sections.



PROPERTIES OF *Sandee* METHYL METHACRYLATE

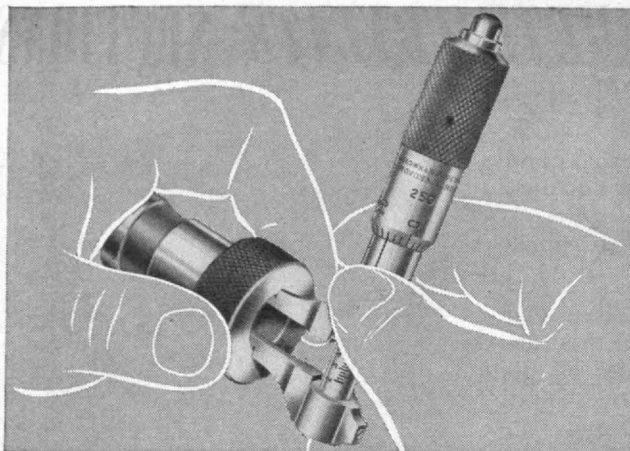
1. Specific Gravity —1.18
2. Tensile Strength
—6,000 to 8,000 p.s.i.
3. Impact Resistance
—.2 to .6 ft. lbs./in. (Izod)
4. Heat Distortion
—150° to 185°F.
5. Rigidity —Excellent
6. Dimensional Stability
—Excellent
7. Water Absorption
—0.4 to 0.6%
8. Burning Rate —Slow
9. Odor —Nil
10. Color —Crystal Clear
through unlimited colors
11. Finish —Excellent
12. Machinability—Excellent
13. Edge Lighting
—Outstanding

SALES REPRESENTATIVES IN 19 PRINCIPAL CITIES

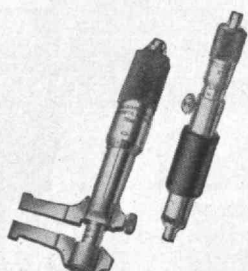
Sandee Manufacturing Company

5050 FOSTER AVENUE • CHICAGO 30, ILLINOIS

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TOOLS**

● From the early days of American Industry, Machinists have used—and preferred—Brown & Sharpe Precision Tools. Inside micrometers Nos. 252 and 270, shown here, are important items in this famous line. Also included are rules, combination squares, bevel protractors, straight edges, vernier tools, dial indicators and other tools. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

THE TABULAR VIEW

A *vigorous* program of aircraft research to maintain national security and further develop commercial enterprise was advocated in the Alumni Day symposium address (page 523) of GENERAL GEORGE C. KENNEY, '11, Commander, Strategic Air Forces. General Kenney's address also stimulates thinking as to the types of research most urgently needed at the present time.

Looking forward to the time, not so far in the future, when families may spend the major part of their two weeks' vacation on other continents through air travel, JOHN C. LESLIE, '28, Vice-president of Pan American World Airways, urges (page 525) a strong American commercial air-transport system as a most effective means of cementing international relations.

Unsolved mysteries of the behavior of the gas turbine and the development of this means of motive power for commercial aviation will give way before the onslaught of research already in progress. Such is the belief of ARTHUR E. RAYMOND, '21, Vice-president of the Douglas Aircraft Corporation, as expressed (page 527) in his address "Future of Gas Turbines in Aviation" delivered at the Alumni Day symposium.

Management problems of the Atomic Energy Commission raise as many, and as serious, problems as the purely technical ones of utilizing nuclear forces. CARROLL L. WILSON, '32, General Manager of the Atomic Energy Commission, makes an appeal to all (page 529) not only to learn the significance of atomic energy but to aid the Atomic Energy Commission in its most difficult assignment in developing peacetime uses for nuclear forces.

Needed by tomorrow's leaders is an objective, analytical approach in dealing with future problems, PRESIDENT COMPTON told the graduating class, in exercises at Boston's Symphony Hall. Dr. Compton's address is recorded in full, beginning on page 531; his annual report to Alumni, delivered at the Alumni Banquet, appears on page 537 of this issue of The Review.

In recalling the brief period during which the United Nations has been in existence, the HONORABLE WARREN R. AUSTIN, Chief of the United States Mission to the United Nations, spoke encouraging words to graduates in his commencement address recorded on page 533. But, supplementing the hope for a great future for the United Nations, is the need for the United States to be willing and able to stand behind its commitments.

BUSY MEN

appreciate the relief afforded by making use of the Agency Service of our Trust Department. By this means they can free themselves from the necessity of watching investment trends as well as from the tedious details of cutting coupons, collecting other income, making up income tax returns, etc. At the same time, if they so desire, they may retain complete control over decisions as to changes in their holdings. This plan enables the business man to direct his faculties entirely to the development of his own enterprises.

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The Review is not published during the summer months following July. This issue, therefore, concludes Volume 49. Number 1 of Volume 50 will be published on October 27 and dated November. Readers who bind their copies are reminded that if they possess nine issues of Volume 49, their files are complete. An index to the volume will be ready on September 30 and will be supplied post free upon request.