

# TECHNOLOGY

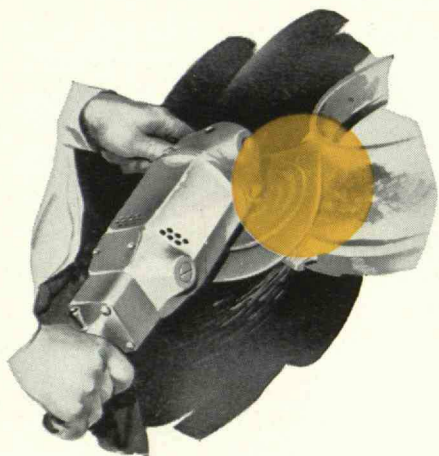
## REVIEW *December* 1953





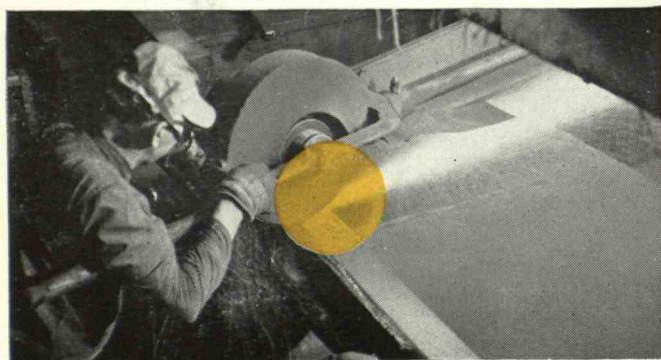
ABRASIVES MAKE THE DIFFERENCE —

# “TOUCH of GOLD” grinding pays off

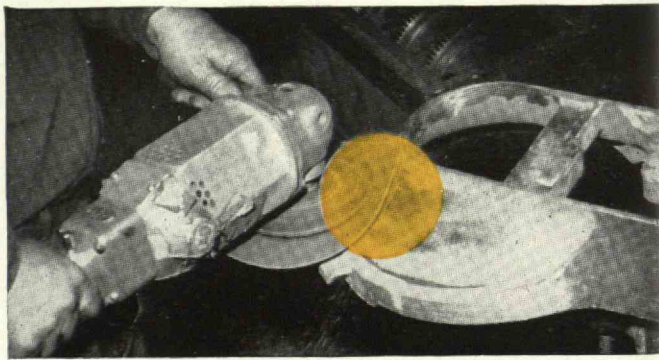


It's more than a matter of preference — it's a matter of profit. Men working with Norton and Behr-Manning abrasives have a big advantage because these abrasives give them the “Touch of Gold.” Their work adds to the value, usefulness and profit of the products *you* make. For every abrasive need, look to Norton and Behr-Manning . . . the world's leaders in abrasives and abrasive products.

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# Another **M. I. T.** Building Equipped

In this Famous Scientific Institute Powers thermostatic control for heating and air conditioning systems is used in the new Dorrance Laboratory for Biology and Food Technology and in the buildings listed below.

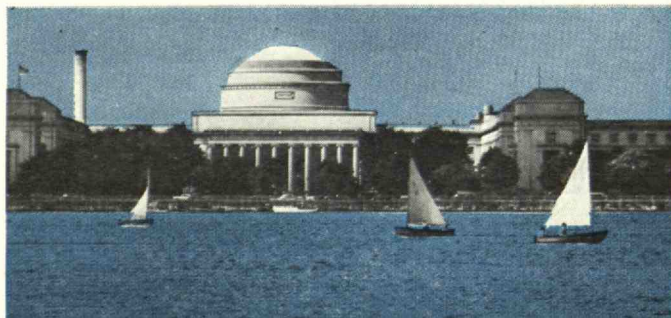
- MAIN EDUCATIONAL AND ADMINISTRATION BUILDINGS
- GAS TURBINE LABORATORY
- CHEMICAL ENGINEERING BUILDING  
Architects: Coolidge and Carlson • Contractor: The Downey Co.
- HAYDEN MEMORIAL LIBRARY  
Architects and Engineers: Vorhees, Walker, Foley and Smith  
Contractor: Cleghorn Co.
- NUCLEAR SCIENCE LABORATORY  
Architects: Anderson & Beckwith • Contractor: The Merrill Co., Inc.
- SWIMMING POOL BUILDING  
Architects: Anderson & Beckwith  
Engineers: Wolff & Munier • Contractor: H. E. Whitten Co.
- NEW AUDITORIUM, now under construction  
Architects: Eero Saarinen & Associates  
Associate Architects: Anderson & Beckwith  
Engineer: Hyde & Bobbio • Contractor: H. E. Whitten Co.

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House and Senate Chambers  
UNITED NATIONS  
General Assembly  
and Conference Buildings  
HARVARD UNIVERSITY  
Various Prominent Buildings



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Aluminum Co. of America • American Telephone & Tel. Co.  
American Optical Co. • Anheuser Busch Co. • Armour & Co.  
Bendix Aviation Corp. • Bachman-Uxbridge Worsted Co.  
Campbell Soup Company • Celanese Corp. of America  
Chrysler Corp. • Ford Motor Co. • General Motors Corp.  
Douglas Aircraft Co. • E. I. DuPont de Nemours Co.  
Esso Research Center • Eastman Kodak Co.  
B. F. Goodrich Tire & Rubber Co. • Humble Oil Co.  
Johns Manville Co. • Johnson & Johnson Co.  
Lever Brothers Co. • Eli Lilly & Co. • Lily Tulip Cup Corp.  
Lahey Clinic • Massachusetts General Hospital  
Massachusetts Mutual Life Insurance Co.  
Monsanto Chemical Co. • Montgomery Ward & Co.  
Parke Davis & Co. • Pepperell Mfg. Co. • Sears Roebuck & Co.  
Sharp & Dohme Inc. • Swift & Co. • Thompson Products, Inc.  
Wm. Wrigley Co. • Hiram Walker Inc. • Wyman-Gordon Co.  
New York Stock Exchange • Radio City Music Hall  
Madison Square and Boston Garden • Rockefeller Center





FOR  
BIOLOGY and FOOD  
TECHNOLOGY

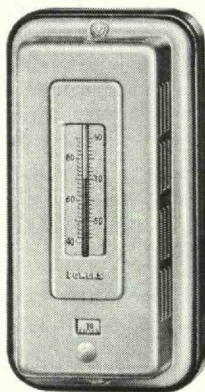
Architects  
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Engineers  
CLEVERDON, VARNEY & PIKE

Contractor  
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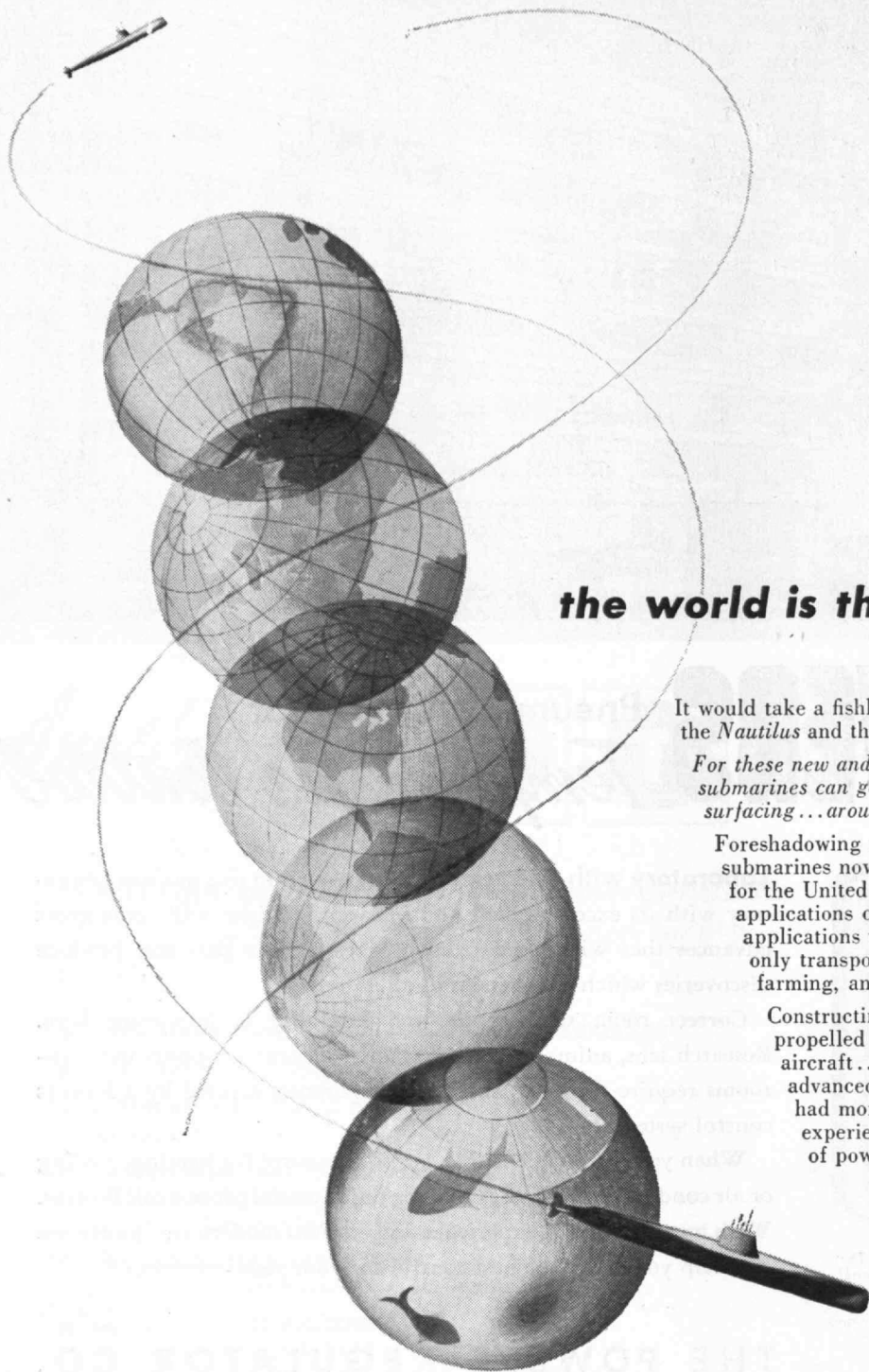


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... eliminate packing  
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of water or steam, or loss of vacuum.







## ***the world is their fishbowl***

It would take a fishbowl the size of the world to give the *Nautilus* and the *Sea Wolf* room to show off.

*For these new and revolutionary nuclear powered submarines can go around the world without surfacing...around the world without refueling.*

Foreshadowing a new age ahead, atomic powered submarines now being built by General Dynamics for the United States Navy are the world's first applications of nuclear power to propulsion—applications which in time will influence not only transportation, but manufacturing, farming, and everyday living.

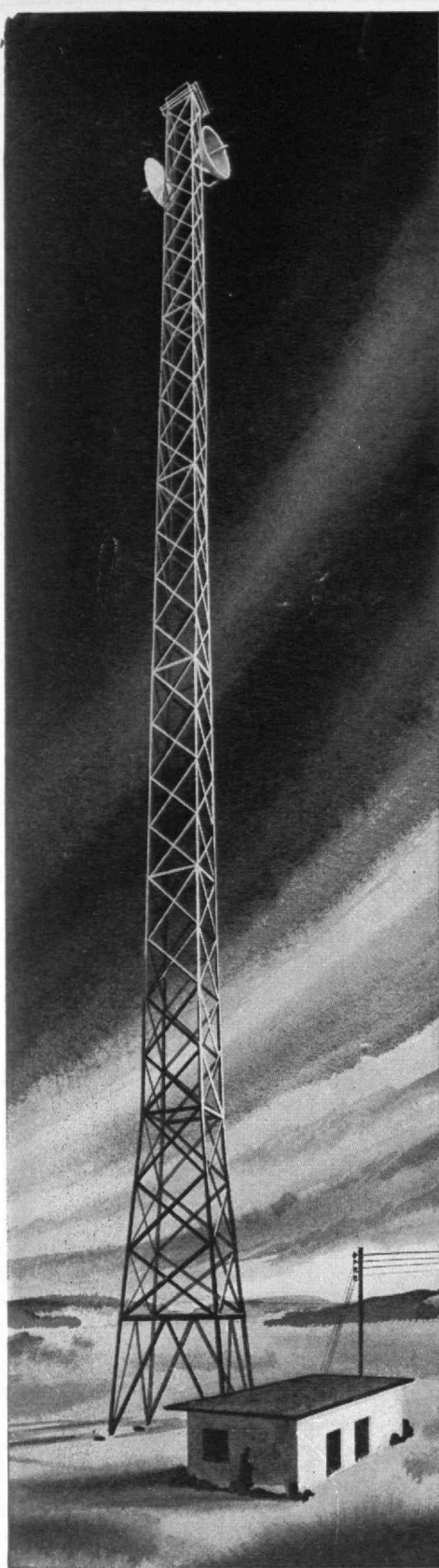
Constructing the world's first nuclear propelled vessels...building supersonic aircraft...producing electric motors of advanced design...General Dynamics has had more than *seventy years* of successful experience in the application of new forms of power to military and industrial uses.

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**COAXIAL CABLE**

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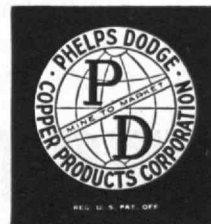
- One joint-free continuous length of semi-flexible cable from transmitter to antenna.
- Constant, smooth electrical properties regardless of ambient temperature variations or load cycling.
- Attenuation of cable is permanent throughout its almost endless operating life.

★ ★ ★

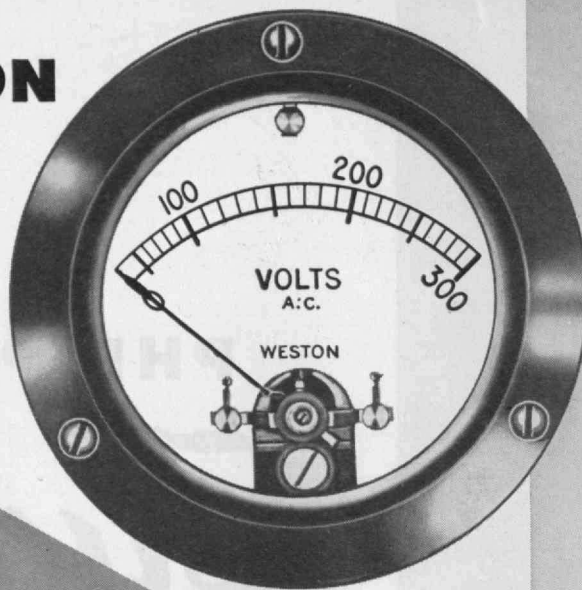
To insure dependability, always insist on Styroflex as a component of your microwave system.

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**CORPORATION**

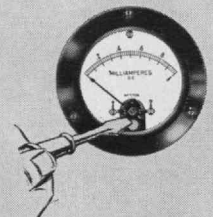
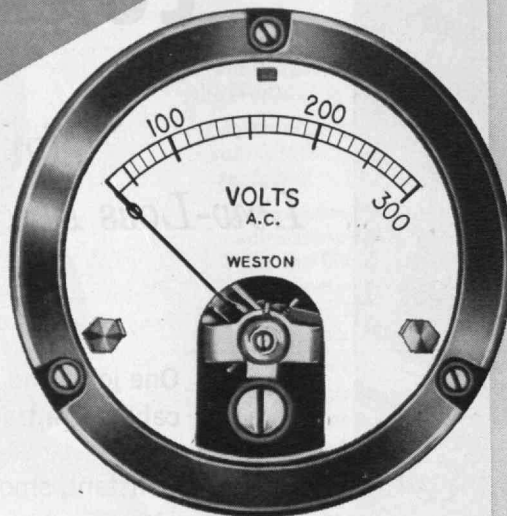
40 WALL STREET, NEW YORK 5, N. Y.



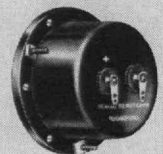
another **WESTON**  
**FIRST**



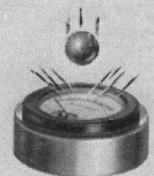
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Tough, flat plastic windows are really shock resistant.

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**UCC AND ALLOYS**—The people of Union Carbide produce more than fifty different kinds of alloying metals, in hundreds of varying compositions and sizes. They also work closely with steelmakers in developing and improving the alloy steels that go into nearly everything that serves us today.

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## THE TABULAR VIEW

**Dorrance Building.** — This issue of The Review is devoted, almost entirely, to a description of the newest educational facilities at the Institute, and the use of the Dorrance Building by the Departments of Biology and Food Technology who, together, occupy this new structure. The description of the building itself (page 81) was written in The Review Office, and manuscript was reviewed by several who played important roles in the planning, building, or use of this new structure. Primary purpose of the lead article, this month, is to outline the physical structure of the building in sufficient detail that the rest of the articles in this issue will make a more effective contribution to an understanding of the use of this great new addition to the life sciences at M.I.T.

**Biology in the Dorrance Building.** — PROFESSOR FRANCIS O. SCHMITT, Head of the Department of Biology, provides an account (page 85) of the use to which the Dorrance Building will be put for teaching and research in the biological sciences. Dr. Schmitt has been head of the Department of Biology at M.I.T. since the summer of 1941. Born in St. Louis in 1903, Dr. Schmitt received the bachelor of arts degree from Washington University in 1924 and three years later was granted the degree of doctor of philosophy. From 1927 to 1929 he was National Research Council Fellow in the department of chemistry at the University of California. It was during this period that he also carried on advanced studies in the biochemistry department of University College, England, and at the Kaiser Wilhelm Institute, Berlin. Appointed assistant professor of zoology at Washington University in 1929, Dr. Schmitt became associate professor in 1934, and head of the department of zoology in 1939.

**Biochemistry in the Dorrance Building.** — PROFESSOR JOHN M. BUCHANAN began his association with the Institute on July 1, last, as head of the recently formed Division of Biochemistry in the Department of Biology. His article in this issue (page 87) deals with the Division's use of the new facilities which the Dorrance Building makes available. Dr. Buchanan was graduated in chemistry from DePauw University in 1938. He was awarded the master of science degree from the University of Michigan in 1939, and the Ph.D. degree in biochemistry from Harvard University Medical School in 1943. After three years as instructor and assistant professor in biochemistry at the University of Pennsylvania Medical School, he studied for two years, as a National Research Council Fellow, at the Medical Nobel Institute in Stockholm. Returning to the University of Pennsylvania in 1948, Dr. Buchanan was made associate professor in 1949, and professor in 1950.

**Food Technology in the Dorrance Building.** — PROFESSOR BERNARD E. PROCTOR, '23, Head of the Department of Food Technology, devotes his article in this (Concluded on page 70)