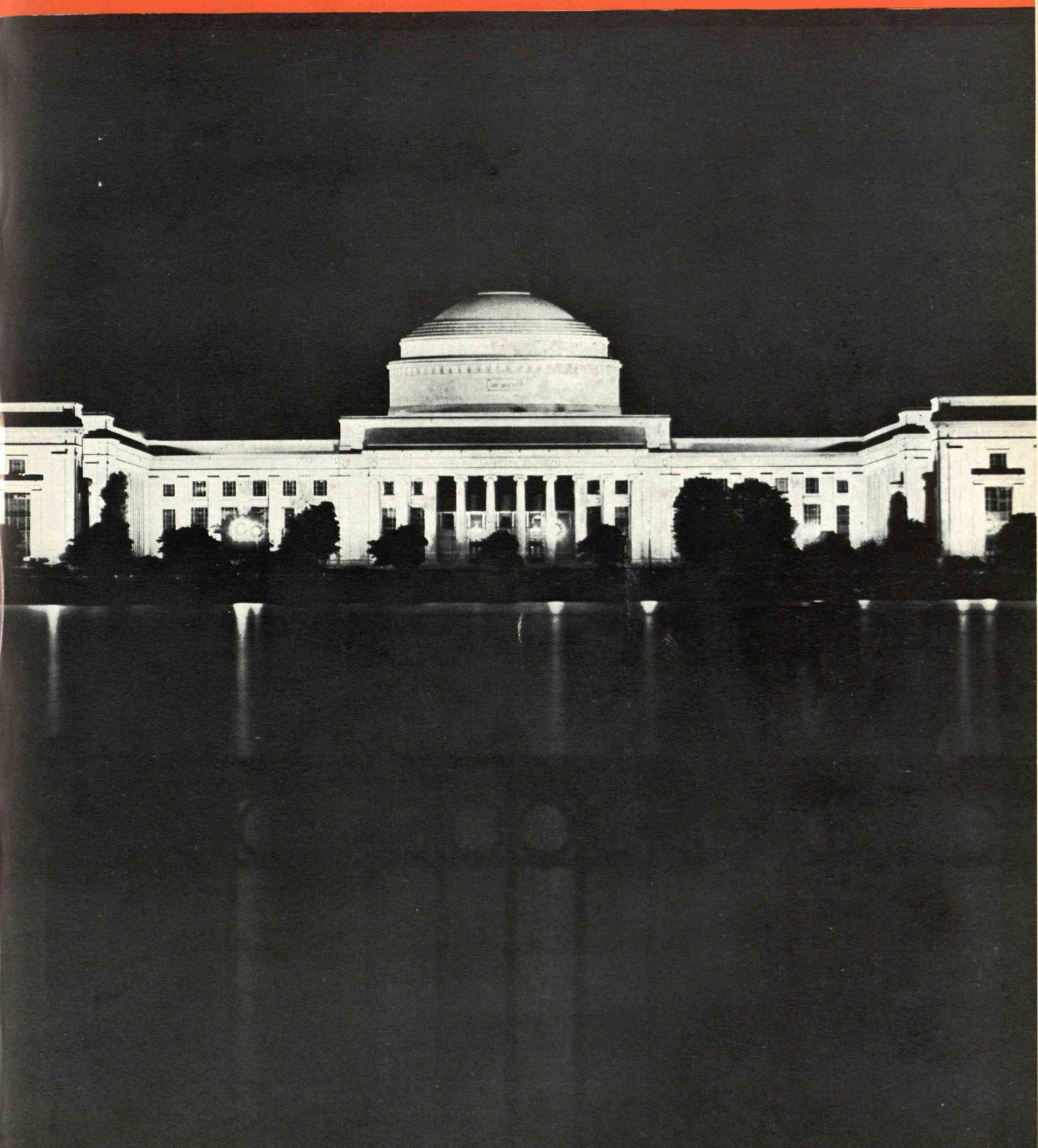
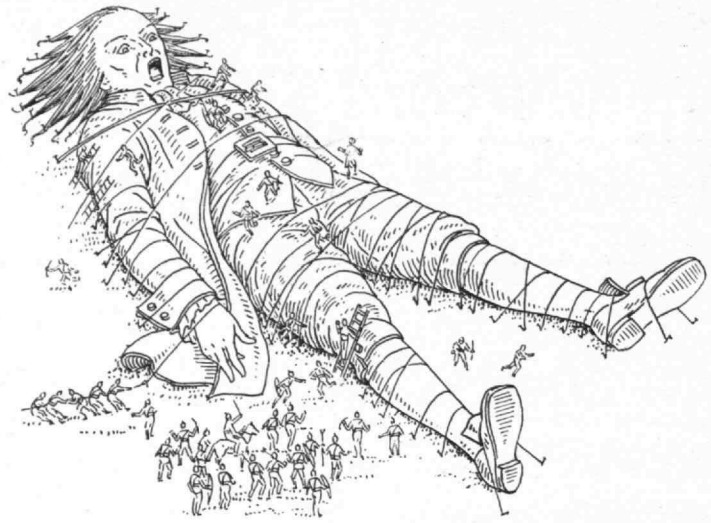
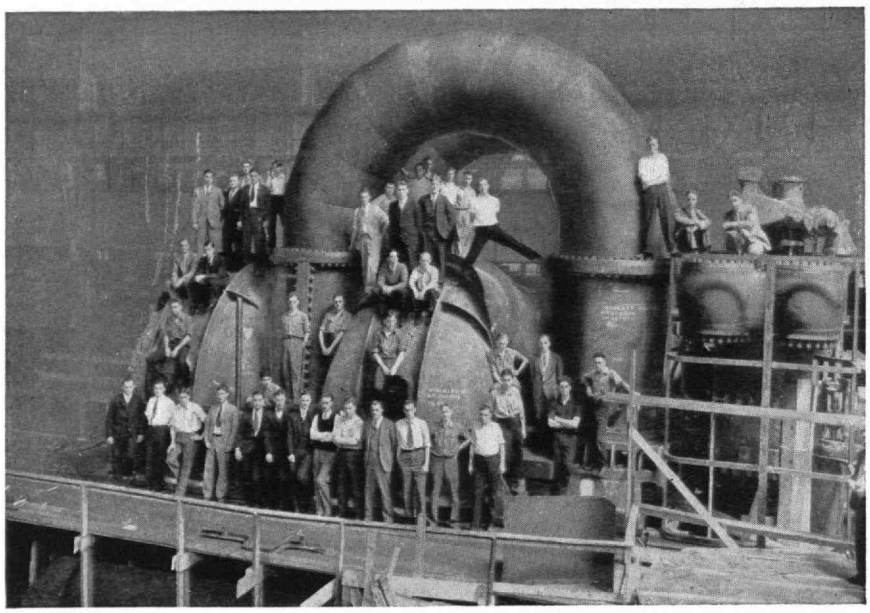
May 1932

TECHNOLOGY REVIEW





An Electrical GULLIVER AMONG LILLIPUTIANS?



160,000-kw. G-E tandem-compound turbine-generator set on test.

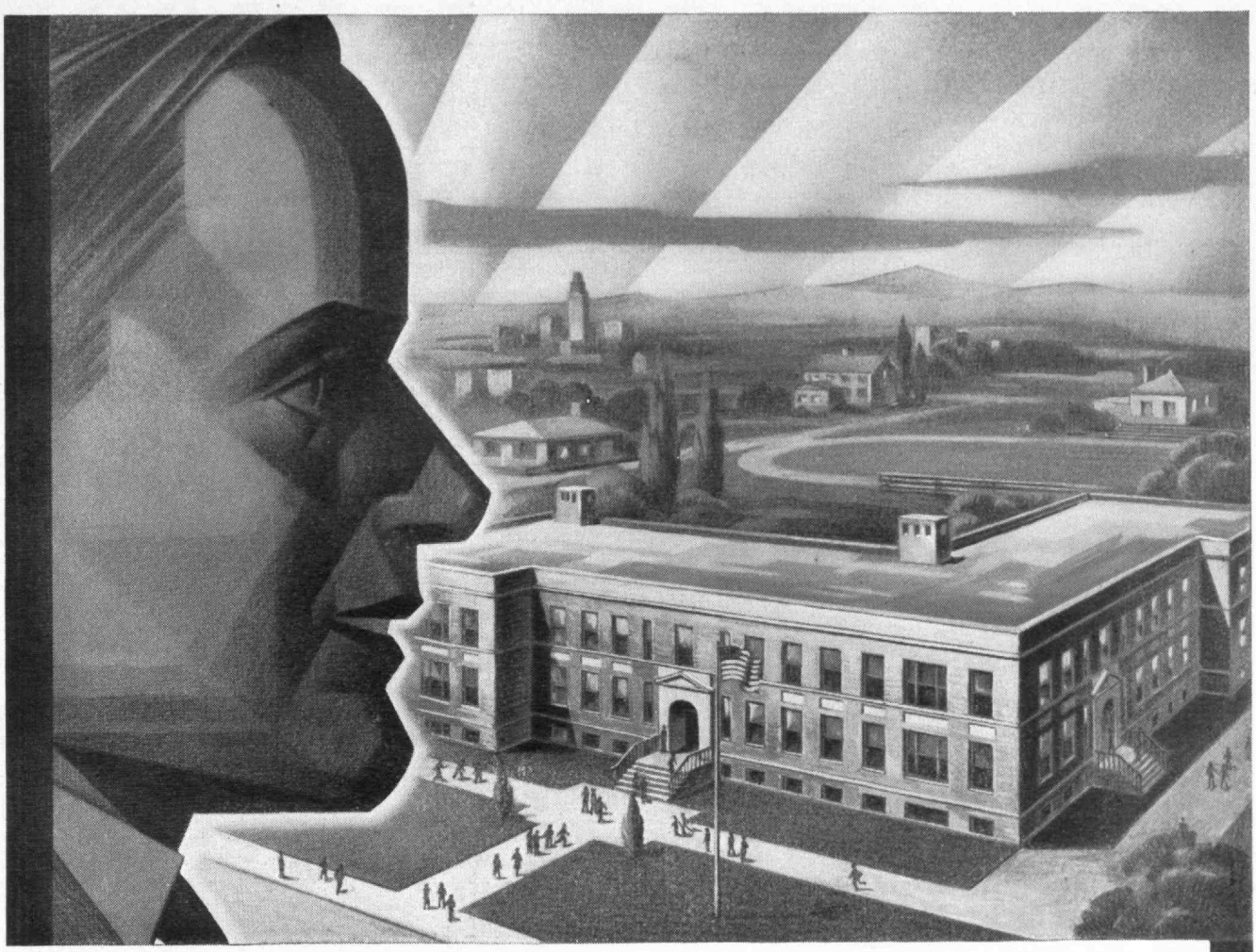
No—but the immense size of this 160,000-kilowatt turbine-generator dwarfs the 44 test men who test such apparatus. This turbine-generator for the Brooklyn Edison Company—the largest single-shaft unit yet developed—is capable of furnishing muscle power equal to all the inhabitants of New York City. Its 214,400 horsepower operates both day and night, lifting heavy burdens from human shoulders, and supplying electric energy to countless devices in homes, in offices, and in factories.

The 44 test men shown above represent 31 colleges and universities from New Mexico to New Hampshire, including the University of Porto Rico. Each year many college-trained men join the General Electric Testing Department, which trains them for future responsible positions and electrical leadership on land, on sea, and in the air.

95-895DH

GENERAL ELECTRIC

THE TECHNOLOGY REVIEW, May, 1932. Vol. XXXIV, No. 8. Published monthly from October to May Inclusive and in July at 10 Ferry Street, Concord, N. H. Publication date: twenty-seventh of the month preceding date of issue. Annual subscription $3.50; Canadian and Foreign subscription $4.00. Entered as second-class matter at the Post Office at Concord, N. H., under the Act of March 3, 1879.



The School — it had its slipping hazards. But now there's safety in Alundum Stair Tiles and Treads

EDUCATION « » « »

Norton also serving America's greatest industry — the fundamental industry — the school. "Norton Floors" is the trade name for a line of non-slip products — Alundum Stair and Floor Tiles, Alundum Ceramic Mosaics, Alundum Aggregates for terrazzo and cement floors.

All are permanently non-slip. Wear-resisting.

School children must be safeguarded against accident — on the stairs, in the lobbies, the lavatories, the shower room. Even the swimming pool needs its non-slip edges and surrounding floors. Norton Company, Worcester, Mass.

NORTON

Grinding Wheels . . . . Abrasives for Polishing
. . . . Abrasive Aggregate . . . . Floor and Stair Tile . . . .
Grinding and Lapping Machines . . . . Refractories
. . . . Porous Plates . . . . Pulpstones . . . .

MASSACHUSETTS
INSTITUTE TECHNOLOGY

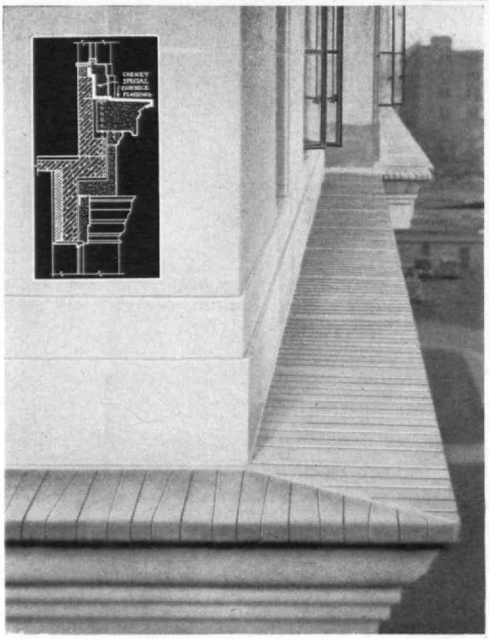
New George Eastman Research Laboratories, Cambridge, Massachusetts

Coolidge & Carlson, Architects

J. Farquhar's Sons, Inc., Sheet Metal Contractors

Stone & Webster, Inc., Contractors & Engineers

Below: Flashing on Main Cornice



CHENEY

THRU-WALL FLASHING PROVIDES SPECIAL CORNICE PROTECTION AGAINST SEEPAGE—EXPANSION AND CONTRACTION

The method of thru-flashing the main cornice of the new Massachusetts Institute of Technology Laboratories clearly demonstrates the use of Cheney Thru-wall Flashing formed to specification.

The photograph illustrates that part of the flashing exposed to the weather; the cross section, the usual thru-wall installation and method used in anchoring the flashing by carrying it across the top, down the face and underneath the cornice.

Cheney Keyed Flashing used as exposed cornice covering, absorbs expansion and contraction strains without breaking — whereas plain metal, constantly strained, invariably breaks open, causing leaks.

Cheney Flashing is the only proved thru-wall copper flashing that runs completely through the masonry wall and forms a positive Key-bond in all directions within the mortar bed. Catalog on request.

THE CHENEY COMPANY
WINCHESTER, MASSACHUSETTS

NEW YORK PHILADELPHIA PITTSBURGH CHICAGO

Pacific Coast Representative: Westates Products Company, San Francisco, California
In Canada: Corporate Steel Products, Limited, Montreal

DOES NOT BREAK THE BOND

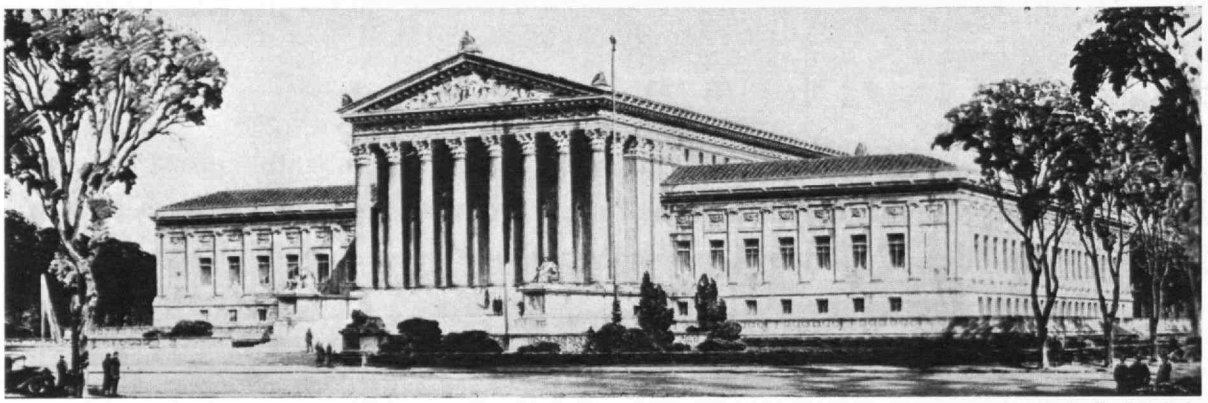


Photo by Harris & Ewing

THE United States Supreme Court is to have a building of its own — covering an entire block opposite the Senate Wing of the Capitol. This reproduction of the architect's rendering shows how the structure will look when completed. Already our quarries and shops are providing the material for the exterior walls — a contract which calls for the finishing of nearly 1000 carloads of Imperial Danby marble.

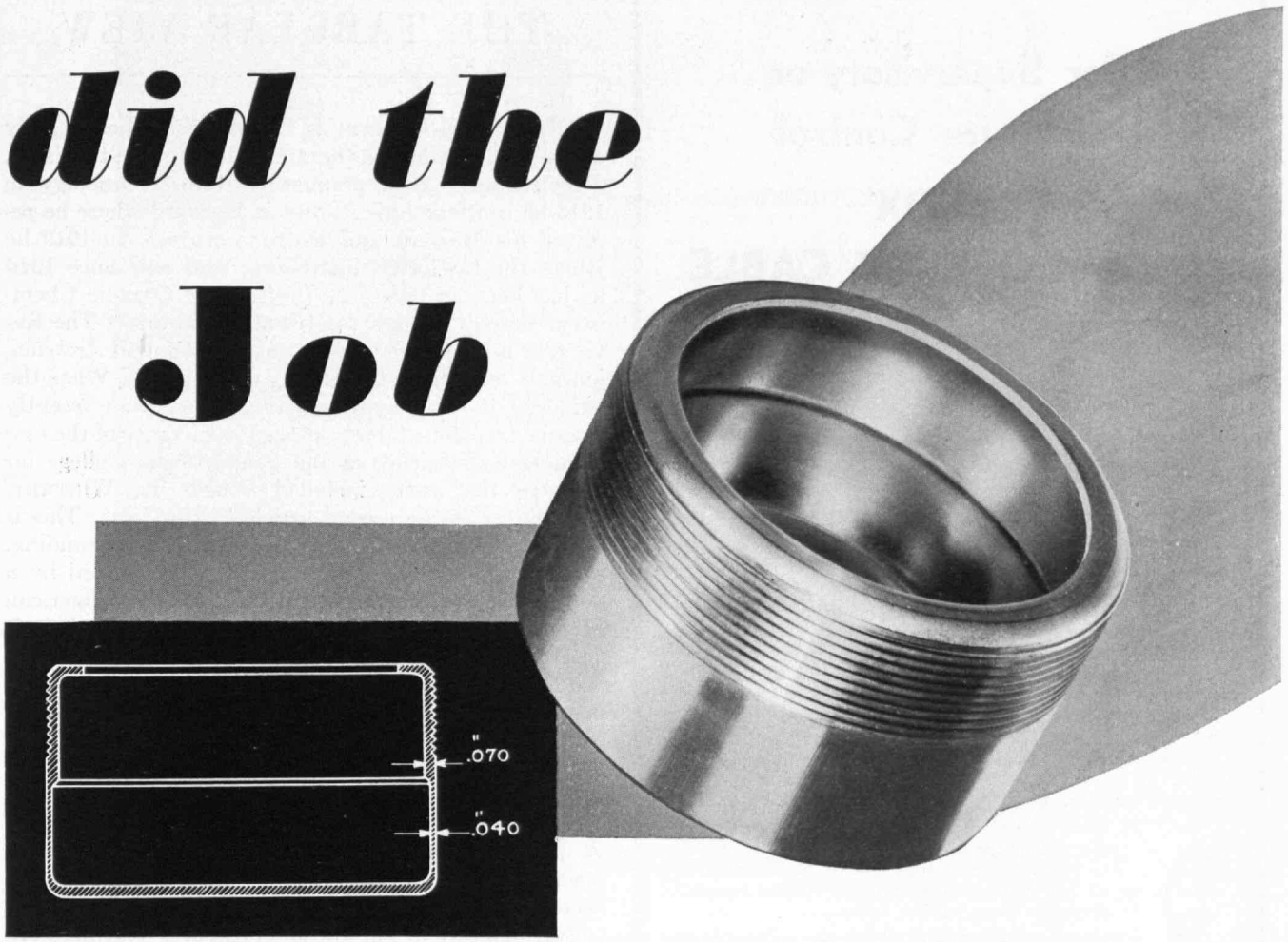
This latest addition to the nation's capital was designed by Cass Gilbert and his associates, Cass Gilbert, Jr., and John R. Rockart, in coöperation with David Lynn, Architect of the Capitol. It is 385 feet long and 304 feet wide. The sixteen columns at the entrance, made up of 80 huge drums, are about 52 feet high, with a maximum diameter of six feet.

In Washington, as in other sections of the country, the finest of architectural effects are being obtained through the use of Vermont Marble.

VERMONT MARBLE COMPANY PROCTOR, VERMONT

SCOVILL INGENUITY

did the Job



THE shell you see above demonstrates a unique production method developed by Scovill . . . a method that fulfilled unusual requirements in an economical way.

This was the problem presented to Scovill. The upper half of the shell required a wall thick enough to take a thread without weakening. For the lower half, a thinner wall gave ample strength. It would have been easy to provide the extra thickness of the upper half on the *outside* of the shell. But it was necessary that the outside diameter be uniform over its entire length.

Scovill worked out an ingenious method of manufacture that strengthened the upper half of the shell by providing the extra thickness on the *inside* only. The new method involved no increase in the total number of operations . . . and made a substantial saving for the customer by reducing the weight of metal in the shell. The quality and utility of the part were, of course, in no way sacrificed.

This economical solution of a difficult problem in metal working is typical of Scovill. The method developed in this and similar cases may be applied to other products and effect similar savings. Today, more than 3000 firms, relying on Scovill's technical knowledge, unusual facilities and 130 years' experience, regularly bring their manufacturing problems to this organization.

If you are interested in eliminating production difficulties, in improving your products and cutting costs wherever possible . . . why not put your case in the hands of Scovill? Write to the General Superintendent, in Waterbury, for full information.

Scovill

SCOVILL MANUFACTURING COMPANY
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New York Syracuse Philadelphia Boston Providence Chicago
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THE TABULAR VIEW

PROFESSOR TENNEY L. DAVIS sees science steadily and sees it whole, as his article, the first in this issue, demonstrates. After graduating from Technology in 1913 he continued his studies at Harvard where he received his Master's and Doctor's degrees. In 1919 he joined the Institute's instructing staff and since 1926 he has been an Associate Professor of Organic Chemistry. Besides being a Contributing Editor of The Review, he is an Associate Editor of both *Isis* and *Archeion*, journals relating to the history of science. ¶ When the names of 28 foremost American scientists were recently inscribed on stone tablets above the entrance of the new Buhl Hall of Science at the Pennsylvania College for Women, the roster included WILLIS R. WHITNEY, contributor of the second article in this issue. This is adequate evidence of Dr. Whitney's high standing, particularly because the 28 names were selected by a poll of the 902 starred scientists listed in "American Men of Science." Dr. Whitney obtained his Bachelor's degree from M. I. T. in 1890 and he is now Director of the Research Laboratory of the General Electric Company. The article by him is drawn from the address which he delivered upon receiving the Franklin Medal of the Franklin Institute.

IT IS particularly fitting that The Review should present a survey of the development of calculating machines, since so much notable work in this field has been carried on by the Institute's Department of Electrical Engineering. The author of this article, HAROLD L. HAZEN, '24, is an Assistant Professor of Electrical Engineering and he has participated in the development of the various integraphs and analyzers that have been built by his department. He just recently presented to the Faculty of the Institute a doctorial thesis entitled "The Extension of Electrical Engineering Analysis through the Reduction of Computational Limitations by Mechanical Methods." Mr. Hazen points out the inspiration that he and his colleagues have received from the works of that great German mathematician and philosopher, Leibniz. This doubtless recalls to Review readers an article by Norbert Wiener in our February, 1932, issue entitled "Back to Leibniz." ¶ DANIEL C. SAYRE contributed the article on the vulgate of aeronautics which appeared in The Review for November, 1931. Professor Sayre, as we have pointed out before, wants it expressly understood that he is not a *modock*, a *dodo*, or a *kewee*, but a full-fledged licensed pilot. This he has demonstrated by the great skill with which he has conducted the daily flights of the airplane operated by the Meteorological Division of the Institute's Department of Aeronautical Engineering. Throughout a New England winter he has accomplished 90% of the planned flights — a record to be envied, as transport pilots will agree. Professor Sayre holds both Bachelor's ('23) and Master's degrees from the Institute, and he is an Assistant Professor on the staff of the Institute's Department of Aeronautical Engineering.

Don't remove the moisture-proof wrapping from your package of Camels after you open it. The Camel Humidor Pack is protection against perfume and powder odors, dust and germs. In offices and homes, even in the dry atmosphere of artificial heat, the Camel Humidor Pack can be depended upon to deliver fresh Camels every time

She smokes FRESH cigarettes

. . . not parched or toasted

WHEN you buy Camels you get *fresh* cigarettes. That's why women particularly prefer them.

Cool, refreshing smoke that is mild all the way down, with no trace of parch or bite to sting the tongue or rasp the throat.

That's because Camels are *made* right and *kept* right.

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Kept in factory-prime condition until they reach the smoker by the air-sealed, Camel Humidor Pack.

The select tobaccos that go to make up your Camels are never parched or toasted.

The Reynolds method of scientifically applying heat guarantees against that.

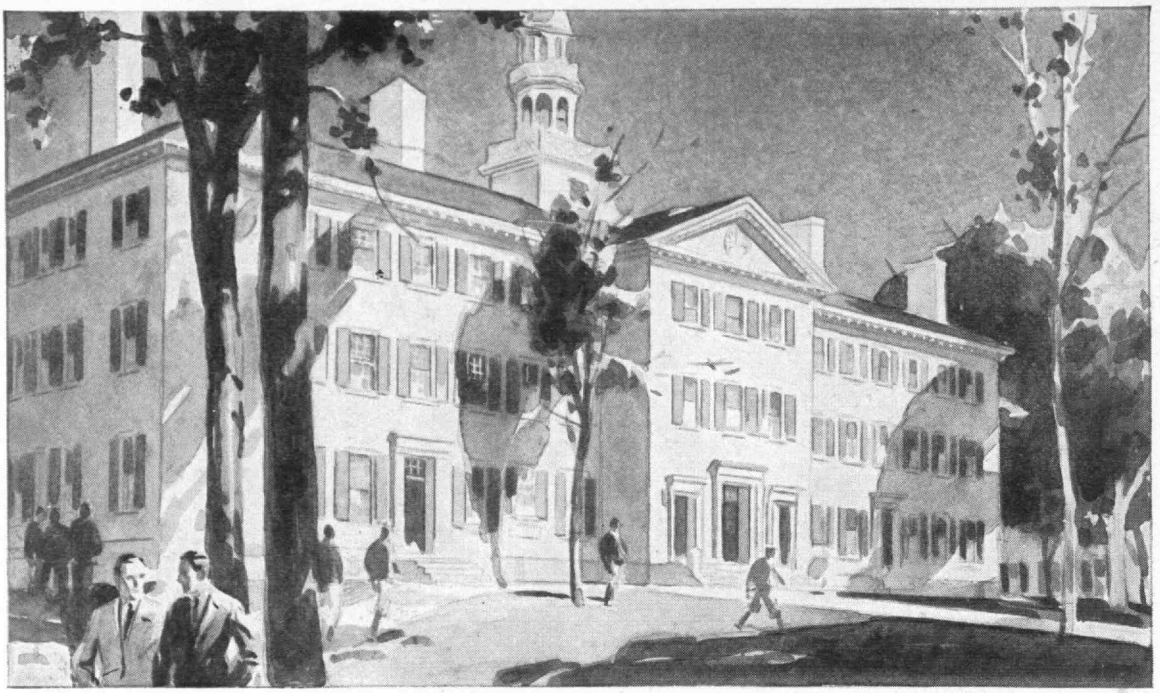
If you've never experienced the delight of a cigarette that has never been parched or toasted switch to Camels, then leave them — if you can.

R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, N. C.

CAMELS

***Made* FRESH — *Kept* FRESH**

"Are you Listenin'?"
R. J. REYNOLDS TOBACCO COMPANY'S
COAST-TO-COAST RADIO PROGRAMS
Camel Quarter Hour
Columbia Broadcasting System
Prince Albert Quarter Hour
National Broadcasting Company Red Network
See radio page of local newspaper for time



Dartmouth Hall, in Old Dartmouth Row. This famous building once housed the entire college, including lecture rooms and dormitories.

DARTMOUTH ALUMNI OWN MORE BUICKS THAN ANY OTHER CAR OF *ANY* PRICE

In almost any representative group of people you may choose these days, you will find more owners of Buicks than of any other car in Buick's price range.

But consider the alumni of Dartmouth—or the readers of Dartmouth Alumni Magazine, at any rate. *In this group there are more owners of Buicks than of any other car of any price!*

According to figures from an impartial source*, 18 per cent of all readers of Dartmouth Alumni Magazine own Buicks. The car in second position—a car of lowest price—is owned by 16 per cent of this group of Dartmouth alumni; and the second car comparable to Buick in price is owned by eight per cent.

This preference for Buick among Dartmouth graduates is unusual only insofar as it gives Buick first place among *all* cars *regardless of price.* Alumni of fifteen leading universities throughout the United States own nearly twice as many Buicks as cars of the second make in Buick's field. And among all American motorists, college people and non-college people, the ratio of Buick owners to owners of the second car is equally impressive.

The excellence of design and manufacturing which has enabled Buick to win and hold this decisive leadership is nowhere more evident than in the new Buick Eight with Wizard Control. See and drive this car, and you will understand why Buick is an overwhelming favorite among thinking people everywhere. There are 26 models in a wide variety of body types. Prices range from $935 to $2055, f.o.b. Flint, Michigan.

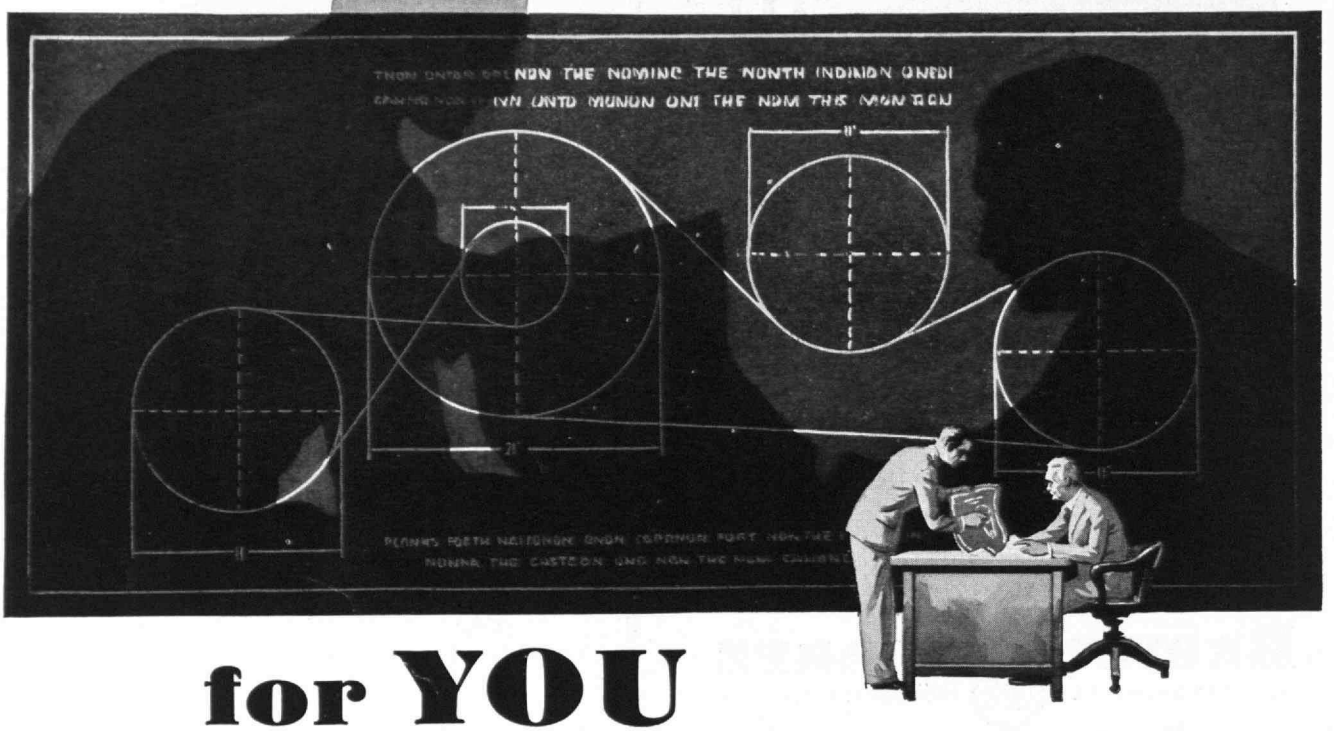
VALVE-IN-HEAD Buick MOTOR CARS

**Facts concerning ownership of Buicks among graduates of Dartmouth and other colleges and universities compiled by The Graduate Group of publications and by alumni associations.*

THE NEW BUICK *with* WIZARD CONTROL

WHEN BETTER AUTOMOBILES ARE BUILT, BUICK WILL BUILD THEM . . . PRODUCT OF GENERAL MOTORS WITH BODIES BY FISHER

A MAN with an IDEA



for YOU

He has brought money-making and money-saving ideas to owners and operators of many industrial plants all over the world, has the G. T. M. — Goodyear Technical Man.

His specialty is rubber, as applied to power transmission, conveying, elevating, bigger work, faster work, cleaner work in thousands of plants and scores of industries. He is an expert on rubber, with a practical knowledge of operating conditions in many industries.

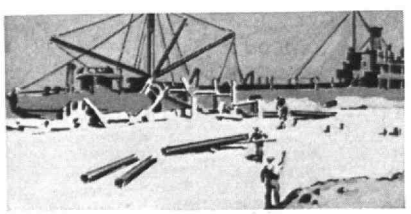
Here on this page you see suggested typical operations in which G.T.M.-specified Goodyear Mechanical Rubber Goods are delivering better service, more trouble-free service, at lower cost—which, after all, sums up to more profit in any operation. In the cases illustrated, and in many, many more, the G.T.M., functioning on the Goodyear Plant Analysis Plan, contributed a sound, scientific idea which meant money to the owner or operator.

Might he not do as much for you? Then why not get in touch with him? A line, or a call, to Goodyear, Akron, Ohio, or Los Angeles, California, will bring the G.T.M.

THE GREATEST NAME IN RUBBER

GOODYEAR

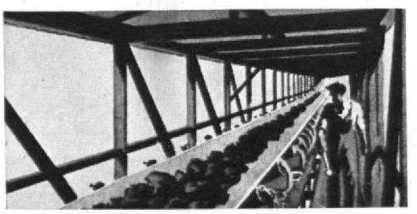
BELTS • MOLDED GOODS • HOSE • PACKING



Goodyear Dredge Sleeves are factors in many successful dredging operations in all the waters of this continent. Being scientifically designed, constructed and specified for this duty, they give an excellent account of themselves wherever they are employed

TUNE IN:

Goodyear invites you to hear the Revellers Quartet, Goodyear Concert-Dance Orchestra and a feature guest artist every Wednesday night, over N. B. C. Red Network, WEAF and Associated Stations



The very largest coal conveying operations in this country are done on Goodyear Conveyor Belts. These belts, scientifically designed, constructed and applied to their work, have a record for outlasting others by as much as millions more tons carried and years more of service