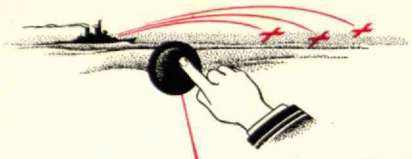
TECHNOLOGY REVIEW

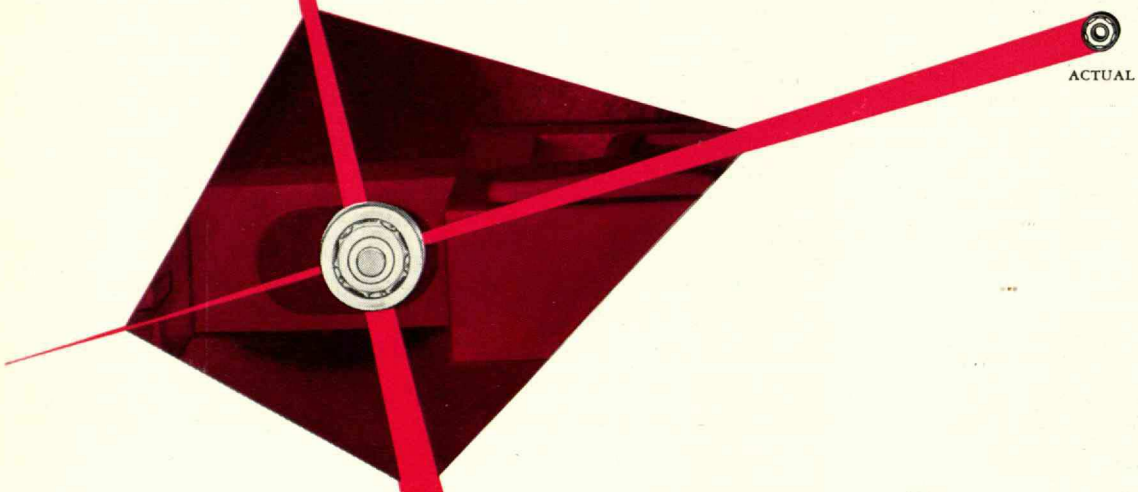
May 1954



HERE'S HOW KETAY FIRE CONTROL RELAYS

keep naval guns "ON TARGET"

. . . with MPB bearings



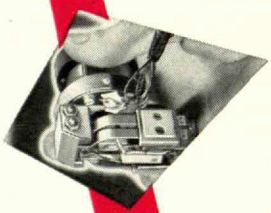
ACTUAL SIZE MPB 3C

accurate concentricity

of miniature bearing roller guides

increases relay sensitivity

and dependability



Fire control relay designed and manufactured by Ketay Manufacturing Corporation of New York.

OPERATING CONDITIONS — maximum sensitivity and consistency of response depend on free-rolling, concentrically accurate bearings . . . bearings serve as rollers and guides for rotating armature shaft which is displaced right and left to close desired circuits . . . unit actuated by 3 to 40 volts. CRITICAL — low-friction bearing rotation . . . ability to withstand 2,000 ft.-lbs. shock (equal to recoil of 16 in. naval guns), plus temperature changes from −55° C to +71° C . . . long wear and attention-free bearing operation. RESOLVED — by use of MPB No. 3C, radial retainer bearing.

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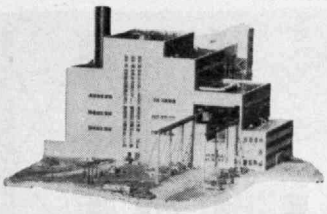
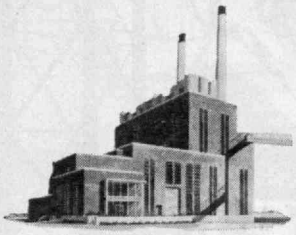
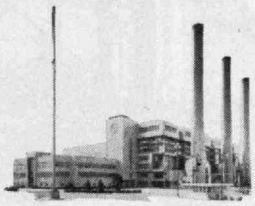


Central Hudson Gas & Electric Corp. — DANSKAMMER

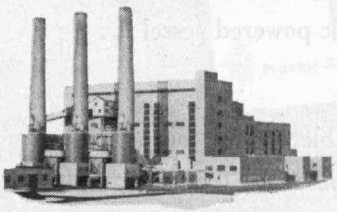


Cincinnati Gas & Electric Co. — BECKJORD

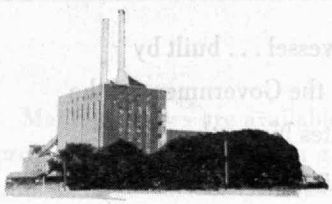


Dayton Power & Light Co. — O. H. HUTCHINGS

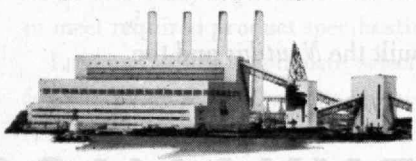
Duke Power Co. — LEE



Metropolitan Edison Co. — TITUS

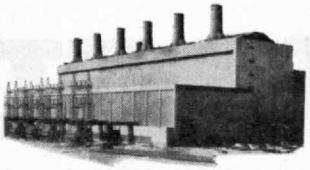


Niagara Mohawk Power Corp. — DUNKIRK

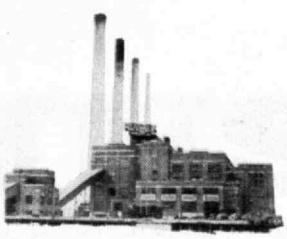


Public Service Electric & Gas Co. — SEWAREN

Rochester Gas & Electric Corp. — RUSSELL



T.V.A. — JOHNSONVILLE



Wisconsin Electric Power Co. — PORT WASHINGTON

10 OF THE TOP 15

The ten power stations shown on this page are in a very real sense *symbols of power progress.* And power progress is perhaps the most important single fact in the economy of this country today. It is the reason why we have far more low-cost electricity to turn the wheels of industry and provide modern comforts for our homes than any other nation in the world.

The common measure of power progress is efficiency . . . expressed in terms of fuel consumption per kilowatt-hour. A Federal Power Commission report issued in December, 1953, covering the operation of 331 power stations during 1952, discloses that the ten plants shown here rank among the fifteen most efficient steam-electric stations in the country.

All of the steam generating equipment in these ten stations was designed and built by Combustion Engineering, Inc.

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THE TECHNOLOGY REVIEW, May, 1954, Vol. LVI, No. 7. Published monthly from November to July inclusive at Emmett Street, Bristol, Conn. 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 December 23, 1949, at the Post Office at Bristol, Conn., under the Act of March 3, 1879.

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THE TABULAR VIEW

Technology's Architecture. – Since its founding in 1865, M.I.T. has occupied three different locations, each of which was marked by a totally different kind of architecture. In 1916 when M.I.T. moved to its new location in Cambridge on the Charles River and outgrew its nickname of "Boston Tech," the inspirational genius of Welles Bosworth, '89, provided the Institute with architectural surroundings which borrowed heavily from the classicism of Greece and Rome. By 1938, or thereabouts, structures of a modernistic type began to make their appearance on the Cambridge campus. As recorded by CAROLINE SHILLABER in the second of a two-part article (page 343) modernism in the architecture of M.I.T. buildings came into full bloom with the construction of new – and much needed – buildings in the postwar period. Certainly the new Kresge auditorium (now under construction) and the chapel (soon to be built) are as breath-taking in their architecture as Baker House, which has already seen several years of service as a student dormitory. A graduate of Smith College, Miss Shillaber is librarian of the Arthur Rotch Memorial Library of Architecture at M.I.T.

Perpetual Life? – JAMES A. TOBEY, '15, a frequent contributor to The Review on matters of public health and related topics, takes time out from a busy life to discuss (page 349) the possibility of extending man's life span beyond the Biblical "three score and ten" years. In his present article, Dr. Tobey is not concerned with the reasons one might give for wishing to live to be 100 years old or more; he is satisfied merely to draw whatever conclusions are reasonable concerning the possibility of achieving this end. Much progress has already been made in overcoming mortality among infants and children. Moreover, history records many cases of those whose life span has extended a full century. Now that more attention is being directed toward the diseases of middle life and old age, may we not expect a significant lengthening of the average life span? Dr. Tobey received the S.B. and Dr.P.H. degrees from M.I.T. in 1916 and 1927, respectively. He received the LL.B. degree from Washington Law School in 1922, and the M.S. degree from the American University in 1923.

Webster Lecture. – PROFESSOR ARNOLD TUSTIN, distinguished British engineer and Head of the Department of Electrical Engineering at the University of Birmingham, England, is the first visiting professor to occupy the Webster Chair of Electrical Engineering at M.I.T. In this capacity, Professor Tustin delivered the inaugural lecture of the Webster professorship which The Review is pleased to bring to its readers (page 351). In his Webster lecture, Professor Tustin urges that the university of the future be primarily concerned with the training of well-rounded, competent individuals who will be willing and able to apply their knowledge for the benefit of

(*Concluded on page 334*)

BEYOND THE HORIZON....

Higher and higher the speeds; greater and greater the stresses.

To match needs which are still beyond the horizon, the engineer is increasingly urging the metallurgist to supply new materials.

The more efficient engines of today rely upon the use of temperature-resisting molybdenum-containing alloys; the jet engines of the future, with still greater stresses and higher temperatures, must rely even more upon Molybdenum.

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THE TABULAR VIEW

(*Concluded from page 332*)

mankind on a global scale. He believes that electrical engineers can make an important and significant contribution in this field. As if to prove his point, Professor Tustin has recently published a book in which the feed-back principles, so commonplace in electrical engineering, are applied to examine our overall economic system. After graduation from the University of Durham in 1920, Professor Tustin gained extensive and varied experience in the electrical manufacturing industry. He played an active part in those developments leading to the adoption of 1,500- and 3,000-volt direct current as standard voltages in transportation systems which made possible the modern lightweight trolley-bus motor. During World War II he was active in the development of the Metadyne, a method of control for such applications as the automatic aiming of anti-aircraft guns, and in the development of gyroscopic stabilizers for guns in tanks.

MAIL RETURNS

Old Rogers

FROM WILLIAM R. GREELEY, '02:

Historic styles in architecture are of academic interest only, but to keep the academic record straight, dear old "Rogers" (page 299, April, 1954, issue of The Review) is not Greek revival but Renaissance (English-French-American).

The article is very interesting and promotes nostalgia. Next to Engineering C was a small building called "The Tech Union," the first social building. Is there a photograph of that anywhere? I was the architect and didn't get a picture and it was soon demolished. I'll bet it was terrible.

Boston, Mass.

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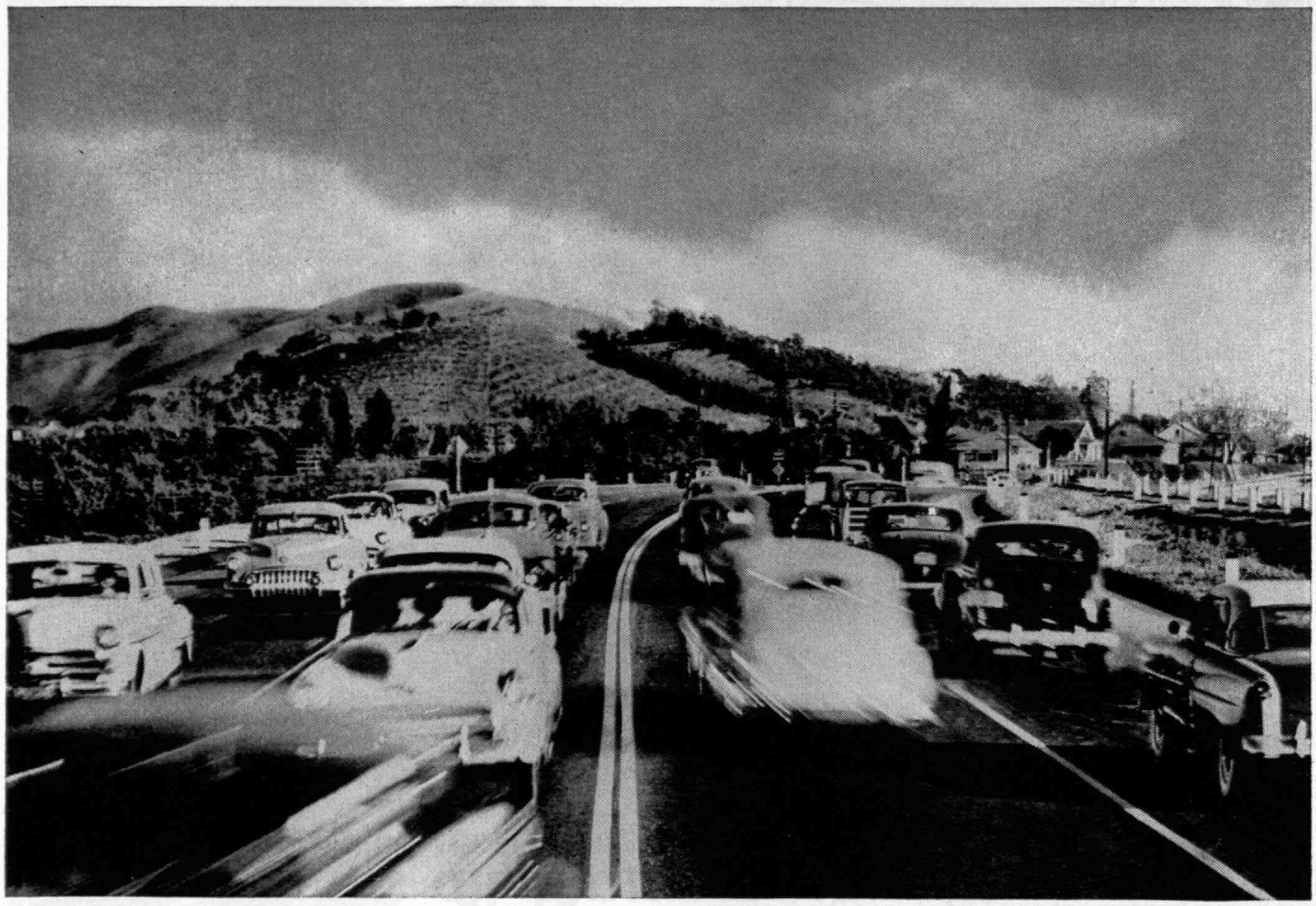
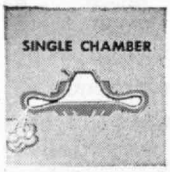
Sudden blowouts can mean sudden death on today's crowded highways!



Be safe with Double Chamber LifeGuard Safety Tubes



When a single chamber tire or single chamber tube blows out, you lose *all* the air, your wheel drops to the rim in a split second! This sudden drop can swerve your car out of control, off the road, or head-on into on-coming traffic!

You'll be lucky to escape with nothing more serious than a repair bill.

But with double chamber LifeGuards in your tires, you have a life-saving reserve of air in the *inner* chamber! Instead of dropping as much as 6 inches, your wheel drops only a couple of inches; you have plenty of time to come to a safe, straight-line stop!

Protect yourself and the ones you love from possible injury or death.

Cost less because they're re-usable! You continue to enjoy blowout-safe driving on your LifeGuard Safety Tubes through three or more sets of tires, for 100,000 or more miles. Because they last longer, they cost much less per mile. New LifeGuards are available with puncture-sealant, too.

See your Goodyear dealer and let him show you the value of having LifeGuard Safety Tubes on *your* car. Goodyear, Akron 16, Ohio.

See TV's Great Dramatic Show, "The Goodyear TV Playhouse," Alternate Sunday Evenings, NBC-TV.

GOODYEAR

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