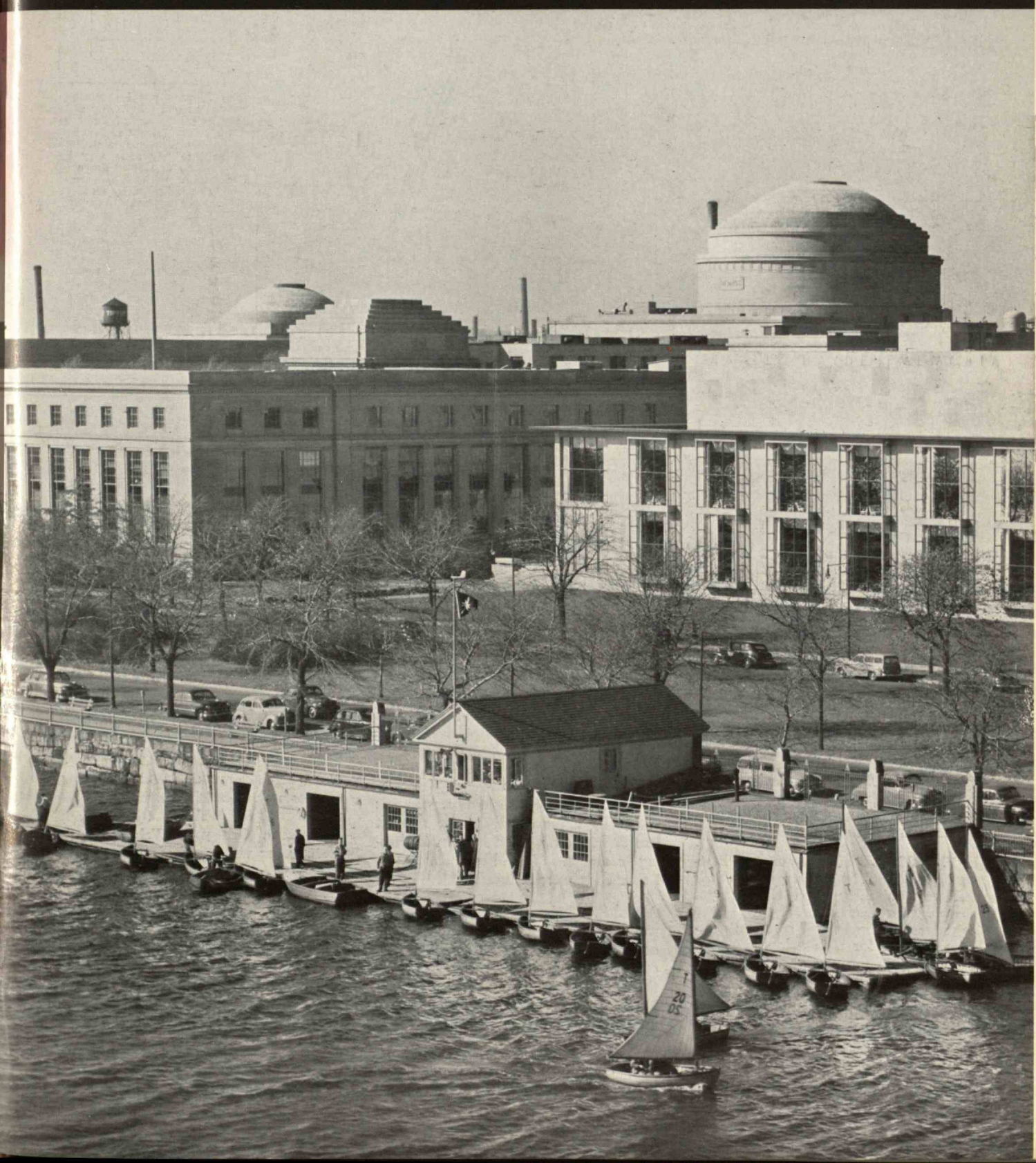


TECHNOLOGY

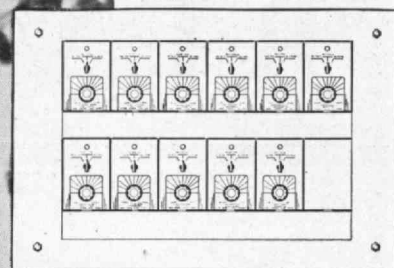
REVIEW

April 1952





The Travelers Insurance Co.
Buildings, Hartford, Conn.
Architects: Voorhees, Walker,
Foley & Smith, Consulting
Engineers: Meyer, Strong and
Jones, Heating Contractor:
Libby and Blinn, Inc.



This 11-zone panel centralizes control at one point. Any zone may be (a) shut off, (b) put on automatic or (c) put in heating-up position from this point. Rate of heat to any zone may be speeded up or slowed down in comparison with the normal supply as indicated by Outdoor Thermostat control.

Heating Modernization Program Pays The Travelers Insurance Company

The original home office building of The Travelers Insurance Company was built in 1906. As The Travelers grew, additional office space was provided by new buildings erected in 1912, 1918 (the Tower building), 1921 (the building in center foreground), 1926, 1928 (the large rectangular building at right), 1938 and 1939, bringing the total floor area occupied by the Company to 1,012,834 square feet.

In 1944, 38 years after the original heating installation, The Travelers asked their architects to recommend the changes necessary for modern heating with two objectives—minimum fuel cost and complete comfort for all employees.

After careful study, the following were approved: (1) four new oil-fired water-tube boilers with automatic combustion control, each boiler having a capacity of 25,000 lbs. of steam per hour, (2) a smaller water-tube boiler for heating domestic hot water in the summer months, new vacuum pumps and related

boiler-room equipment, (3) improvements to the existing ventilation system, (4) a Webster Moderator System of Steam Heating for "Controlled-by-the-Weather" economy.

By 1948, when the modernization program was completed, heating service was noticeably improved. Employee comfort was definitely improved as chronic heating complaints had been eliminated. Labor costs were reduced.

Actual fuel savings of approximately 40% were indicated by a comparison of heating costs between the operation of the old coal fired plant and heating system, and the new boiler plant along with the new Moderator controlled heating of the buildings.

Here is evidence that well-planned heating modernization programs pay big dividends in improved heating service and

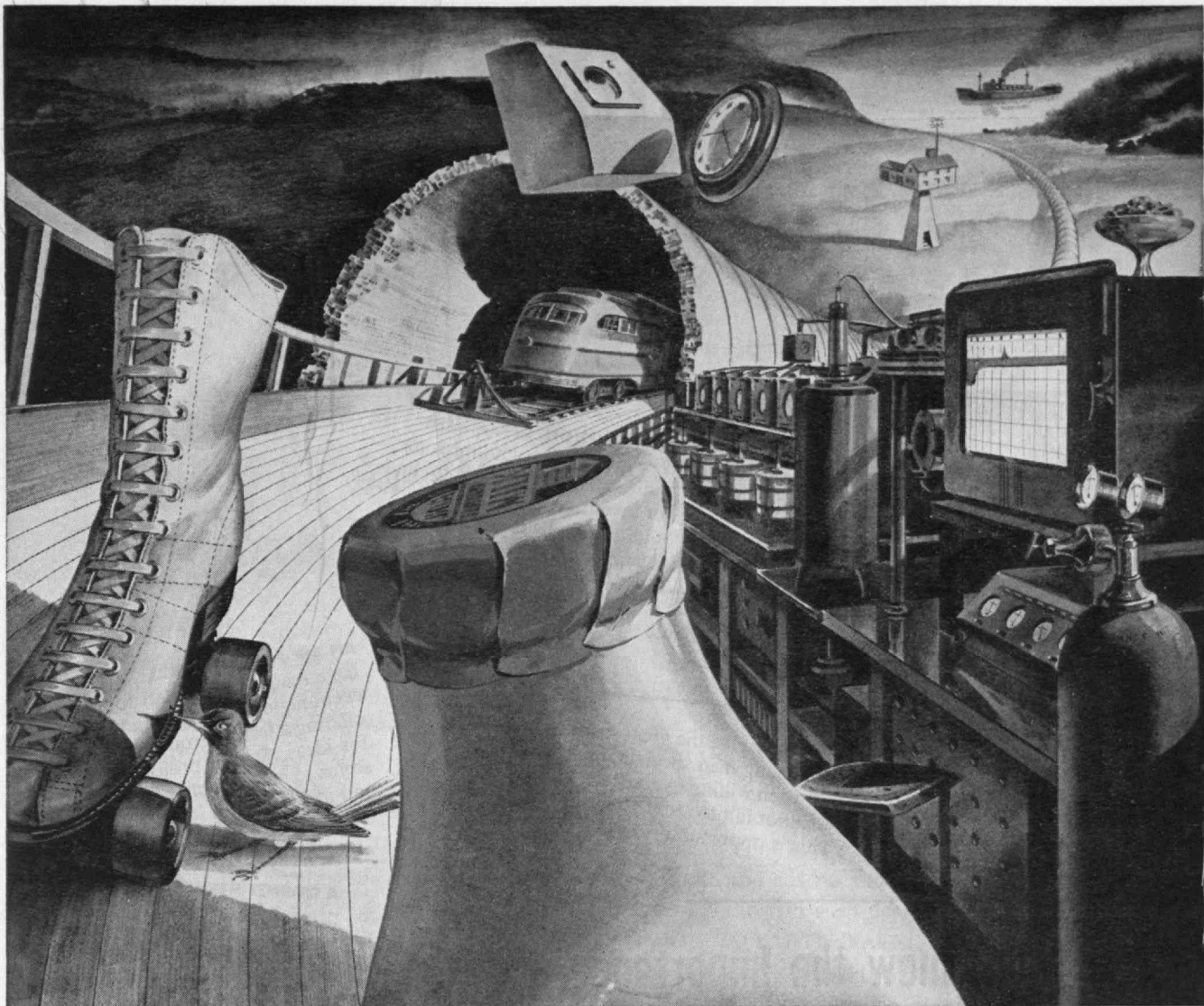
lower fuel costs. If you are planning the heating for a new building or modernization of an existing building, the Webster Moderator System belongs in your plans.

There are Webster representatives in 65 principal cities working with architects, engineers and heating contractors in the application of Webster Systems and Equipment. Call your Webster representative or write us for his name.

Address Dept. TR-4

WARREN WEBSTER & CO.
Camden 5, N.J. Representatives in Principal Cities
In Canada, Darling Brothers, Limited, Montreal

WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled-by-the weather"



All but one of the objects in this picture have something in common — Norton or Behr-Manning abrasive products are vital factors in their manufacture and in their quality. *Can you find the stranger?*

What doesn't belong in this picture?

The skating rink? No! The rink was machine sanded by Behr-Manning Resinized Speed-Grits Floor Sanding Paper. Roller skates, too, get smooth-running, long-wearing qualities from operations involving Behr-Manning and Norton abrasive products.

The research lab? No! ALUNDUM refractory laboratory ware in a variety of sizes and shapes is widely used in laboratory work for operations involving incineration, filtration and aeration.

The clock? No! Many of its parts are deburred and finished by means of Norton ALUNDUM Tumbling Abrasive.

The milk? No! Practically every piece of modern dairy equipment depends on Norton and Behr-Manning products for its manufacture and maintenance.

The street car, the washing machine, the bon-bon dish also owe a large part of their existence to Norton and Behr-Manning products used during manufacture.

The stranger in the picture is the robin. Any man-made product — whether of metal, wood, paper, cloth, leather, ceramics, plastics — depends in some important way on products that bear such well-known trademarks as Norton and Behr-Manning.

Norton Company makes abrasives, grinding wheels, refractories, Norbide grain and molded products, grinding and lapping machines, non-slip floors. Norton Company, Main Office and Works, Worcester 6, Massachusetts.

Behr-Manning makes abrasive paper and cloth, oilstones, abrasive specialties, Behr-Cat brand pressure-sensitive tapes. Behr-Manning Corporation, Division of Norton Company, Troy, New York.

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NORTON COMPANY

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WORLD'S LARGEST MANUFACTURERS OF ABRASIVES AND ABRASIVE PRODUCTS

MAKING BETTER PRODUCTS TO MAKE OTHER PRODUCTS BETTER

Have You Taken This Opportunity for

COLONEL, RESEARCH AND DEVELOPMENT DIVISION, DEPARTMENT OF THE ARMY: "Full support should be given any sound measure designed to encourage inventors and facilitate consideration and further development of their ideas or inventions. It is difficult to conceive of any action that would accomplish more in this direction than that called for in the Sinclair Plan."

CABINET MEMBER: "It should bring to light some valuable ideas which might otherwise not have been known."

AN INVESTMENT COUNSELOR: "I can imagine the great surge of hope now going through the breasts of the young men specializing in this field. 'Here,' they will say, 'is a corporation willing to give us a break.' . . . Its fundamental unselfishness cannot fail to strengthen the faith of those without property. . . . This is opportunity!"

AN AIR FORCE GENERAL: "I have read of your plan for encouraging invention and offering a testing ground for ideas. Such a project seems to me both practical and inspirational!"

Men Who Know the Importance of Independent Invention Encourage You to Use the Sinclair Plan

A MEMBER OF THE JOINT CHIEFS OF STAFF: "The Sinclair Oil Corporation is performing another fine public service in opening its research laboratories to the American inventor. I am confident that the nation will derive many benefits from this selfless service."

A CABINET MEMBER: "The provisions regarding patents are unique . . . the compensation for your investment of money, time, and facilities would be limited to nonexclusive, royalty-free shop rights for your company."

PRESIDENT OF A BROADCASTING NETWORK: "To make the magnificent facilities of the Sinclair Research Laboratories available to inventive Americans under what would seem to be a very fair arrangement is a constructive and forward-looking step."

PRESIDENT OF LARGE MANUFACTURING CORPORATION: "We all think the plan, which opens wide the doors of your great research laboratories, should indeed encourage individual inventors."

AN AIR FORCE GENERAL: "I wholeheartedly agree that there is a need to help the independent inventor because of the complexity of modern technology and the prohibitive cost of these facilities. Your farsighted plan is a great stride in relieving this situation."

PRESIDENT OF A LARGE MANUFACTURING COMPANY: "You have recognized a great need, and have done something objective to overcome it . . . another idea which puts to beneficial use the resources and capacity of a large group."

Advantage of Independent Inventors?

*If you have an idea for a new petroleum product—
but do not have the facilities needed to develop it—
the Sinclair Plan offers you laboratory help.*

EIGHT months ago, Sinclair opened up a part of its great research laboratories to independent inventors who had ideas for new or improved petroleum products but who did not have the facilities needed to develop and profit by their ideas.

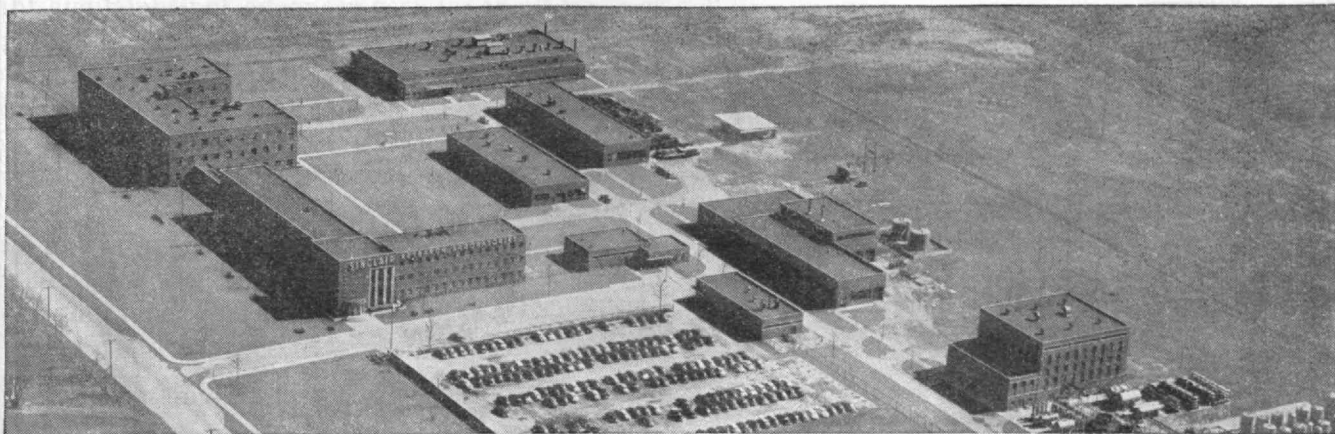
To date nearly 5,000 inventive people have submitted ideas to the laboratories; and the Sinclair Plan has become recognized as a service to inventors, the oil industry and the public. As a result we have made the Plan part and parcel of the long-range operation of our company.

If you have an idea for a new or improved petroleum product or application, you are invited to submit it to the Sinclair Research Laboratories. In your own interest, each idea must first be protected by a patent application or a patent.

If the laboratories select your idea for development, they will make a very simple arrangement with you: In return for the laboratories' work, Sinclair will receive the privilege of using the idea for its own companies, free from royalties. This in no way hinders the inventor from selling his idea to any of the hundreds of other oil companies for whatever he can get. Sinclair has no control over the inventor's sale of his idea to others, and has no participation in any of the inventor's profits through such dealings.

HOW TO PARTICIPATE: Instructions are contained in an Inventor's Booklet. Write to W. M. Flowers, Executive Vice-President, Sinclair Research Laboratories, Inc., 600 Fifth Avenue, New York 20, N. Y.

IMPORTANT: *Please do not send in any ideas until you have sent for and received the instructions.*



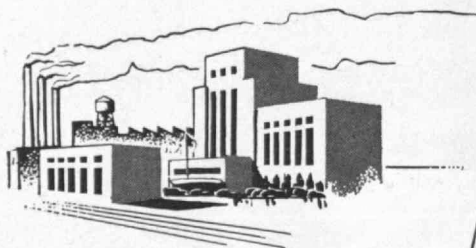
Nine buildings of the Sinclair Research Laboratories at Harvey, Ill.

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Godfrey L. Cabot, Inc. announces the commencement of operations of the gas furnace section of its new Canal plant, located at Cabot, St. Mary Parish, near Franklin, Louisiana. This facility will produce annually more than 20,000,000 pounds of Sterling S, uniform high quality semi-reinforcing furnace black, used in the production of a wide range of rubber products.

Operation of this new producing unit marks another major step in the Cabot program to assure the constant availability of adequate supplies of all types of carbon black essential to industry. The Cabot Companies are now producing SRF black at Guymon, Oklahoma; Pampa, Texas; and Ville Platte, Louisiana. This new plant, located on the Gulf Intracoastal Waterway, and on the Texas and New Orleans branch of the Southern Pacific Railroad, is fourth in a series of SRF plants independently established to accomplish our objective. Each plant is a separate source of supply of the same, uniform high quality SRF black, and employs the use of different truck and railroad services.

These additional facilities will insure further customer protection against production curtailments of every kind, making possible even better Cabot service.



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Largest Producer of
Carbon Blacks Opens
Another New Plant**

GODFREY L. CABOT, INC.



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How would YOU control costs here?



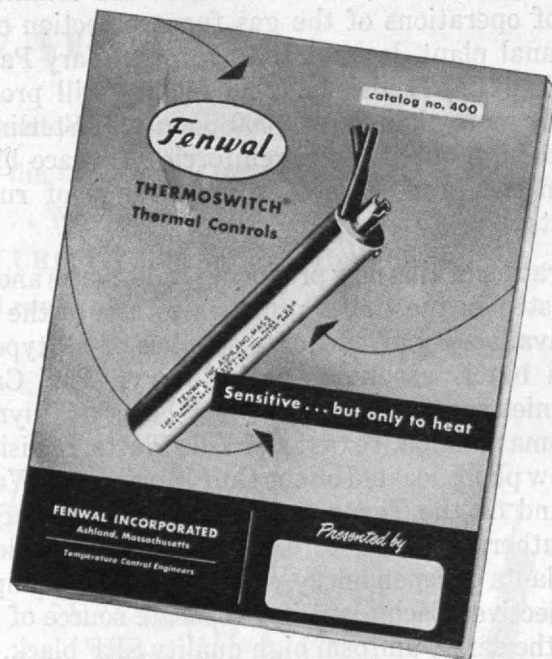
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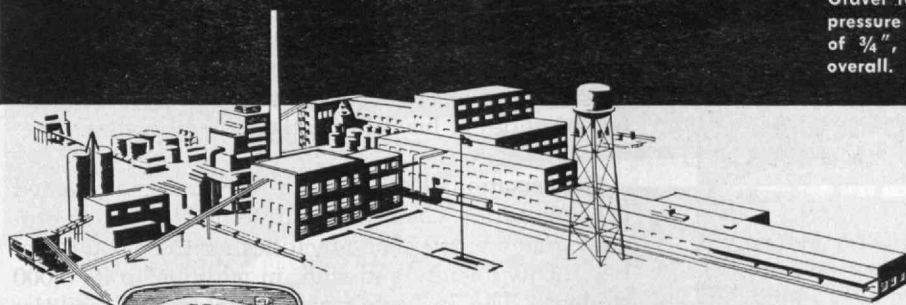
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The vital part these five digesters play in Riegel's new pulp mill demanded fabrication of the highest order. Top efficiency, long, dependable service, and minimum down-time were "musts". By intensive research and painstaking fabrication, Graver's goal was not only the fulfilling of these requirements, but in addition the elimination of other operating problems inherent in the usual digester. These very real evidences of Graver ability are worth remembering whenever fabrication in steel or alloys is *your* need.

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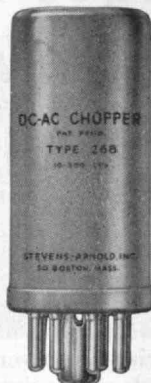


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THE TABULAR VIEW

Co-operative Effort. — The beneficial effects of science cannot be maximized through science alone. The co-operation of many others is needed for this achievement as PROFESSOR THOMAS K. SHERWOOD, '24, Dean of Engineering at the Institute, reminds us in his article (page 295), first given at the symposium on "Frontiers in Science" at the alumni meeting in Los Angeles on January 26. Dean Sherwood received the bachelor of science degree from McGill University in 1923. From M.I.T. he received the S.M. and Sc.D. degrees in 1924 and 1929, respectively. From 1928 to 1930 he was assistant professor of chemical engineering at Worcester Polytechnic Institute. He returned to M.I.T. in 1930 and since 1946 has been dean of engineering at the Institute.

Sound Design. — Since the end of World War II, interest in high-quality audio-reproducing systems for the home has increased by leaps and bounds, as is recounted (page 297) by C. J. LEBEL, '26. Mr. LeBel received the S.B. and S.M. degrees from the Institute in 1927. In 1937 he became chief engineer of Audio Devices, Inc., and is now vice-president of this firm which is the largest producer of lacquer-recording blanks. Mr. LeBel is also chief engineer of Audio Instrument Company, Inc., which firm has pioneered in a number of new electronic instruments. In presenting "Audio Engineering Comes into the Home" Mr. LeBel has been primarily concerned with removing the technicalities of his field for the general reader.

Conversationally Speaking. — Some unexpected problems arise when the Institute undertakes to provide adequate telephone facilities for the 5,000 members of its Faculty and staff, in addition to its 5,000 students. The Institute's present telephone facilities are described (page 302) by PROFESSOR CARLTON E. TUCKER, '18, who planned the present installation with Bell System engineers. Since receiving the S.B. degree from the Institute in 1918, Professor Tucker has spent his entire professional career at Technology. During World War II he was appointed executive officer for the Department of Electrical Engineering, and also directed the M.I.T. Radar School which trained many officers for the armed services.

Dollars and Sense. — With both practical and theoretical understanding of the field, PROFESSOR RALPH E. FREEMAN, Head of the Department of Economics and Social Science, writes with unusual understanding of the Institute's aim in offering courses in economics (page 304). Professor Freeman is a graduate of McMaster University in Canada and winner of a Rhodes Scholarship. He carried on graduate studies at Balliol College, Oxford, and spent two years at the University of Chicago where he was awarded a fellowship in the Department of Economics. He became associate professor of economics at M.I.T. in 1931 and head of the Department of Economics and Social Science in 1933.