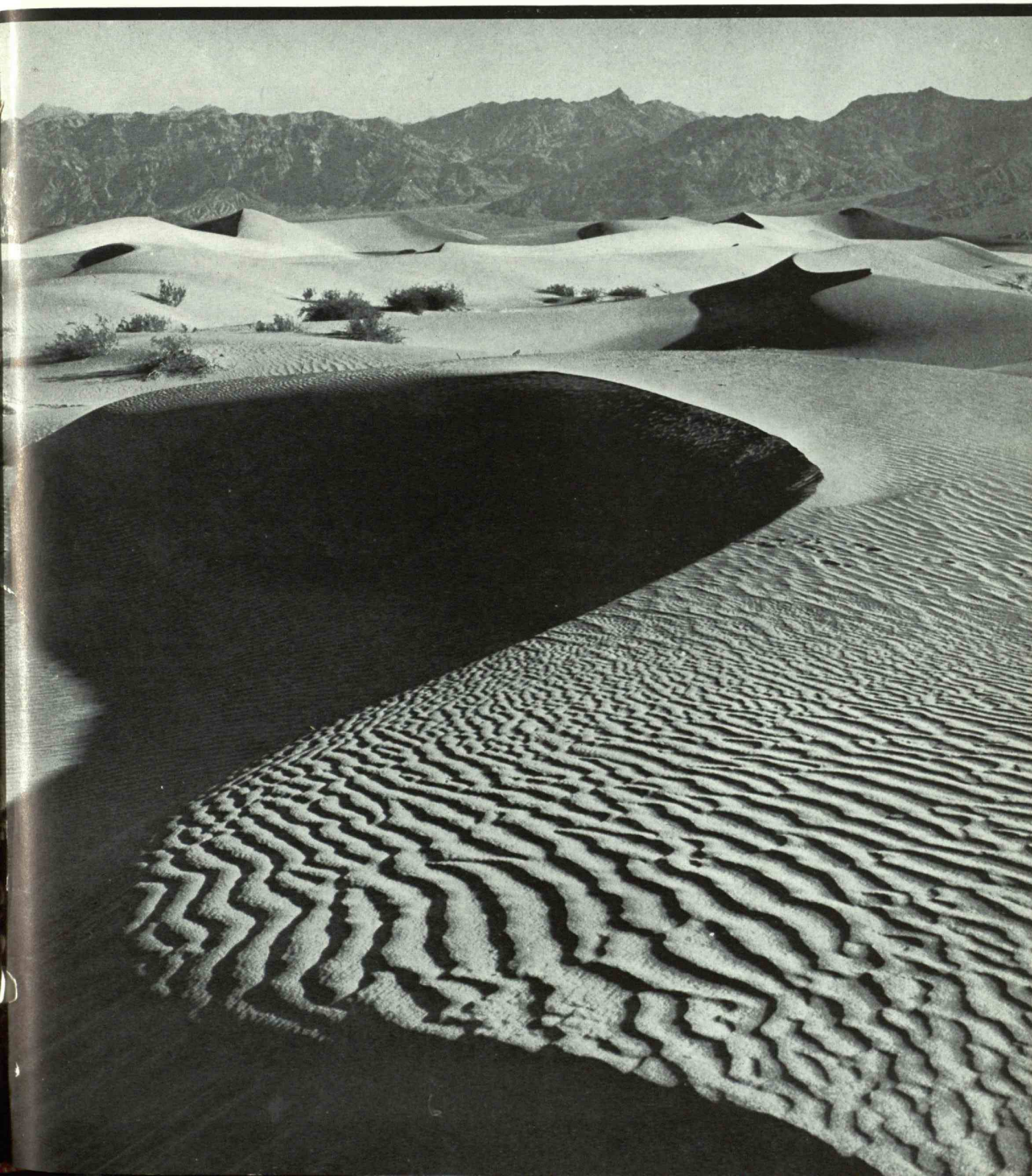
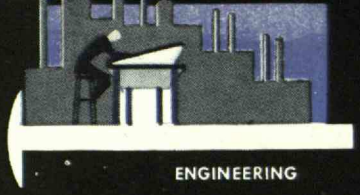
TECHNOLOGY REVIEW

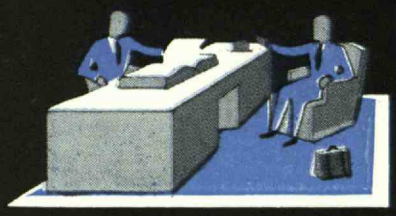
June 1950



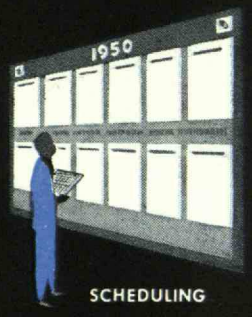


ENGINEERING

DETAILED DESIGN & DRAFTING

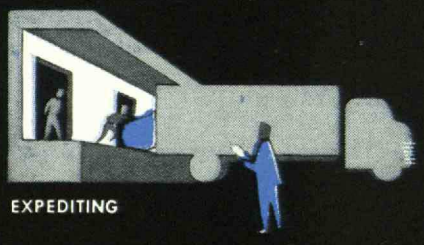


PURCHASING

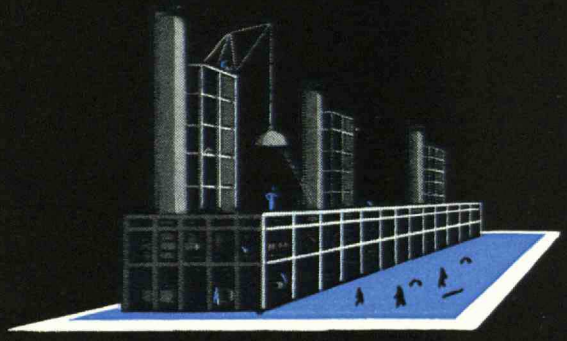


SCHEDULING

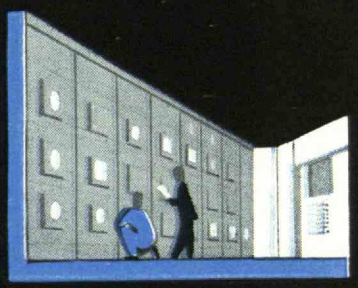
- Economic Analyses
- Process Design
- Knowledge of Corrosion Problems
- Mechanical Design
- Controls and Instrumentation
- Scheduling
- Estimating
- Drafting
- Procurement
- Inspection
- Expediting
- Labor Relations
- Field Construction
- Initial Plant Operation
- Intimate Knowledge of Latest Technical Developments



EXPEDITING



CONSTRUCTION



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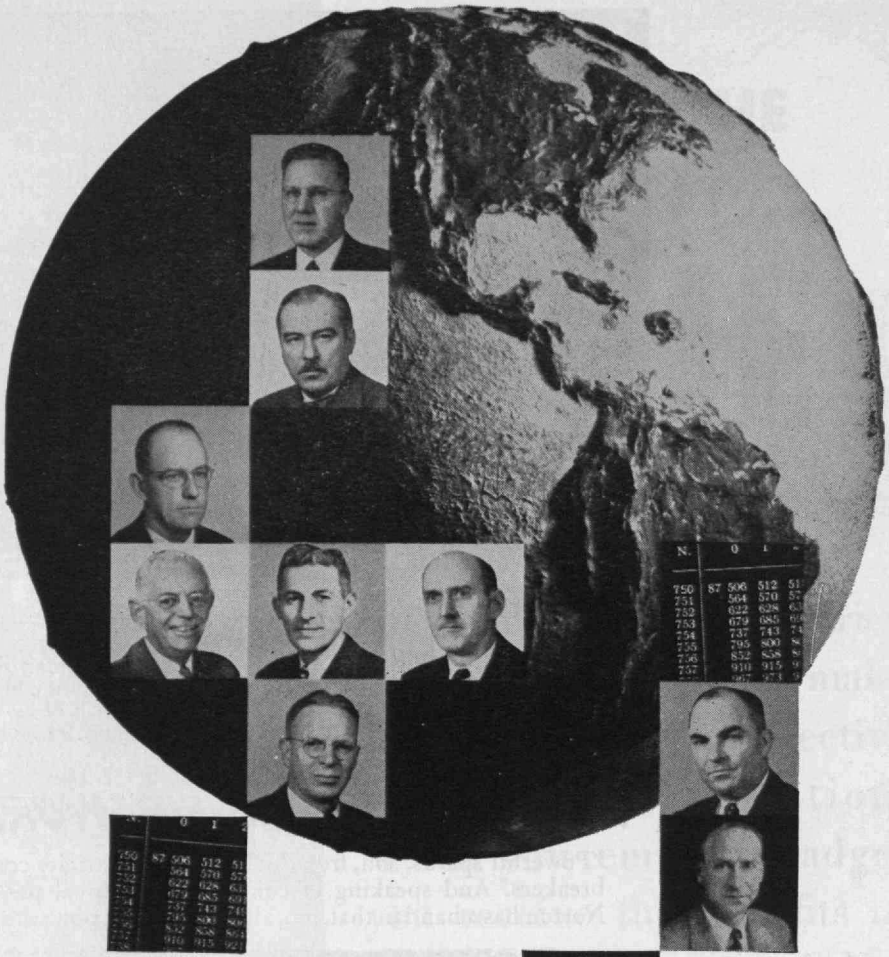

in project engineering

look to these Lummus men for worldwide performance

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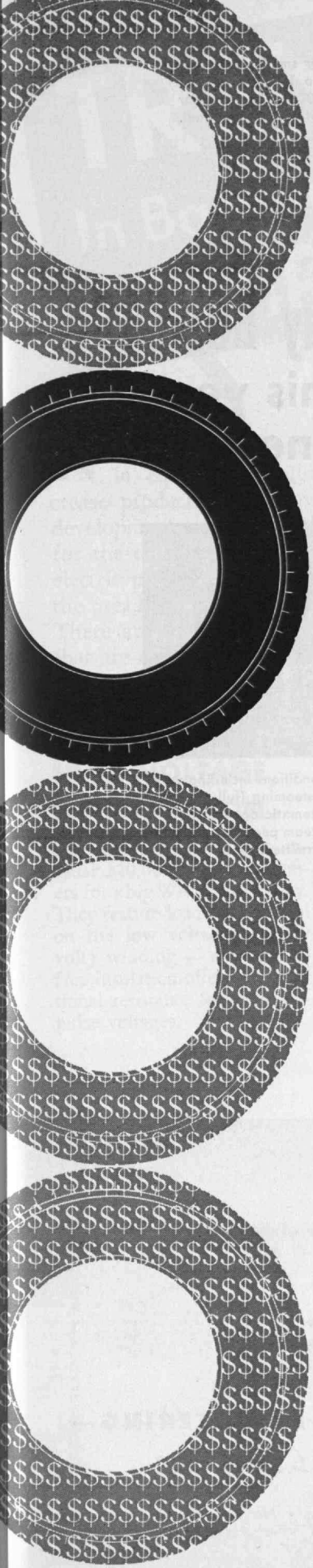

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Perhaps you didn't know that there are 3 to 4 pounds or more of carbon black in every rubber tire you see. That carbon black content, costing less than 40¢, is estimated to save you the expense of 3 or 4 new tires, or saves you and all other motorists more than $1,000,000,000 annually.

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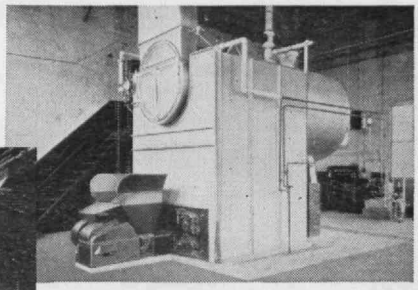
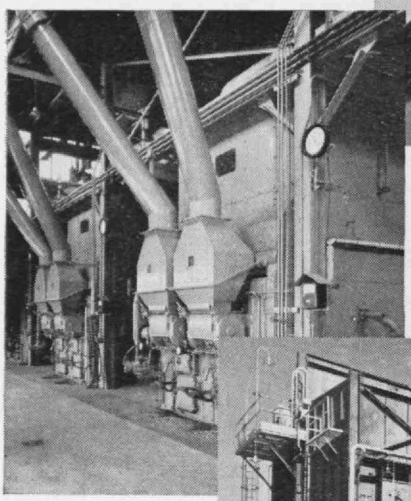
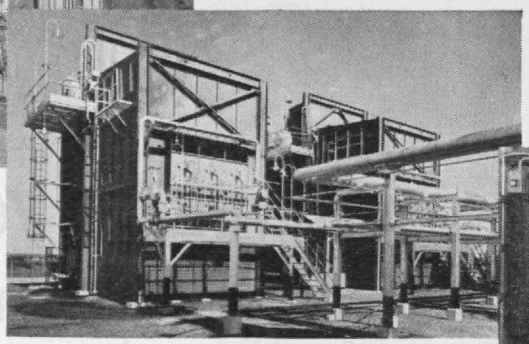


Installation for small plants . . . pressure up to 150 psi . . . capacity to 12,000 lbs. of steam per hr . . . adaptable to any fuel.

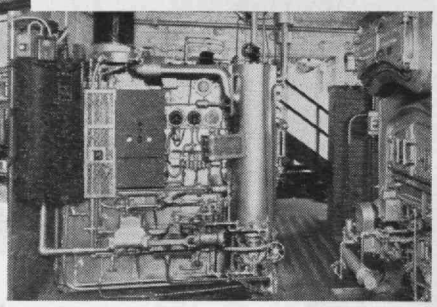


Planning to buy BOILERS ... this year ... next year

Installation for medium and smaller plants . . . pressure to 475 psi . . . capacity to 60,000 lbs. of steam per hr . . . suitable for any type of fuel.



Installation for larger plants . . . pressure to 1000 psi . . . temperature to 900 F . . . capacity to 350,000 lbs. per hr . . . any fuel or type of firing . . . indoor or outdoor type construction.



Installation for special conditions including very limited space . . . quick steaming (full capacity in 3 min.) . . . fully automatic operation . . . capacity to 6000 lbs. of steam per hr . . . pressure to 300 psi. Ideal for intermittent load.

Sometime this year, or perhaps next, your company may decide to buy new boilers . . . to replace obsolete units . . . to meet increasing steam demands . . . or for a new plant. Whatever the time or circumstances, here's something it will pay you to remember. The operating cost of a boiler is a far more important consideration than its first cost. Why? Because the *annual* cost of fuel *alone* for the average boiler installation usually equals or exceeds the purchase price. And the normal life of a boiler should be 20 to 30 years, or longer.

Obviously, then, the operating economies accruing from better design, construction or application, will quickly offset the difference between the cheapest boiler you can buy and the best the market affords. Here is one case where the old adage "the best is the cheapest" really applies.

In addition to having installed thousands of industrial boilers . . . in every size category from less than 100 horsepower up . . . Combustion has designed and built many of the country's largest utility power station boilers. And it is in this field — the manufacturing of power on a large scale — that boiler design and construction are evaluated most critically and exhaustively.

The fact that C-E Boilers have been selected to meet the exacting performance standards of so many of the nation's largest utility power stations is evidence of the quality of design and construction you can expect to find in any boiler, large or small, that bears the Combustion nameplate.

Our recommendations as to the most suitable type of boiler and firing equipment for the *specific requirements* of your next installation are available to you and your consultants without obligation.

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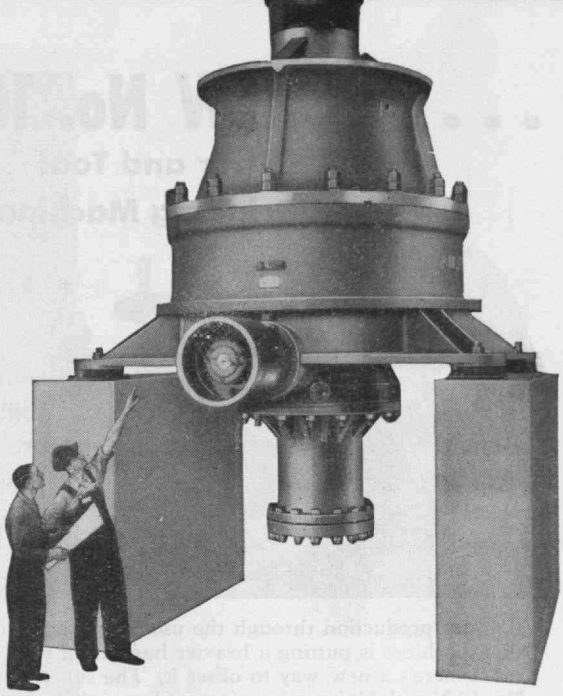
NEW machines, new methods and advancements in equipment engineering help industry increase production and lower costs. Here are new developments, recent installations by Allis-Chalmers for the crushing, cement and mining industries — electric power — food processing. They illustrate the breadth of this company's service to all industry. There are few products for American good living that are not processed at some point with the aid of machinery built by Allis-Chalmers.



LARGER CAPACITIES, BETTER CONTROL

That's what the ore and rock products industries wanted — and that's what Allis-Chalmers now gives them in the new series of *Hydrocone* fine reduction crushers. Pushbutton control of product size and automatic reset are among the features. Sizes up to 84" diameter cone and 17" feed.

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Allis-Chalmers built these unusual 220,000 volt transformers for a big West Coast utility. They feature load ratio control on the low voltage (72,000 volt) winding — and corona-free insulation offering exceptional resistance to severe impulse voltages.

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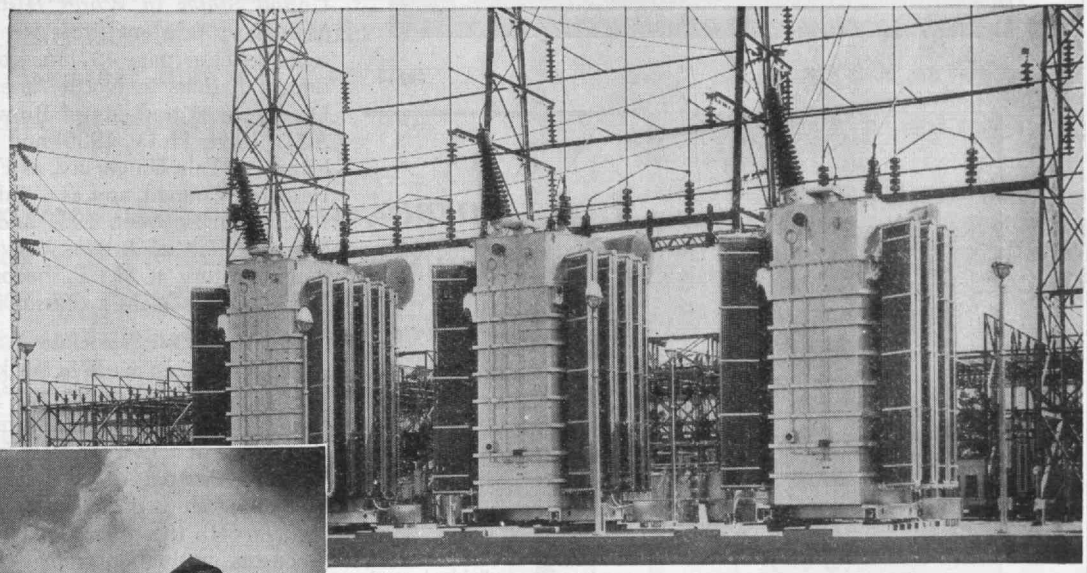

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This new continuous solvent extraction plant daily recovers 7½ tons of palatable, salable oil from rice bran. It was engineered and equipped by Allis-Chalmers for the American Rice Growers Co-operative Association of Houston, Texas. Its owners expect it to pay for itself in a few years.

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THE TABULAR VIEW

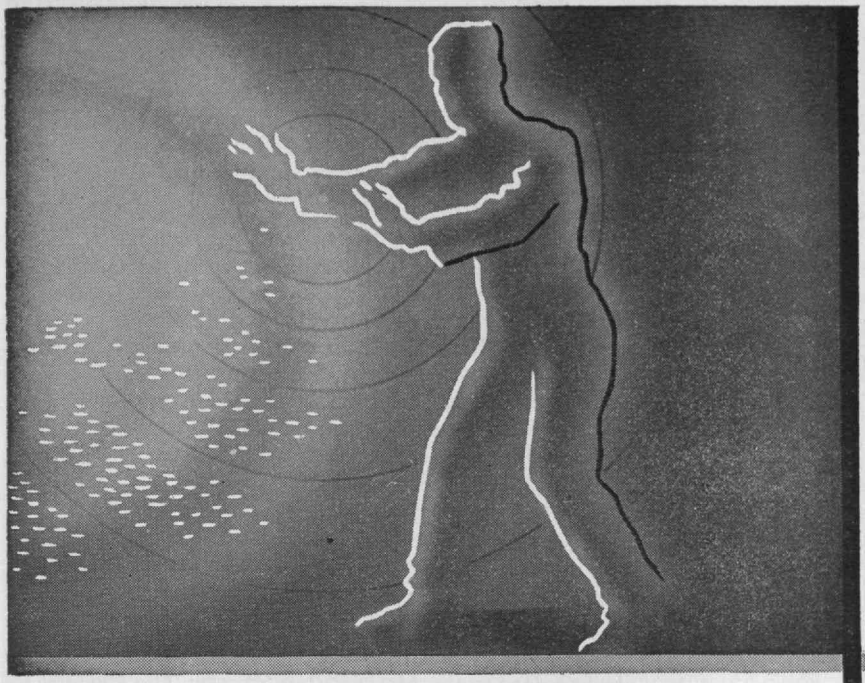
International Bulldozing. — In an address before The M.I.T. Club of Chicago on April 27, Technology's President, JAMES R. KILLIAN, JR., took occasion to show how the Institute's policies and activities were being influenced by that form of international bulldozing which is commonly referred to as the cold war. The Review takes pleasure in presenting (page 429) to a larger audience, Dr. Killian's statements on the new responsibilities of M.I.T. engendered by the present armed truce. President Killian has spent more than a quarter of a century at M.I.T. as student, as editor of The Review, as executive assistant to President Compton, and finally as successor to his former chief in holding the presidency of the Institute.

Better Crops. — Urging that more attention be paid to the quality — as contrasted to the quantity — of feed crops, WILLIAM A. ALBRECHT foresees (page 432) a significant improvement in the world's food supply. Dr. Albrecht (A.B., 1911; M.S., 1915; Ph.D., 1919) is a graduate of the University of Illinois and has taught soil science since 1916 at the University of Missouri, College of Agriculture, where, since 1938, he has been chairman of the Department of Soils. He is consulting editor of *Soil Science* and *Scientific Monthly*, and a member of numerous societies dealing with soil and agronomy.

Federation of Democracies. — JOHN B. RAE, Associate Professor of History at the Institute, and coauthor of *The United States in World History* (with Thomas H. D. Mahoney, Assistant Professor of History at M.I.T.) presents the case (page 437) for world peace through a federation of nations in North America and Western Europe. Dr. Rae is a graduate of Brown University (A.B., 1932; A.M., 1934; Ph.D., 1936) and spent a year each teaching history at Yale University, as Fellow of the Social Science Research Council, and as a staff member of the Brookings Institution. Between 1937 and 1939 he was assistant to the president of Brown University. Since 1939 he has taught history at M.I.T., becoming assistant professor in 1943, and associate professor in 1947.

Gyroscopes for Seasickness.—The considerable advances which have been made in our knowledge of control mechanisms, coupled with superior instrumentalities for implementing control of mechanisms, is evidently leading to a resurgence of activity in stabilizing ship roll. PAUL COHEN, '35, recounts (page 439) some past successes and failures in keeping ships on an even keel, and acquaints Review readers with the probable trend of future developments. Since his graduation from the Institute, Mr. Cohen has practiced mechanical engineering at the United Shoe Machinery Corporation and more recently at the Sperry Gyroscope Company, Inc. For more than a decade, Mr. Cohen has also found time to serve as one of The Review's most active editorial associates.

Wild Life Goes to College. — With a change only in the page number, we quote from the Tabular View for April, 1943: "Spring's coming on brings with it manifold interests for the observant. One of these is recounted for The Review (page 442) by CHARLES H. BLAKE, '24, Associate Professor of Zoology at the Institute, whose Thoreauvian cast of mind fits him well for the undertaking." In his current article, Dr. Blake demonstrates that keen eyes can find interesting evidence of animal wild life within the shadow of the Institute's great dome, and Henry B. Kane, '24, aptly presents pictorial testimony of flora and fauna which may be found in the Great Court.



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MAIL RETURNS

Satisfactory Exchange

FROM LOUIS L. COLIN, '32:

In these difficult dollar times, I managed to purloin a sawbuck to cover my contribution to the Alumni Fund for 1950–1951.

I can assure you that I look forward to each issue of The Technology Review with the greatest pleasure, not only for its information about Technology but for the very excellent informative articles which are published each month. The Review is quite definitely a publication of distinction. My sincere congratulations to the Editorial Board and their associates.

Portuguese, East Africa

Omission Acknowledged

FROM ARTHUR K. HUNT, '85:

I have several times seen and admired the original of the "Gloucester Fisherman" which was reproduced as the frontispiece in the March, 1950, issue of The Review.

I think it would have been of interest if the name of the sculptor of the statue had been mentioned.

Brookline 46, Mass.

[As long as communications such as that printed above arrive in The Review Office, all is well with the editors. These epistles are indicative of a careful scrutiny of the pages of this alumni publication, and when stemming from long-time readers of The Review (Mr. Hunt is secretary of the Class of 1885) could serve as a pattern for more recent and newer readers of The Review.

We hasten to add in this column the fact which was omitted in the March issue – that sculptor Leonard Craske created the famous statue of the "Gloucester Fisherman" which overlooks the harbor in Gloucester. The pen-and-ink drawing of the statue, printed in the March Review, was done by Sidney L. Kaye, '30, and is one of a series of well-known New England scenes by Mr. Kaye. To those who were celebrating Boston's Jubilee in May, and were not too exact in limiting Boston's environs, the "Gloucester Fisherman" probably was a worthy destination. – Ed.]