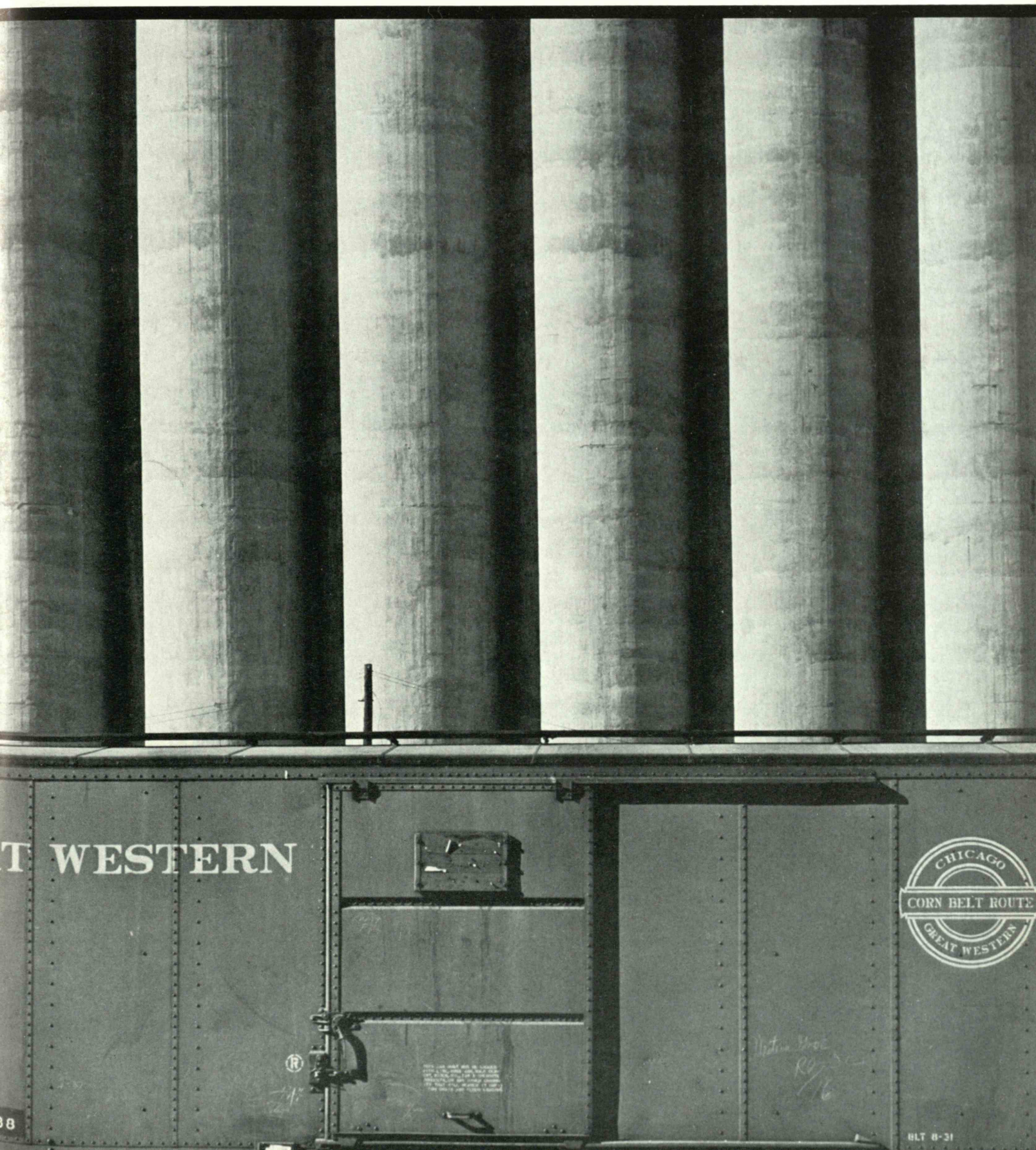
December 1941

TECHNOLOGY REVIEW



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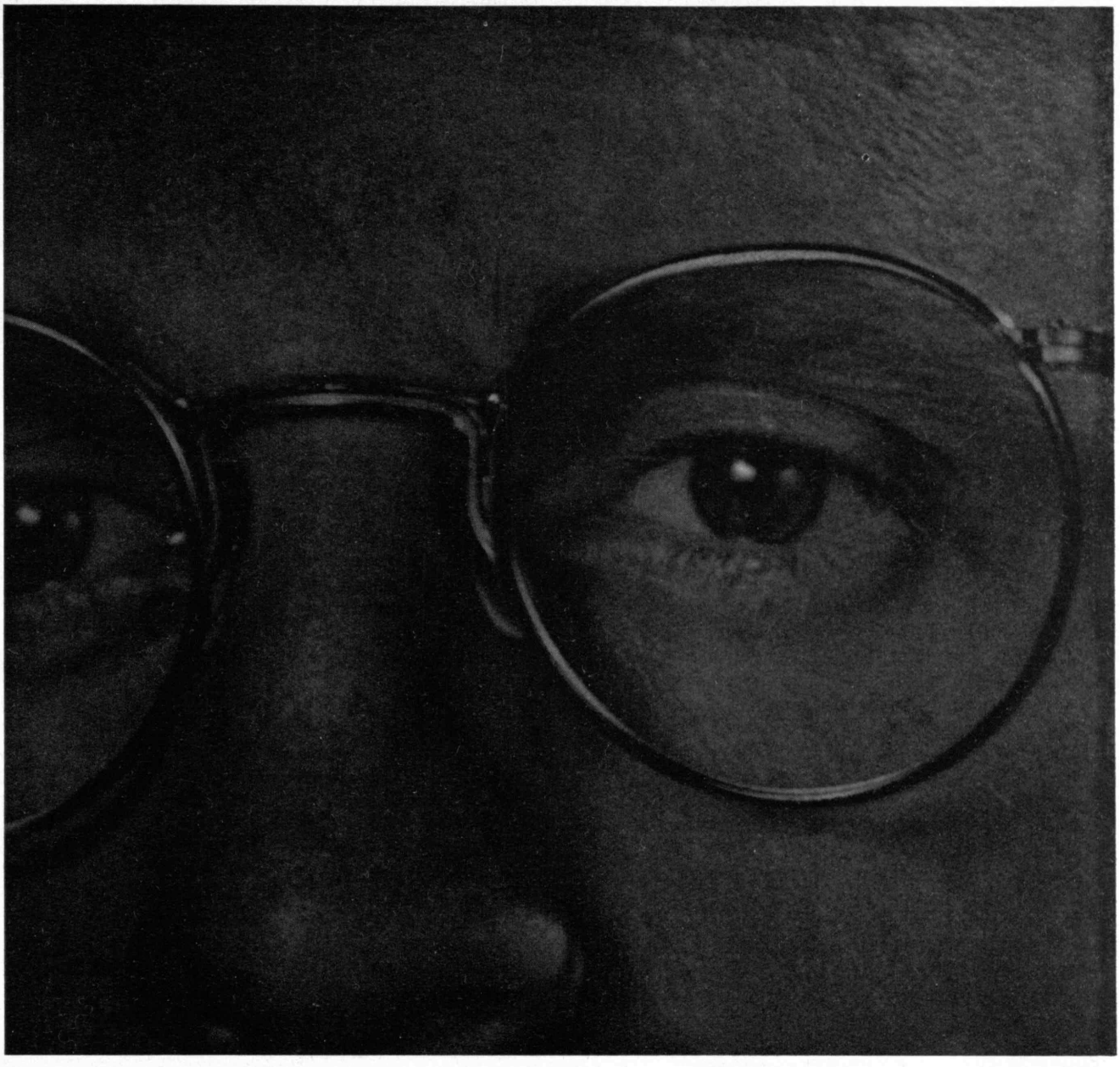

NO BLACKOUT for INDUSTRIAL EYES

Last year, eye accidents blacked out more National Defense production time than strikes. Today unprotected eyes are Un-American.

It costs less to install an adequate eye protection program than to pay the consequences for not doing it,—for even the slightest eye injury costs more than the American Optical goggle that would have prevented it.

American Optical Company makes a complete line of eye protection equipment. Send for an AO Safety Representative today. He will help your Safety Director to spot the eye hazardous jobs and select the proper goggles to fit the workers.

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MANUFACTURERS, FOR MORE THAN 100 YEARS, OF PRODUCTS TO AID AND PROTECT VISION

THE TABULAR VIEW

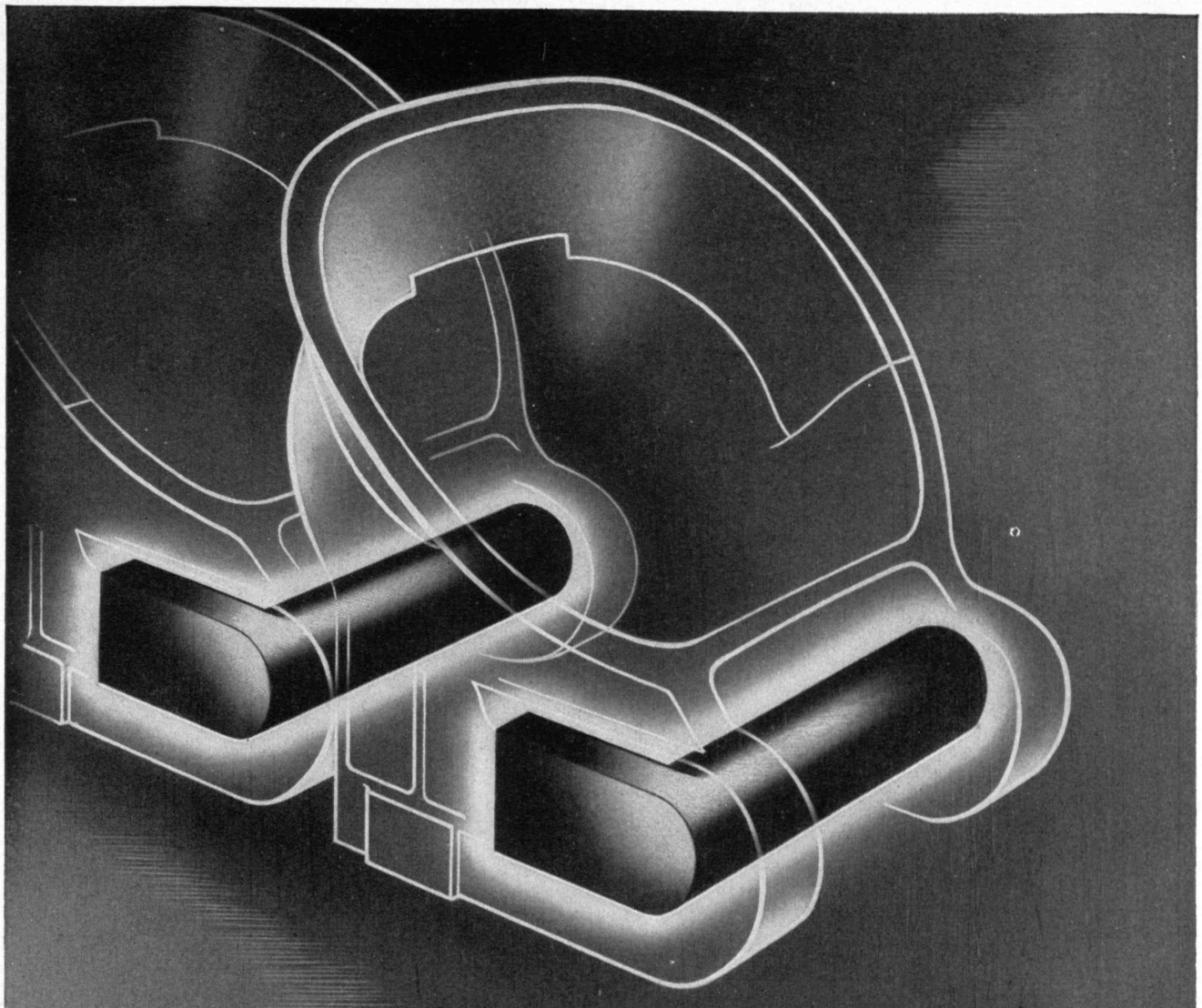
Authorial Alumni. — The pens of Technology Alumni are decidedly prolific, as this issue of The Review evidences. Two books by ROYAL BARRY WILLS, '18, are commented on in the Trend of Affairs, as is another narrative of engineering achievement by DAVID O. WOODBURY, '21. From S. PAUL JOHNSTON, '21, The Review offers (page 77) discussion and description which do for the Army Air Force what Mr. Johnston's paper of last June did for the organization of America's naval aviation. That paper constituted a chapter from his well-received *Flying Fleets*. A still earlier one, in December, 1940, was published in advance of its appearance in the book, *Horizons Unlimited: A Graphic History of Aviation*. This month's article will appear subsequently in *Flying Squadrons*, which Duell, Sloan and Pearce, Inc., have scheduled for appearance within a short time. Mr. Johnston is co-ordinator of research for the National Advisory Committee for Aeronautics.

Functionalism. — Many pragmatic applications of technology are by no means a monopoly of machine civilizations. This conclusion is implicit in the report brought by NEILL JAMES (page 69) from her experiences among the Laplanders of arctic Scandinavia. Miss James, as a "petticoat vagabond," has journeyed considerably in far places.

Planks to Plies. — From thicker to thinner appears to be the course of man's utilization of wood. The development of plywood in many forms for many uses may be regarded as marking the end of a period of extreme familiarity with, but an extreme ignorance about, wood. Even so, the research that has been done on metals very far exceeds that yet done on wood, so that the problems of the more economic utilization of this resource offer great opportunity for the ingenious and the studious. Describing the development of modern plywood and some of its numerous applications in the defense effort, THOMAS D. PERRY, '00, provides (page 72) acquaintance with some of these possibilities. Sales and development engineer with the Resinous Products and Chemical Company, Mr. Perry is another Technology author; a volume by him, *Modern Plywood*, is appearing under the imprint of the Pitman Publishing Corporation.

A Sense of the Dollar. — WILLIAM A. RHODES, '12, occasionally reduces to writing the results of a speculative turn of mind about topics often ignored. In this issue of The Review (page 75) he analyzes the wherewithal, coming to conclusions which suggest that the love of money properly modulated may be the root of good as well as of evil.

"To Search Out the Matter." — Research has often been declared a condition of modern progress. Its stimulative and regenerative values are discussed for The Review (page 79) by PAUL COHEN, '35, Editorial Associate and frequent commentator upon various social aspects of scientific and technological culture.



Dredge bucket pins demand a lot from steel—and get it in Chromium-Molybdenum (4142)

Dredge bucket pins are heavy (4-8 inches diameter), must withstand heavy static and impact loads, and must have extra good wear resistance. It is a tough assignment for any steel.

A Chromium-Molybdenum (4142) steel developed for uniform hardness in heavy sections has recently been specified for this application. It has proved its worth in service.

Here is a new, permanent place for one of the most versatile of alloy steels—a steel that, with minor variations in carbon and manganese content, is meeting requirements in parts ranging from 0.065" wall aircraft tubing to 12" diameter shafting.

Our booklet "Molybdenum in Steel" will gladly be sent without charge to those interested in modern materials for modern needs.

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The Strong, Simple Virtues

FROM FLORENCE W. STILES, '22:

One would hardly expect to find reference to the strong, simple virtues in such a book as "Tax Systems of the World," a yearbook published by the Tax Research Foundation, which contains legislative and statistical information on all the states of the United States and certain Canadian and foreign data. Yet the following excerpt, which was written by the editor-in-chief, Mayne S. Howard, former deputy commissioner of the Department of Taxation and Finance of New York and now organizer and director of research of the Tax Research Foundation, is most apposite to the letter from Gregory M. Dexter, '08, in the November Review.

To quote: ". . . This book includes as an integral part of the project the idea of bringing together in compact form some of the more essential facts of the world considered as a single economic apparatus. The four primary economic facts of a society are doubtless area, population, wealth and income. Wealth and income would seem to be materialistic measures but such is far from the case. *They reflect the intellectual and moral characteristics of a population. The greater the intelligence and education, the greater the sobriety, the greater the industry, the greater the respect for the rights of others, etc.* [italics mine], the greater is a society's wealth and income. . . ."

Mr. Dexter is looking at the results of a bad situation and not at the causes. What is back of poor housing and malnutrition? That 60,000,000 people in the United States do not have sufficient income to afford the necessities of life proves that conditions today call for a willingness to recognize the strong, simple virtues, such as sobriety, industry, and respect for the rights of others on the part of all who are supposed to be intelligent and educated, and for the courage to act. There are no radiant, glittering halos on the strong, simple virtues. The practice of these virtues calls for strong character, unselfishness, sacrifice, and a good education. It also calls for a sense of trends, an ability to evaluate in order to put firsts first.

Cambridge, Mass.

Maine Shipbuilding

FROM CHARLES S. MORGAN:

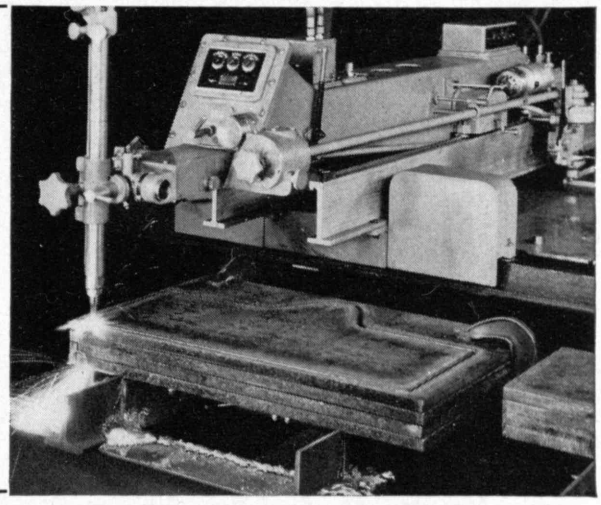
Congratulations to The Review and to Richard Hallet on the article "Wooden Ships and Maine Builders" which appeared in the November issue. It is a real contribution to the history of Maine wooden shipbuilding. . . .

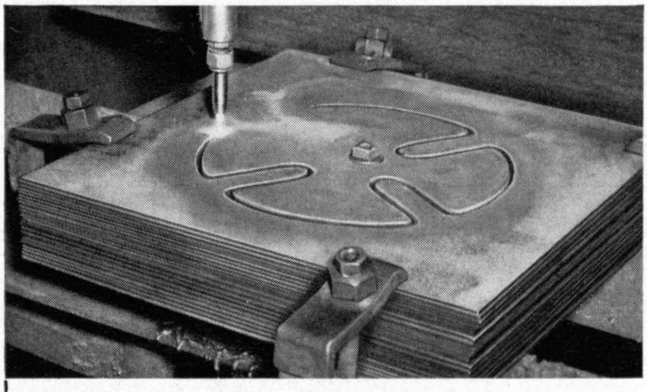
Boston, Mass.

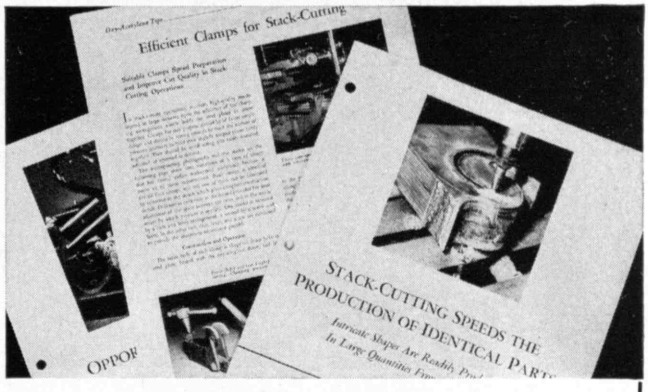
OXY-ACETYLENE STACK-CUTTING Quickly Produces Identical Parts from Stock Steel

1. What it is

Oxy-acetylene stack-cutting is an adaptation of the flame-shaping process. This method produces quantities of identically shaped parts of practically any size from clamped piles of steel plates or sheets. Steel ranging in thickness from 16 gauge to 1 inch is being cut with good results—in piles as thick as 5 inches. If the plates are correctly clamped, the cut edges are clean and smooth. Stack-cutting can be done with either portable or stationary flame-cutting machines. In the illustration at the right, an Oxweld cutting blowpipe is slicing through 4 plates, each 1 inch thick.







2. How it saves

Oxy-acetylene stack-cutting produces needed parts from stock steel quickly, and usually at lower cost than parts already shaped can be obtained. Stack-cutting is in most cases a faster and cheaper method than shaping single parts by mechanical means, and it also helps conserve steel because it reduces scrap losses. Additional savings result when machining operations are done on the flame-cut stacks before the parts are separated. The uniformity of stack-cut parts facilitates fabrication and assembly.

3. Linde can help you use it

Linde can help you determine where and how you can profitably use Oxweld flame-cutting equipment for the shaping of parts by stack-cutting. In addition to supplying the oxygen, the acetylene, and other essential materials, Linde also makes available to its customers, motion picture showings, how-to-do-it literature, and on-the-job service which help operators do a consistently good stack-cutting job. If you want to know more about this process—or about any other oxy-acetylene process—*ask Linde!*

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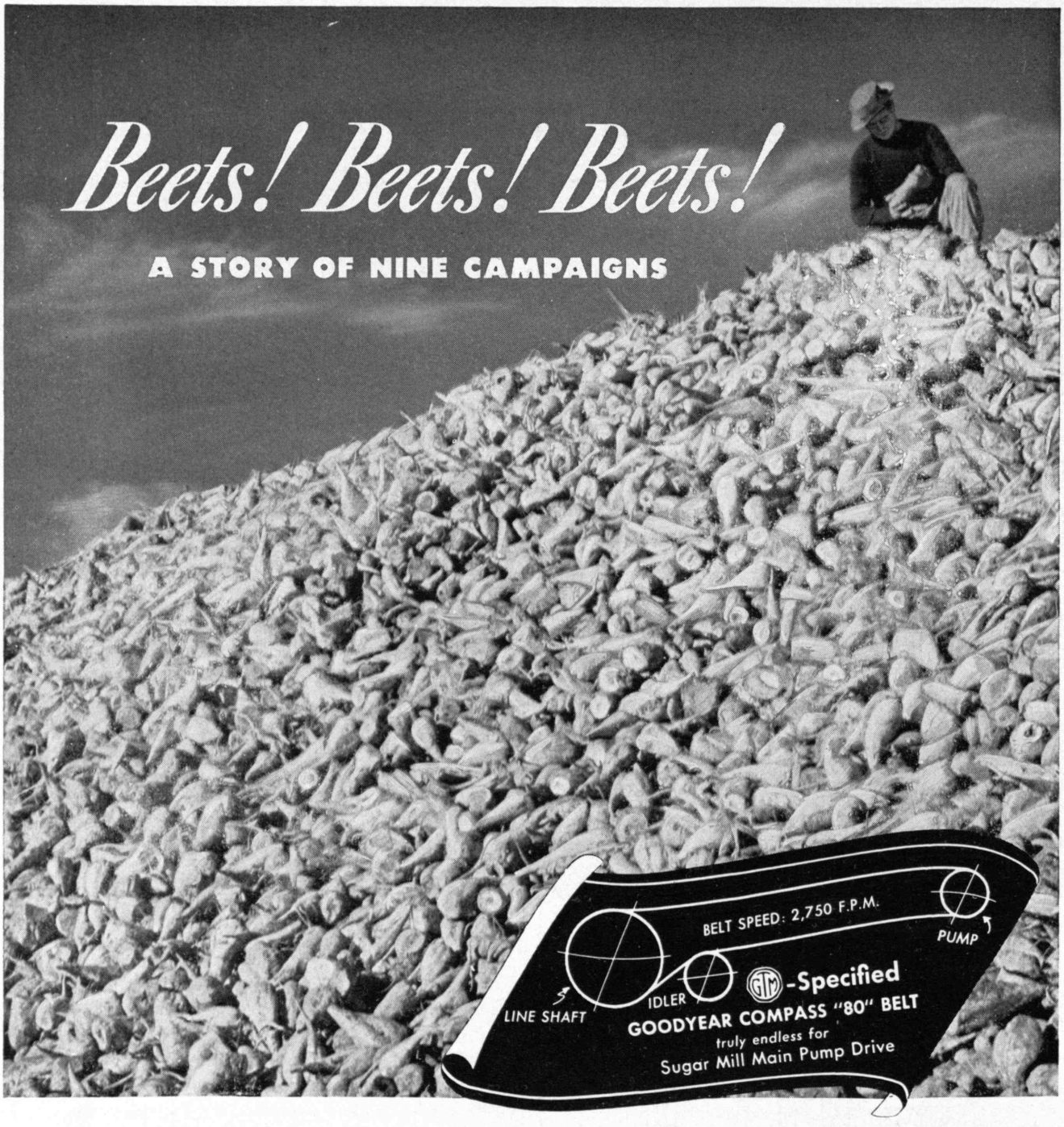
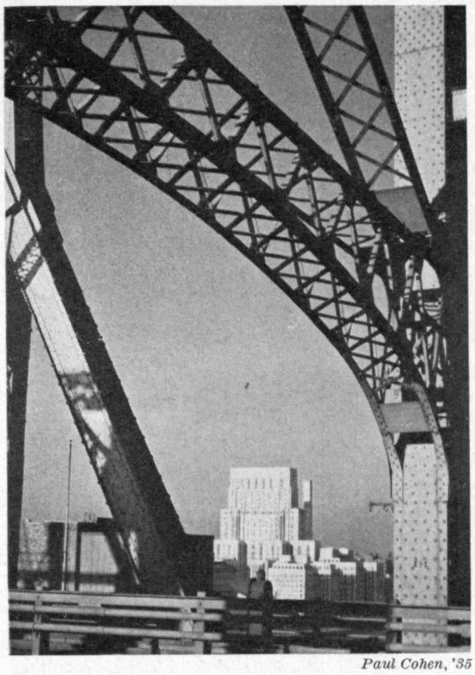
LINDE OXYGEN . . . PREST-O-LITE ACETYLENE . . . UNION CARBIDE
OXWELD, PUROX, PREST-O-WELD APPARATUS . . . OXWELD SUPPLIES



A CAMPAIGN is what sugar men aptly call the busy fall weeks when many mills run continuously, night and day, converting mountains of beets into sugar. During every campaign one big West Coast mill used to have several costly shutdowns due to belt trouble on its main pump drive. The costliest "double" belts stretched and stretched beyond take-up limits, making frequent resplicing necessary, and lasted only two seasons. So back in 1932 an S.O.S. was sent for the G.T.M.—Goodyear Technical Man. After careful analysis, he recommended a Goodyear COMPASS "80" truly endless cord belt. During its first campaign the COMPASS stretched only one and a half inches, easily adjusted on the sliding take-up without stopping operations. This fall it is finishing its ninth campaign without another adjustment, without a single repair. It has given more than 25,000 hours' trouble-free service; more than four times longer wear than costlier belts; increased production. Countless records like this show why you save time and money, and conserve rubber for defense, by consulting the G.T.M. Write Goodyear, Akron, Ohio or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME IN RUBBER
GOODYEAR

Compass—T.M. The Goodyear Tire & Rubber Company



Paul Cohen, '35

From Queensborough Bridge, Rockefeller Center in New York

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THE COVER — OMAHA GRAIN ELEVATORS
From a photograph by Vachon for the Farm Security Administration

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James N. Doolittle

Tree and cloud