July 1937

TECHNOLOGY REVIEW

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THE TABULAR VIEW

BY PRECEPT and example, by his distinguished achievement in the engineering art, and by public-spirited activity in engineering organizations, GANO DUNN has contributed notably to the professional advancement of the engineer in America. His words, therefore, are the words of wisdom, and The Review is happy to present the article on page 406 drawn from his address at the M.I.T. graduation exercises last month. It is hardly necessary to add that, since 1913, Mr. Dunn has been president of the J. G. White Engineering Corporation.

OF THE three fundamental needs of mankind — food, clothing, and shelter — shelter is certainly the one which is today receiving concentrated attention. The dire predictions of Malthus in regard to the pressure of population upon the food supply have been definitely set aside by technical advances, and our problem of food has become not one of producing sufficient to feed the growing population but rather one of preserving a reasonable balance of return to the food producer. Similarly, the problem of clothing, once the major item in the budget of the underprivileged, has become merely one of a large number of items. Abundant and cheap clothing is with us. The population indeed uses it in strange and devious ways, but the accent has now turned from necessity to luxury for almost the entire population. The single great problem of shelter remains. Somehow this has resisted the general trends, and advancing technology and social organization have not produced the adequacy and abundance in this field which they have accomplished with other fundamental needs. It is highly proper, therefore, that this conference on Alumni Day in this institution should be devoted to this problem of shelter." We quote from the remarks of Dean VANNEVAR BUSH, '16, in opening the Housing Conference at the Institute on June 7, the proceedings of which are published in this issue beginning on page 407. In commenting on this Conference the editor of an architectural magazine has written: "May I add a word of congratulation to the many you must be receiving as a result of the Housing Conference . . . ? Considering the many rather disjointed housing conferences I have attended during the past five or six years, this one stands out as a high spot." The authors of the five papers are identified at the points where their addresses begin. Reprints of the entire proceedings may be obtained without charge by applying to the Editors of The Review.

The Technology Review is not published during the summer months following July. This issue, therefore, concludes Volume 39. Number 1 of Volume 40 will be published on October 27, and dated November. Readers who bind their copies are reminded that if they possess nine numbers of Volume 39, their files are complete. An index to the volume will be ready on August 15 and will be supplied post-free upon request.

MAIL RETURNS

PICTURES AND LETTERS FROM REVIEW READERS

Popular Error?

FROM ALFRED L. FITCH, '84:

An expression, about the middle of the second column on page 325 of the June issue, is the reason for this letter. You say, in effect, that sixty million is ten times faster than six million. I have always understood that one thing exceeds another in size, speed, or what not, by the difference between them, and if that is correct, in this case 60 exceeds six by 54, or nine times instead of ten times. I know that this is a common method of speaking, but consider it one of those popular errors that are out of place in a scientific magazine like The Technology Review. I notice that some writers have the same idea as I have and in a case like this would say 10 times as great. If you have any argument against mine and think I am wrong, I am from Missouri.
North Easton, Mass.

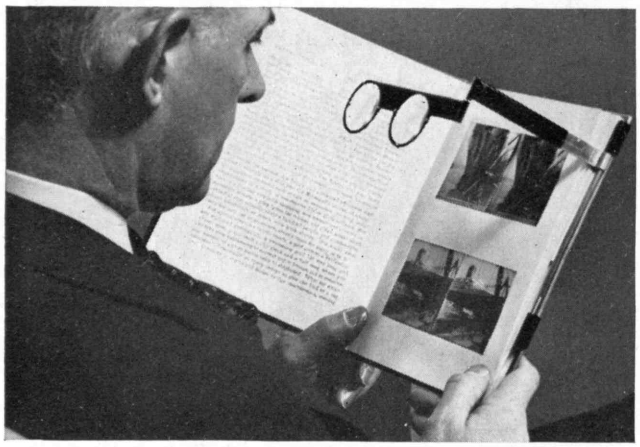
Are there other Review readers who find the phrase, "sixty million is ten times faster than six million," illogical, inaccurate?

Stereo Books

THE two following letters, one from the inventor of the new book stereoscope and the other from a publisher, come as footnotes to our March article, "Seeing Solid."

FROM VAN DYKE HILL:

I am somewhat ashamed to admit that the March issue of The Technology Review came to my attention only a few



days ago. It just goes to show that one should never miss an issue of a publication so rich in content as your own. Your article, "Seeing Solid," is the first really comprehensive thing I have ever read in an American publication on the subject of stereoscopy. I quite agree with you that the bibliography of the subject is barren indeed. Because of the thoroughness of your article and the evident interest you manifested, I am submitting the following which I hope you may find of some added interest. . . .

In making a few preliminary studies, I became deeply interested in the subject. . . . The final concept, which I reached after considerable study, was third-dimension pictures in book form, and by this I mean stereograms printed in books of ordinary binding, in loose-leaf books and in any other book form, each book equipped with a simple and an inexpensive viewing device which would not radically change the age-old method of handling and reading a book but would be an integral part of the book.

After a thorough search of the Patent Office, I found, to my delight, that no patent had ever been issued that even remotely approached my invention. I knew, however, that one or two books had been published . . . and a separate viewer, to be held in one hand, entirely separate from the book, had been supplied with them. Obviously, such an idea was impractical because of the inability of the readers to hold the device and repeatedly focus, with accurately parallel position, the viewer.

The [adjacent] photograph visualizes my solution of the problem. The device as illustrated assures an accurate optical relation between the viewing lenses and the illustrations and provides for simple focusing while, at the same time, leaving both hands free to hold the book and turn the leaves in the usual manner. In addition to the foregoing, the invention, because of its book form, provides the fullest opportunity for the pictures to be accompanied by comprehensive text and any supplementary drawings or illustrations desired. . . .

Five of America's largest companies — one in the automotive field, one manufacturing electrical products, and a manufacturer of motorboats and cruisers — have already authorized the American Stereograph Corporation to make from 10 to 120 stereo photographs of their products, the photographs to be inserted in loose-leaf books, beautifully bound, and containing appropriate supplementary matter, such as technical drawings, dimensional figures, specifications, and so forth, for the use of their salesmen who heretofore have relied upon ordinary two-dimension photographs in visualizing their products.

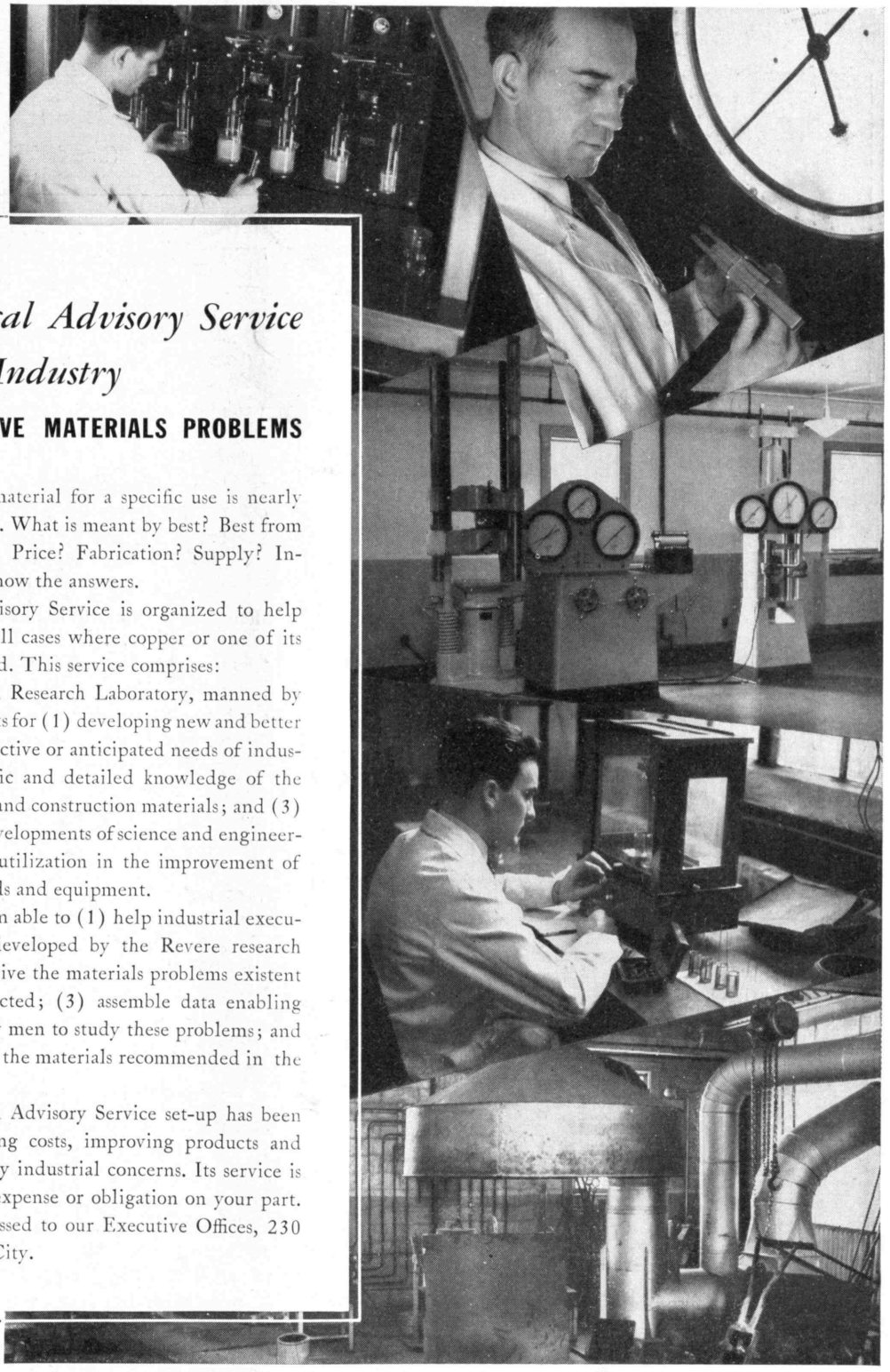
I feel thoroughly convinced, and hope with due modesty, that my invention will open an entirely new field of thought, application, and opportunity with respect to three-dimension illustrations, not only in the world of general books, educational textbooks, and as a new weapon for salesmen, but also in such institutions as medical, technical, and art institutions, as material for reference libraries wherein series of loose-leaf books will be compiled for record and for the guidance of students. One of my immediate problems is to ascertain the names and addresses of everyone, and especially scientific men, who are interested in stereoscopic photography, for we are now able to supply photograph albums into which are bound my viewing device.

I wish to assure you of my appreciation of the splendid article referred to and of the excellent research you must have conducted to gather the material for this article.
New York, N. Y.

FROM FARRAR AND RINEHART, INC.:

We were very much interested in the article appearing in the March issue of The Technology Review, "Seeing Solid." . . . We are bringing out a series of stereoscopically illustrated books, each fitted with a folding stereoscope attached to the back cover. . . . Thank you very much for an informative and delightfully written article.
New York, N. Y.

(*Concluded on page 392*)



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A thoroughly equipped Research Laboratory, manned by engineers and metallurgists for (1) developing new and better Revere materials to meet active or anticipated needs of industry; (2) supplying specific and detailed knowledge of the properties of engineering and construction materials; and (3) continuously observing developments of science and engineering with a view to their utilization in the improvement of Revere production methods and equipment.

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This Revere Technical Advisory Service set-up has been very successful in reducing costs, improving products and increasing output for many industrial concerns. Its service is available to you with no expense or obligation on your part. Inquiries should be addressed to our Executive Offices, 230 Park Avenue, New York City.

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MAIL RETURNS

(*Concluded from page 390*)

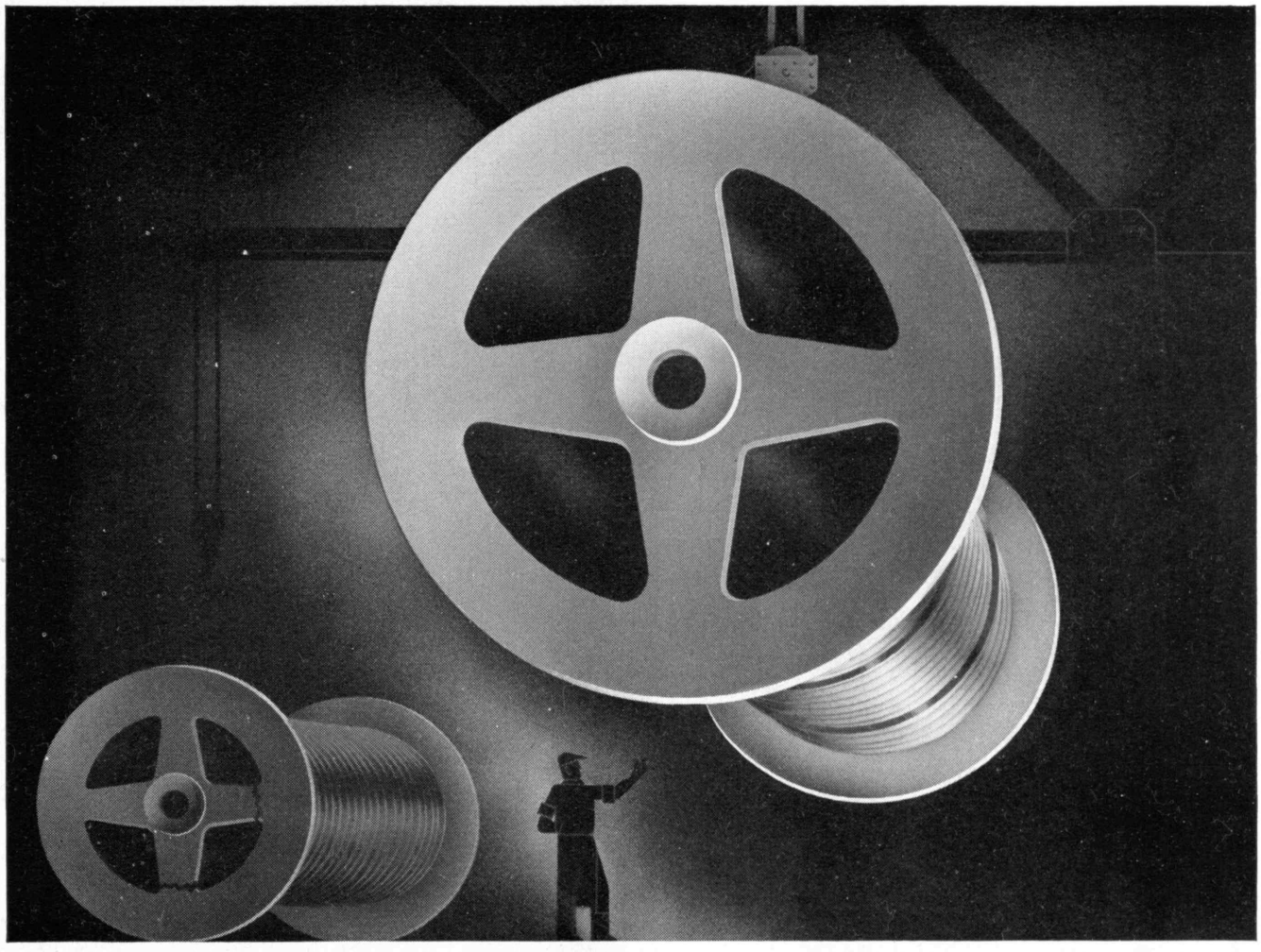
Digested Comments

THE digest method is becoming so popular in journalism that The Review (may it be forgiven!) has finally yielded to the current temptation and offers the following "letters digest," culled from scores of letters from readers.

We are particularly interested in learning of the wide variety of ways which The Review's interpretative articles are used. The head of the science department of Bassick High School, Bridgeport, Conn., writes: "I can assure you that The Reviews have been left around the classroom and have been widely seen by my physics pupils, and it may interest you also to know that they register favorably with the head of the art department who has been in to borrow several of the issues to be used to illustrate what I believe she calls 'technology in the abstract.'" . . . From the chairman of the mathematics department of Washington Irving High School, New York City, we received this message: "Please accept our expression of appreciation and admiration of your very fine periodical. . . . The faculty, as well as the students, have been very happy and interested in the study of the articles, which in some instances were very important for their work."

Other readers have different reasons for appreciating The Review: "I like The Review — used excerpts at Woman's Club meeting." . . . "The Review is much in demand in this office, particularly by the amateur photographers." . . . "I take this opportunity to congratulate The Review on the splendid job it is doing to keep the Alumni abreast of the times." . . . "Incidentally, we derive a great deal of pleasure from reading The Review, and it is extremely helpful in our work."

It's impolite to point, particularly with pride, but our readers insist upon doing it. Thus: "It is without doubt the finest publication of its kind." . . . "Your magazine has proved very interesting to me as an engineer and as an Alumnus, and I look forward with pleasure to each issue." . . . "As always, the arrival of The Review causes me to lay aside other matters and glance through the publication, and as usual I get some reaction or stimulus from some article." . . . "Though it would seem unnecessary to strive for — and almost impossible to achieve — any further improvement, a comparison of successive volumes shows steady accomplishment of higher and higher standards of excellence." . . . "Although I dare say I don't understand all of what I read, I found it most absorbing and I read it from cover to cover. I only wish that the technical publications of my profession would be as interesting to outside persons as is The Technology Review." . . . "I always wonder each year how you and your associates are going to exceed your previous efforts, but you always manage to do so in a very superior way." . . . "Congratulations, incidentally, on The Review; I think you are doing a grand job."



Cutting down reject percentages in difficult castings

● THE difficulties ordinarily encountered in bringing large castings of varying sections safely out of the mold have been strikingly demonstrated in one foundryman's experience with hoisting drums. With the usual carbon cast steel, the spokes had a tendency to pull away from the drum on cooling. Cracks and breaks brought the rejects to a discouraging percentage.

● By the simple addition of Molybdenum, the solution was found. The better casting qualities of Moly cast steels are explained in this now widely recognized technical fact: The expansion of steel, cooling through the transformation point, is virtually eliminated by the addition of Molybdenum. The effect reduces the likelihood of cracked castings, especially in those having radical differences in section.

Our technical book, "Molybdenum," contains practical data on Moly irons and steels. It will be sent on request — as will also our monthly news-sheet, "The Moly Matrix." Be free to consult our laboratory on special ferrous problems. . . . Climax Molybdenum Company, 500 Fifth Avenue, New York City.

PRODUCERS OF FERRO-MOLYBDENUM, CALCIUM MOLYBDATE AND MOLYBDENUM TRIOXIDE

Climax Mo-lyb-den-um Company

MOLY

HOW THE G.T.M. TAMED the belt-breaking fuller mill drives

TROUBLE WAS THE FIRST, last and middle name of these two fuller mill *drives* in a large eastern chemical works.

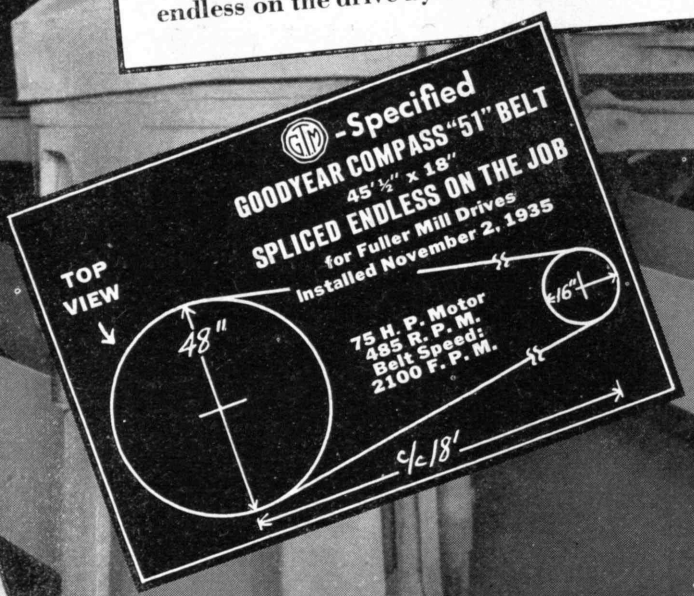
FASTENERS PULLED OUT on an average of once a month under the shock loads and stretch had to be cut out at frequent intervals. Constant fraying by riding up against the motor frame was another difficulty, while a severe abrasive dust condition made large and regular applications of dressing necessary to keep the drives functioning.

ONE YEAR'S SERVICE was the maximum being obtained from the highest quality ply belts, six months the average and that only with considerable nursing, when the plant superintendent told his troubles to the G.T.M.—Goodyear Technical Man.

ON THE G.T.M.'S RECOMMENDATION a Goodyear COMPASS "51" Belt was applied on No. 1 mill on November 2, 1935 and on No. 2 mill on February 16, 1936. To end the fastener difficulty both belts were made endless on the drive by Goodyear's patented vulcanized splice. To overcome the dust both belts were made with an inner ply of Goodyear's new 5-R friction surface whose permanent high adhesion makes it possible to operate heaviest drives at 25% to 50% lower tension.

TODAY, 20 AND 17 MONTHS LATER, respectively, both belts are performing faultlessly and have never required a single repair. COMPASS' balanced true-running construction has eliminated riding up on the pulleys. In all this time no dressing has been necessary except *one* application of a special Goodyear-prepared compound to the surface of No. 1 belt after its first year's service. *The plant estimates that the saving in dressing cost alone has paid for the belts—while the saving in repairs is all gravy.*

THIS IS THE KIND of money-saving belt performance the G.T.M. stands ready to furnish on your hardest drives. To bring him to your office, write Goodyear, Akron, Ohio, or Los Angeles, California—or the nearest Goodyear Mechanical Rubber Goods Distributor.



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MOLDED GOODS
HOSE
PACKING
Made by the makers of Goodyear Tires

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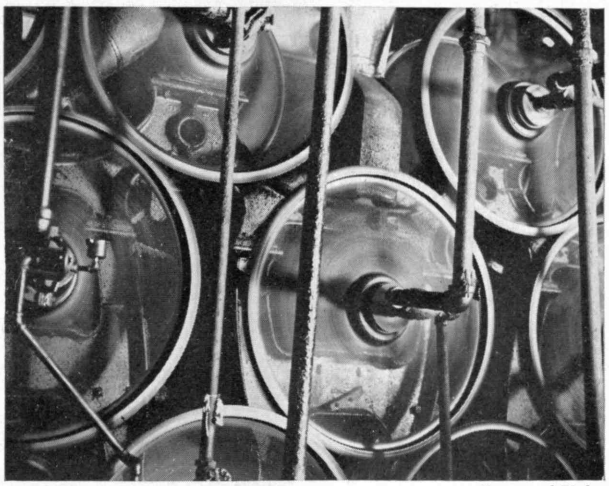
GOODYEAR

THERE'S A GOODYEAR BATTERY NOW!



The skillful photographer found this interesting composition on the side of a paper-making machine

Young and Phelps

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CONTENTS

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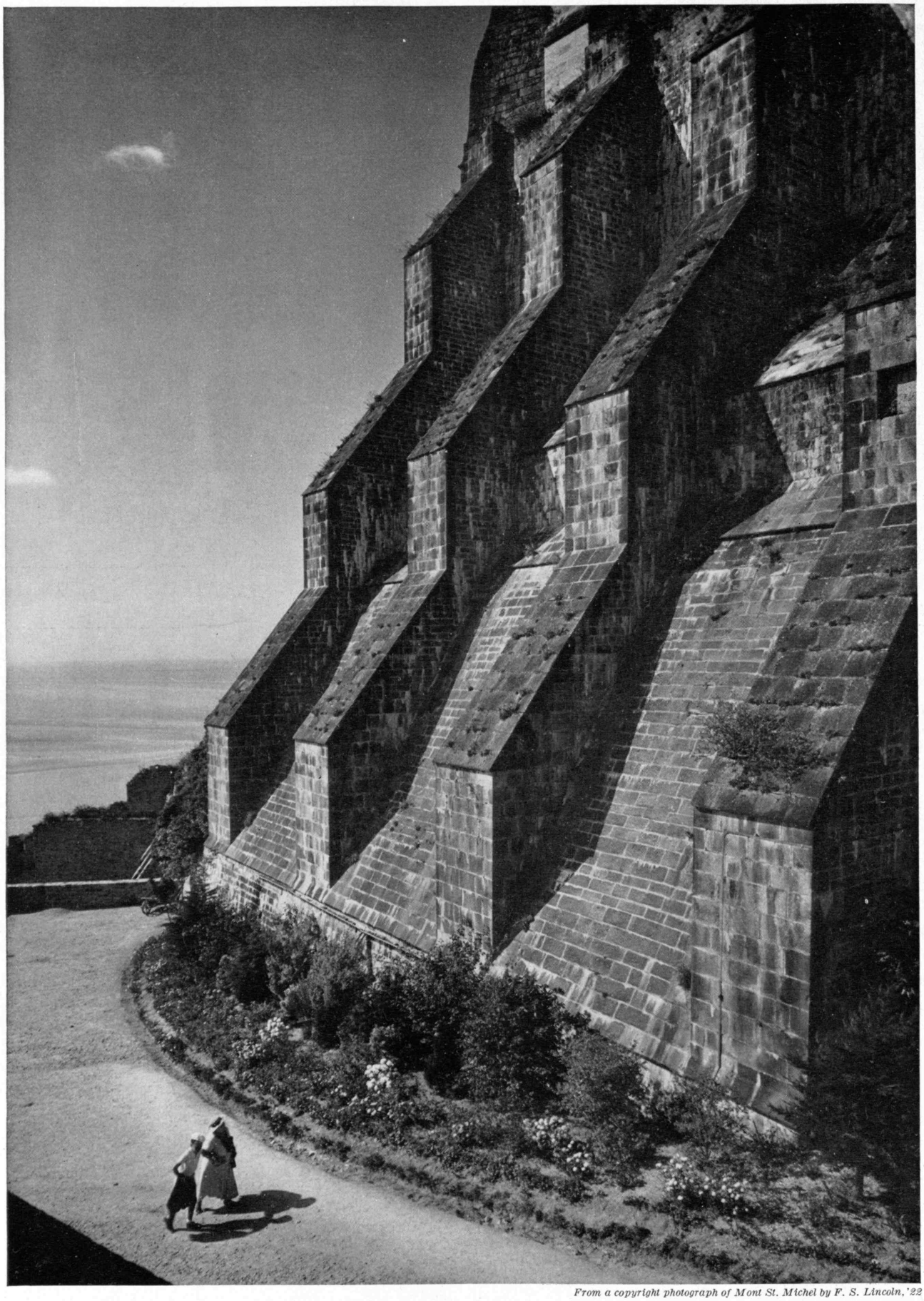

From a copyright photograph of Mont St. Michel by F. S. Lincoln, '22

SOARING STRENGTH