

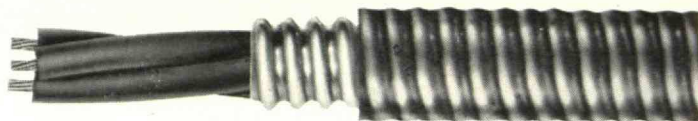
TECHNOLOGY

REVIEW

February 1958



Simplex



ANNOUNCES the C-L-X* Sheath

NEW



The pliability of the C-L-X Sheath is limited only by the pliability of the cable it contains.

... an entirely new closed system that gives incomparable benefits in all types of cable installations

Simplex C-L-X is a Continuous Lightweight eXterior metallic sheath that is impervious to gases, chemicals and water. Its unique construction gives it a combination of properties that is unmatched by any cable system now manufactured in the United States.

C-L-X provides a completely sealed conduit — with "built-in" cable. C-L-X combines all the advantages of lead sheathed and interlocked armored cables. In addition, it has its own intrinsic qualities of great strength with extremely light weight. It is suitable for installation in trays or by

clamps. C-L-X can be used aerially or buried directly in the ground. Its pliability permits ease of installation.

For more than a decade, this type of cable protection has given exceptional service in European installations. *Now, Simplex engineering has adapted C-L-X so that its scope of industrial applications is practically unlimited for modern American installations.* It is unequalled in situations where impermeability and durability are important.

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*(Continuous Lightweight eXterior, pronounced "Sealex")



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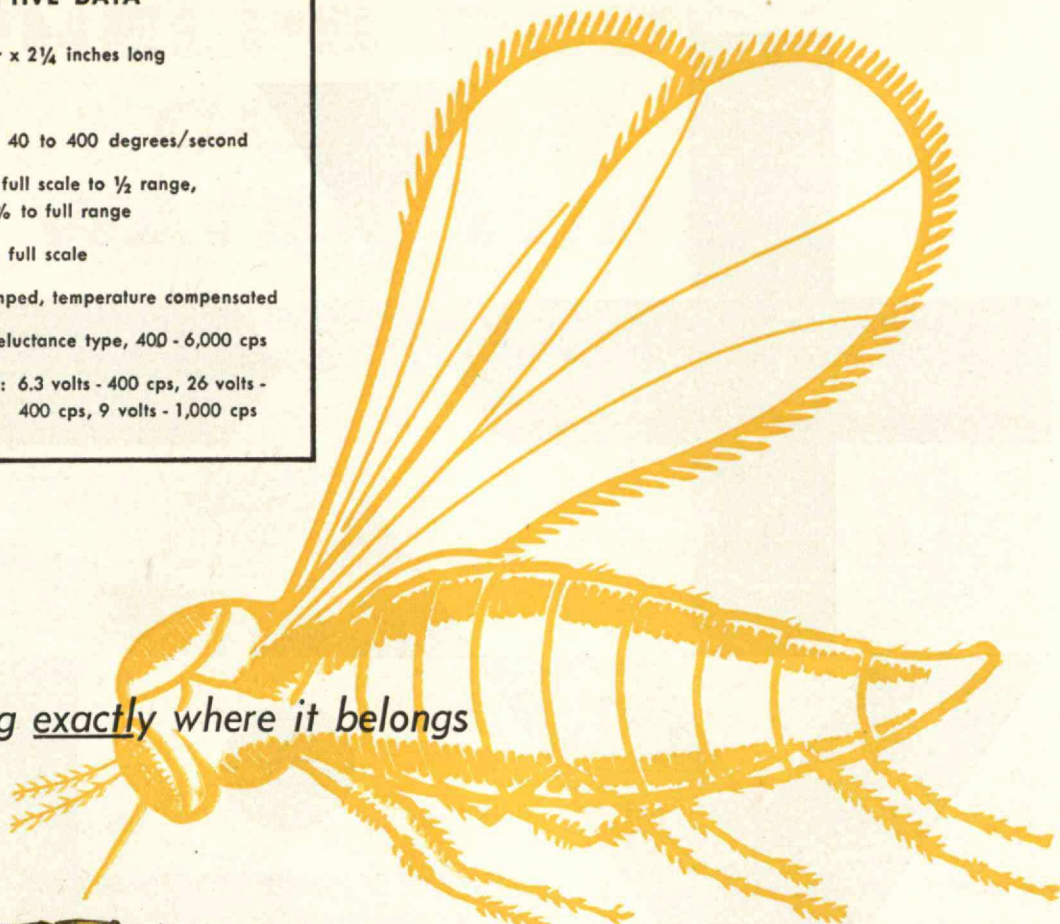
79 SIDNEY STREET, CAMBRIDGE 39, MASS.

"the American manufacturers of transoceanic telephone cables"

DESCRIPTIVE DATA

- **SIZE:** 1 inch diameter x 2¼ inches long
- **WEIGHT:** 3.8 ozs.
- **FULL SCALE RANGE:** 40 to 400 degrees/second
- **LINEARITY:** 0.1% of full scale to ½ range, within 2% to full range
- **RESOLUTION:** 0.01% full scale
- **DAMPING:** Fluid damped, temperature compensated
- **PICKOFF:** Variable Reluctance type, 400 - 6,000 cps
- **MOTOR EXCITATION:** 6.3 volts - 400 cps, 26 volts - 400 cps, 9 volts - 1,000 cps

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GOLDEN GNAT

Miniature Rate Gyros for Missiles and Aircraft

Here is a precision, miniature rate gyro. It's tiny . . . measures only 1 inch in diameter and 2¼ inches in length. It's rugged . . . withstands 100G shock and 10G vibration to 2,000 cps. It has a record of proven performance.

Even under the most severe environmental conditions the Golden Gnat will perform as required. To make this possible many unique design details have been incorporated. One such detail is the Gnat's *gold plated* steel housing for improved corrosion resistance and positive hermetic sealing.

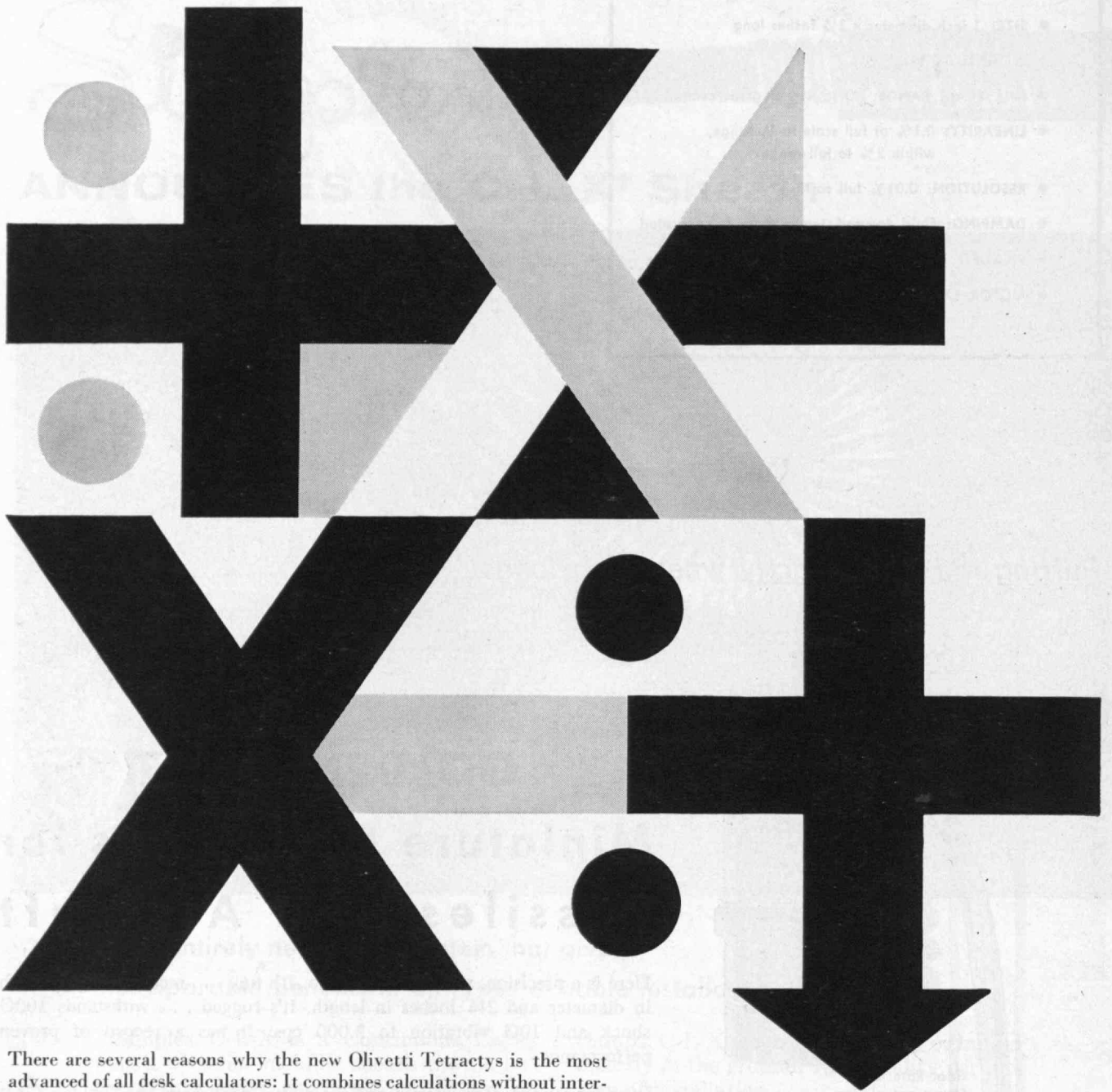
Wherever the need exists for high performance miniature rate gyros such as for autopilot stabilization in missiles and aircraft, antenna stabilization and fire control applications, the Golden Gnat is ideally suited. Write for Bulletin GN . . . Minneapolis-Honeywell, Boston Division, Dept. 1, 1400 Soldiers Field Road, Boston 35, Mass.



Gnat Rate Gyro
Shown actual size

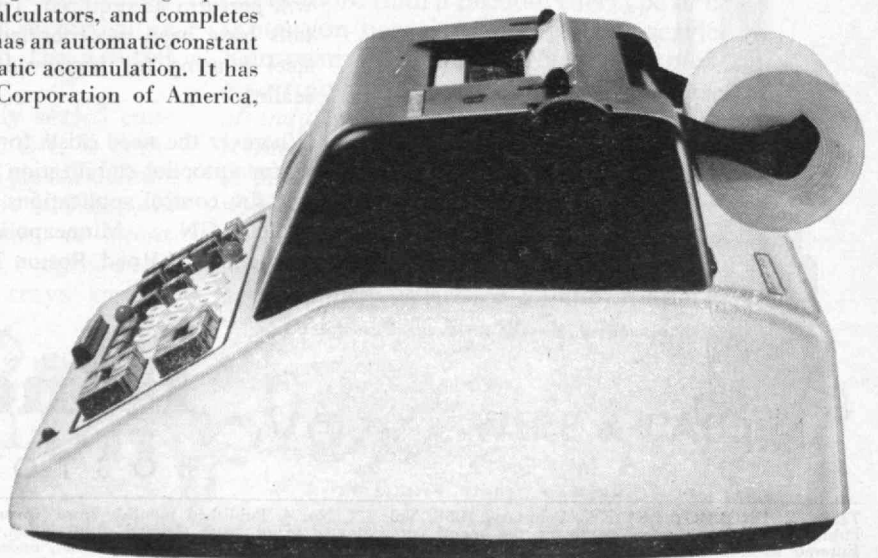
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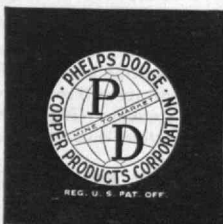
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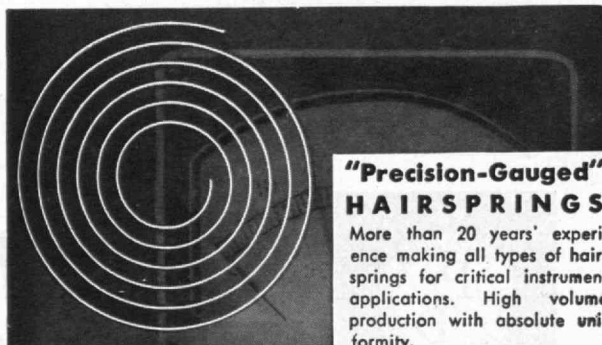
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THE TABULAR VIEW

Key to Leadership. — Major address of the Regional Conference held in Pittsburgh on December 7 was given by ACTING PRESIDENT J. A. STRATTON, '23, whose topic was "Universities — A Key to America's Leadership." Dr. Stratton's article in this issue of The Review (page 201) adapts for the printed page the major portion of that address, delivered on the anniversary of the Pearl Harbor attack and at a time when the nation was concerned with launching of two Russian satellites. Dr. Stratton critically analyzed the situation which confronts this nation. "We, in America," he said, "have been curiously plagued by the fear of an intellectual elite. . . . We have tended to distrust intellectual achievements that are not to be had by everyone on equal terms. There has been too little pride and understanding among Americans of the quality of excellence. . . . Let us not forget that the traditional function of the university is to teach and to provide teachers as well as to advance learning." Dr. Stratton is particularly well qualified to deal with this topic for he has been engaged in educational pursuits all his life. After one year at the University of Washington, Dr. Stratton came to M.I.T. where he received the S.B. degree in Electrical Engineering in 1923. He then spent a year at the Universities of Grenoble and Toulouse, and returned to M.I.T. as a research associate in electrical communications, receiving the S.M. degree in 1925. Dr. Stratton was appointed assistant professor of electrical engineering at M.I.T. in 1928. In 1930 he transferred to the Department of Physics and became professor of physics in 1941.

Following World War II, he established the M.I.T. Research Laboratory of Electronics and served as its head until 1949 when he was appointed to M.I.T.'s newly created post of Provost. He became vice-president and a member of the M.I.T. Corporation in 1951, and chancellor in 1956. Upon Dr. Killian's appointment as Special Adviser to the President for Science and Technology, Dr. Stratton was appointed acting president of M.I.T., in addition to his post as chancellor.

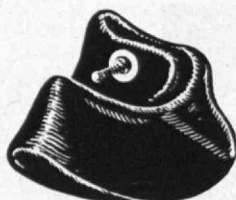
Invention in Flight. — The June, 1954, issue of The Review carried an article on the future of discovery and invention in which it was pointed out that "overemphasis on applied research at the present time, at the expense of research in basic science, is a practice well worth serious attention." In this issue (page 204) the same student of the development of science and technology, J. L. B. BLIZARD, '49, examines invention in the broad field of flight. It is concluded that greatest advancement occurs when there is full freedom to exchange ideas, and
(Concluded on page 186)



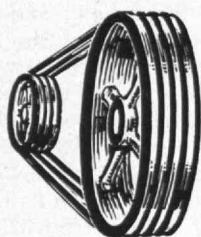
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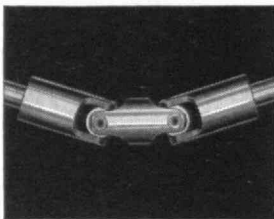
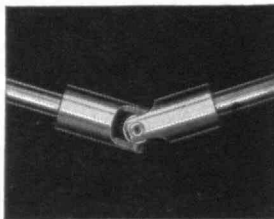
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THE TABULAR VIEW (Concluded from page 184)

that great possibilities lie ahead for the congregation of nations best able to utilize the benefits of its men of talent. In these days of intercontinental missiles and inter-service fizzles, these conclusions have more than purely academic interest. After receiving the A.B. degree with high honors from the University of Rochester in 1945 and the Ph.D. degree from M.I.T. in 1949, Dr. Blizard taught at Hofstra College, the University of Connecticut, and Vassar College, and has done medical research at the New England Institute for Medical Research. At present, Dr. Blizard is assistant physicist at the M. D. Anderson Cancer Hospital of the University of Texas.

Education in Russia. — For several years, ALEXANDER G. KOROL, in the Institute's Center for International Studies, has been engaged in a study of the Russian educational system, resulting in a book entitled *Soviet Education for Science and Technology*, which has recently been published jointly by The Technology Press and John Wiley and Sons, Inc. The article on page 208 of this issue is compiled from extracts of this volume and published with the approval of the author and the publisher. Admittedly, extracts selected from a longer work and pieced together can hardly do justice to the longer study. Yet The Review's condensation supports Mr. Korol's thesis that, designed solely to serve Party interests, the Soviet technical training is rugged, proficient, and skillfully used to expand Communist power in its war against the free democratic societies. It is not Soviet education that the free nations need fear, Mr. Korol concludes, but the misuse of power by the Communist Party. Mr. Korol is particularly well suited to a study of Russian education. He was born in Irkutsk in 1900, but came to the United States (of which he is a naturalized citizen) in 1920. He studied engineering at the University of Washington and has the A.B. and M.A. degrees in economics from Columbia University. In 1952 he received the Certificate in Soviet Studies from Columbia. In the summer of 1951 he was assistant to the Field Director of Harvard Refugee Interview Project. Since 1952 he has been a member of the Senior Research Staff at the Center for International Studies at M.I.T.

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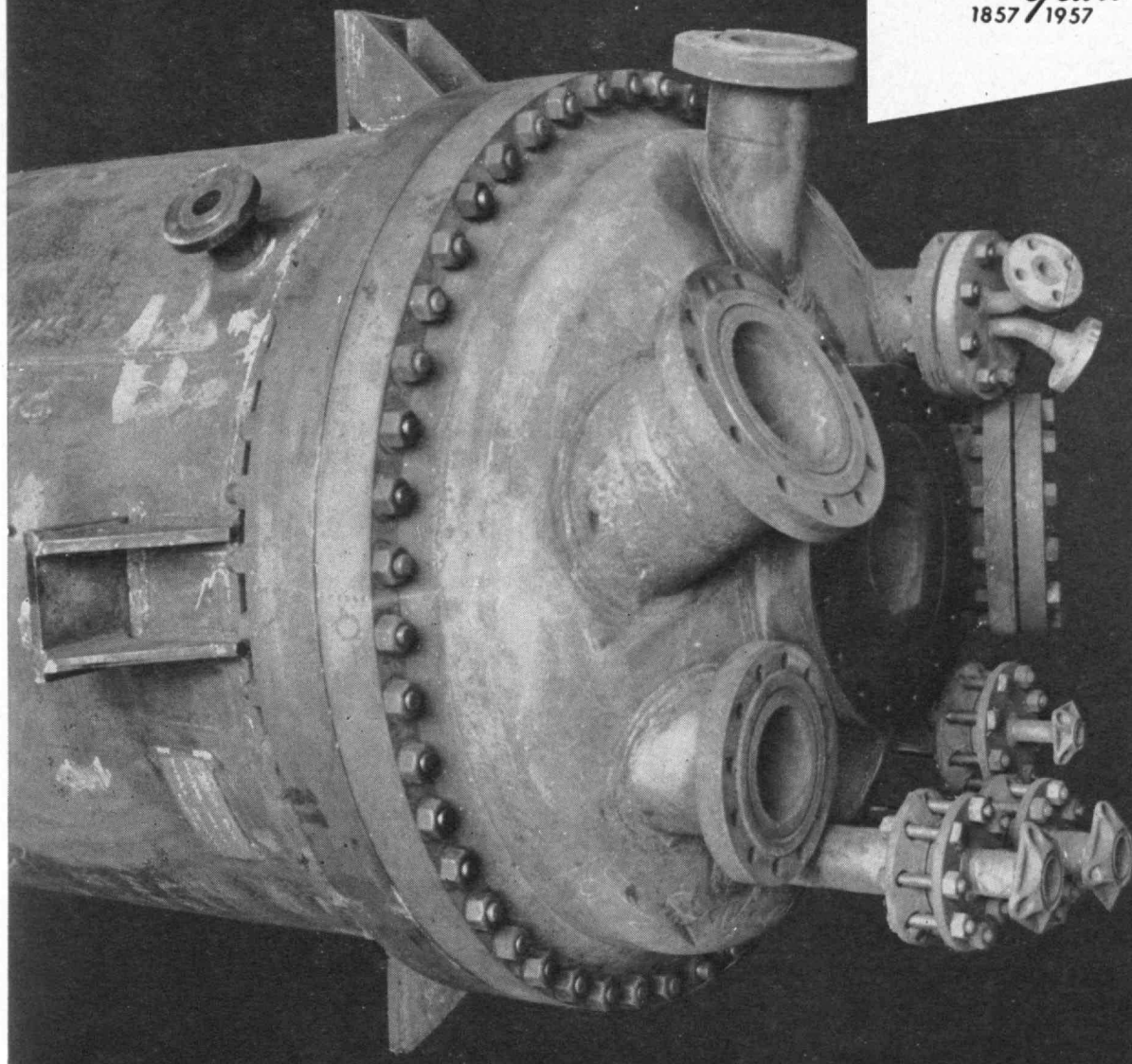
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Winston-Salem, N. C. Product design principles are one of the many technical subjects our engineers cover in *Introduction to Western Electric Engineering*, the first phase of the program.