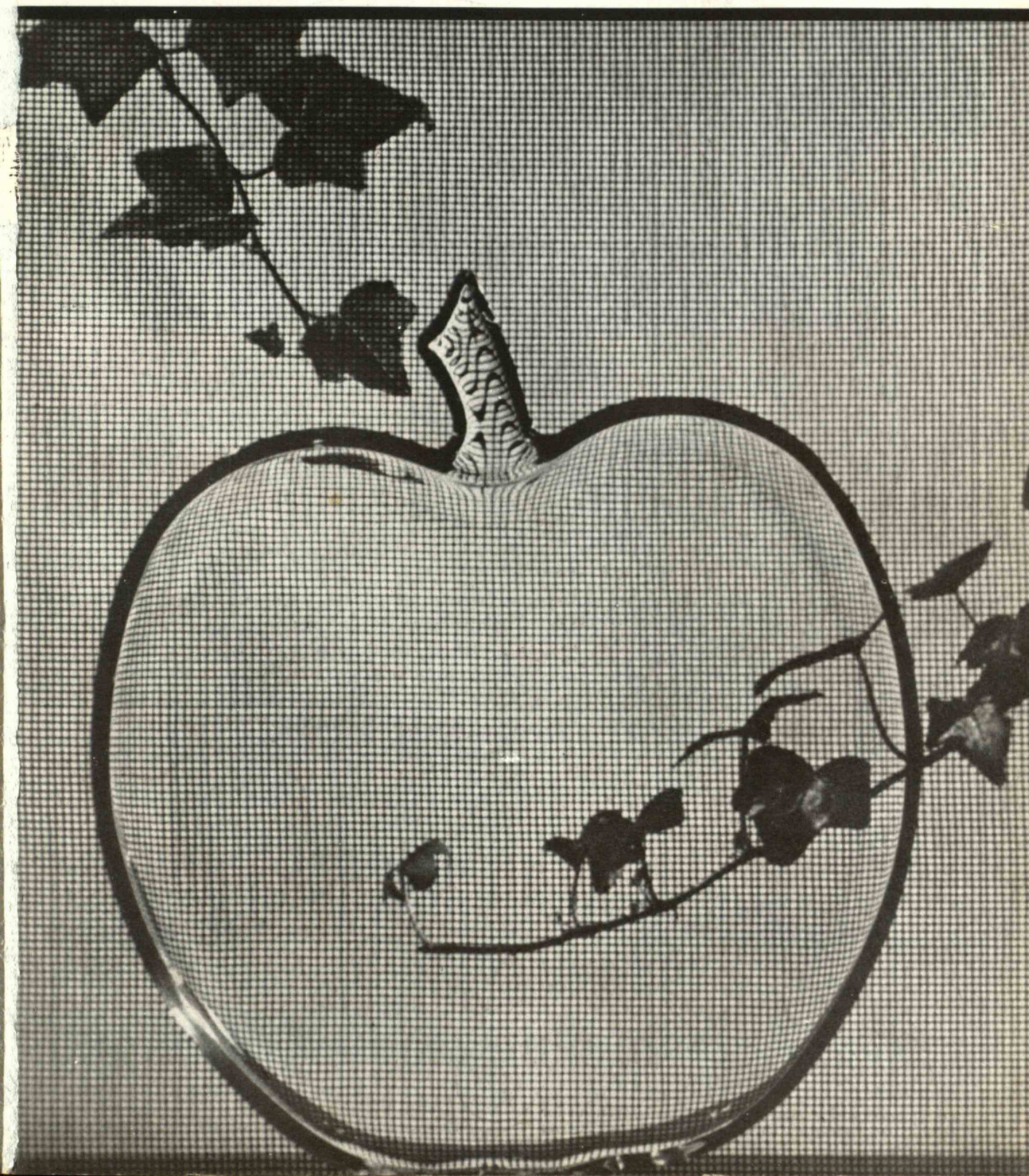
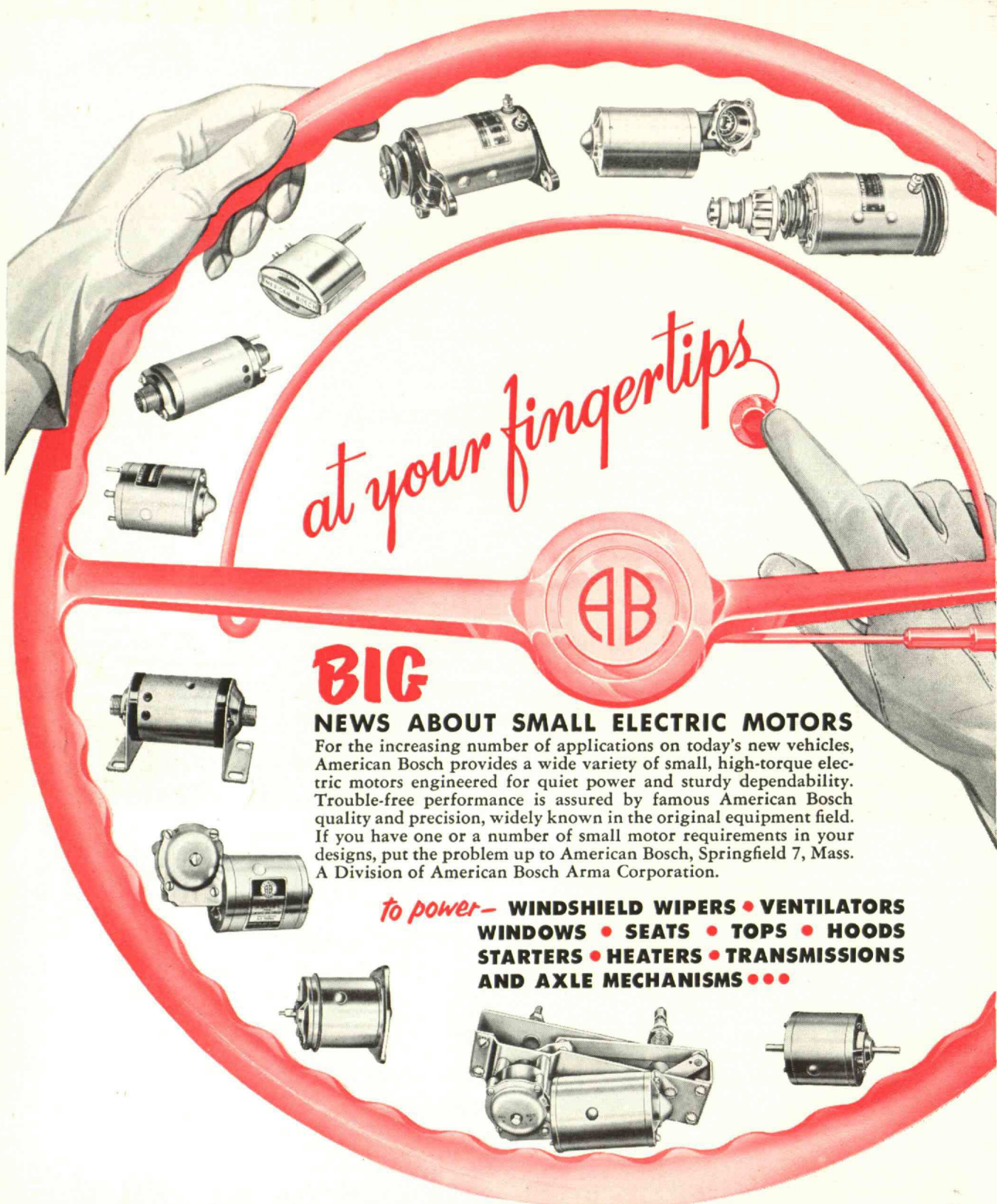


TECHNOLOGY

REVIEW *November 1955*





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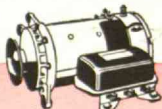
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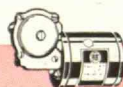
**Generators and
Regulators**



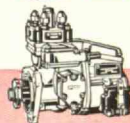
**Components for
Aircraft Engines**



**Small
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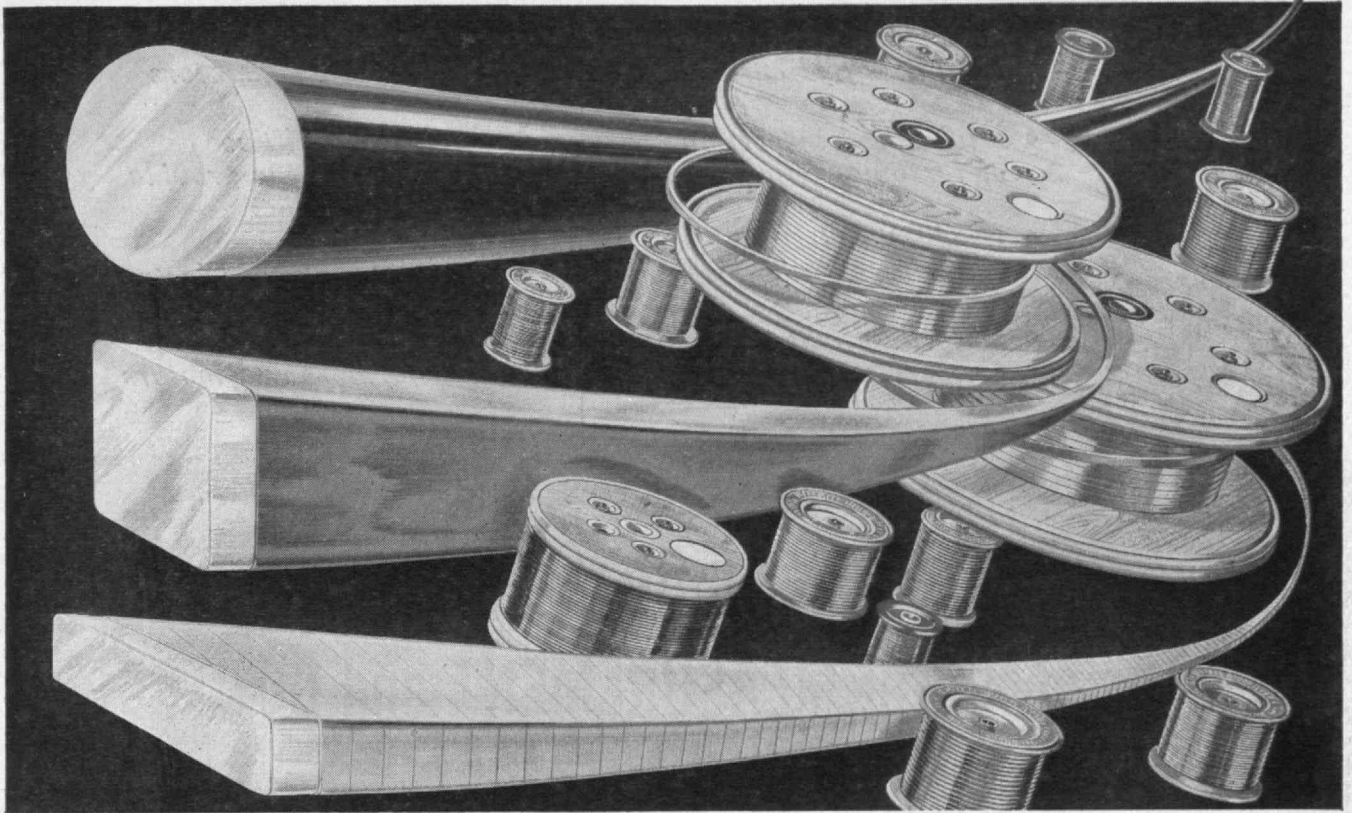
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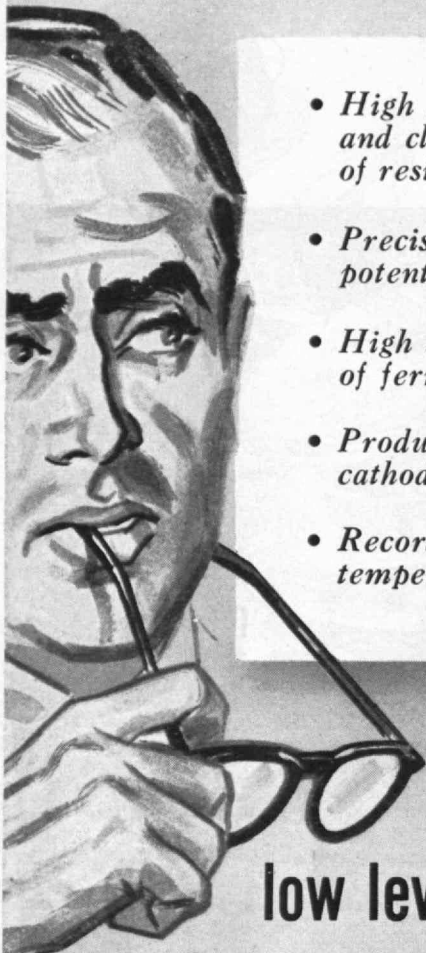
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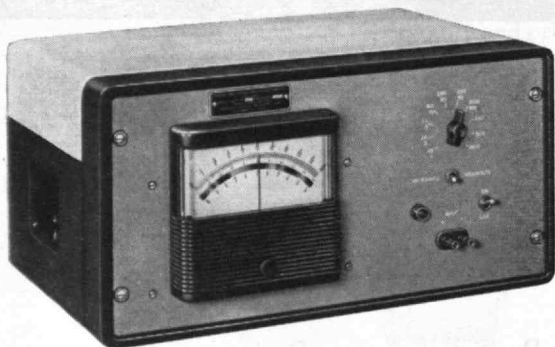
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 - *Recording extremely low temperature differentials.*
 - *Continuously recording rate of temperature change in jet engine test stands*
 - *R.M.S. regulation of a-c oscillators and generators*
 - *Multiplication of two a-c or d-c signals to provide a precision product*
 - *Precision low power factor measurements for production inspection of transformers and motors*

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THE TECHNOLOGY REVIEW



C. J. McFarlin, President, Air Reduction Chemical Company, a division of Air Reduction Company, Incorporated.

McFarlin of Airco

Integration, location and
lots of vinyl acetate

"Our new vinyl acetate plant at Calvert City is another development in Air Reduction's chemical expansion. The Lummus Company is engineering and constructing this plant for us and will bring it on stream early in 1956."

In the midst of an abundance of available power, natural gas, water transportation and a host of related chemical products, Lummus is engineering and constructing an integrated 30,000,000 lb. per year vinyl acetate plant for Air Reduction Chemical

Company, a division of Air Reduction Company, Inc. Adjacent to Air Reduction's National Carbide Division, it receives pipeline acetylene and converts it into vinyl acetate which goes principally into polyvinyl acetate emulsions, used in adhesives, latex paints and textile finishes — and polyvinyl alcohol, used for adhesives and textile finishes.

At Calvert City, in addition to this new Air Reduction plant, Lummus is also building a \$6,000,000 high pressure acetylene derivatives plant for General Aniline & Film Corporation which is a "first" in its field. What better examples could be given to show that Lummus is ready, willing and able to design, engineer and construct your next chemical plant.

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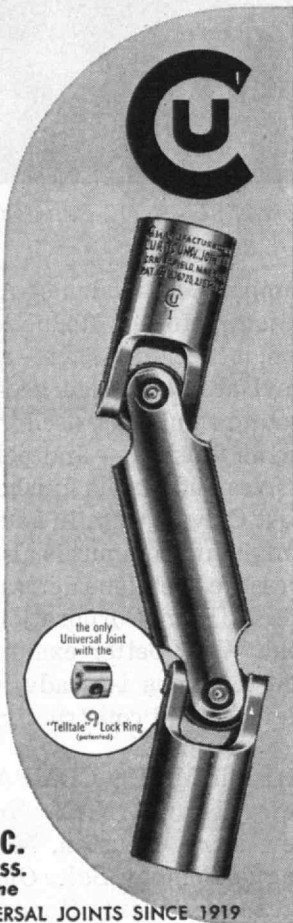
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THE TABULAR VIEW

Atomic Energy Impact. — Our article "The Impact of Atomic Energy on the Physical and Chemical Sciences" (page 15) is a report on an Alumni Day address by JOHN VON NEUMANN, Commissioner of the Atomic Energy Commission. Educated at Berlin University, Zurich Technische Hochschule, and the University of Budapest (where he received the Ph.D. degree in 1925), Dr. von Neumann became visiting professor in mathematical physics at Princeton University in 1930. He was later professor at the Institute for Advanced Study at Princeton, and consultant and member of various scientific boards and commissions for the United States government.

Weather by Radar. — "Radar and the Weather" (page 18) by PROFESSOR HENRY G. HOUGHTON, '27, is one of the papers presented by a Faculty member to the 350 persons who attended the Alumni Officers' Conference at M.I.T. on September 9 and 10. Professor Houghton received the B.S. degree from Drexel Institute in 1926, the S.M. from M.I.T. in 1927, and the D.Sc. degree from Drexel in 1947. He conducted research at Round Hill, South Dartmouth, Mass., from 1928 to 1938; became assistant professor, 1939; associate professor, 1942; and since 1945, professor and head of the Department of Meteorology. Dr. Houghton's principal studies have been of fog, clouds, precipitation, and atmospheric radiation.

Conference. — The Editorial Staff of The Review is proud to present (page 22) its 18,000-word report on the Alumni Officers' Conference, held at M.I.T. on September 9 and 10. This is the most detailed and complete report on M.I.T. activities to appear in The Review during the last 25 years and follows in quick succession the Review-prepared copy of 18 pages on the Kresge Auditorium (June, 1955) and 14 pages on Alumni Day and commencement (July, 1955).

(Concluded on page 6)



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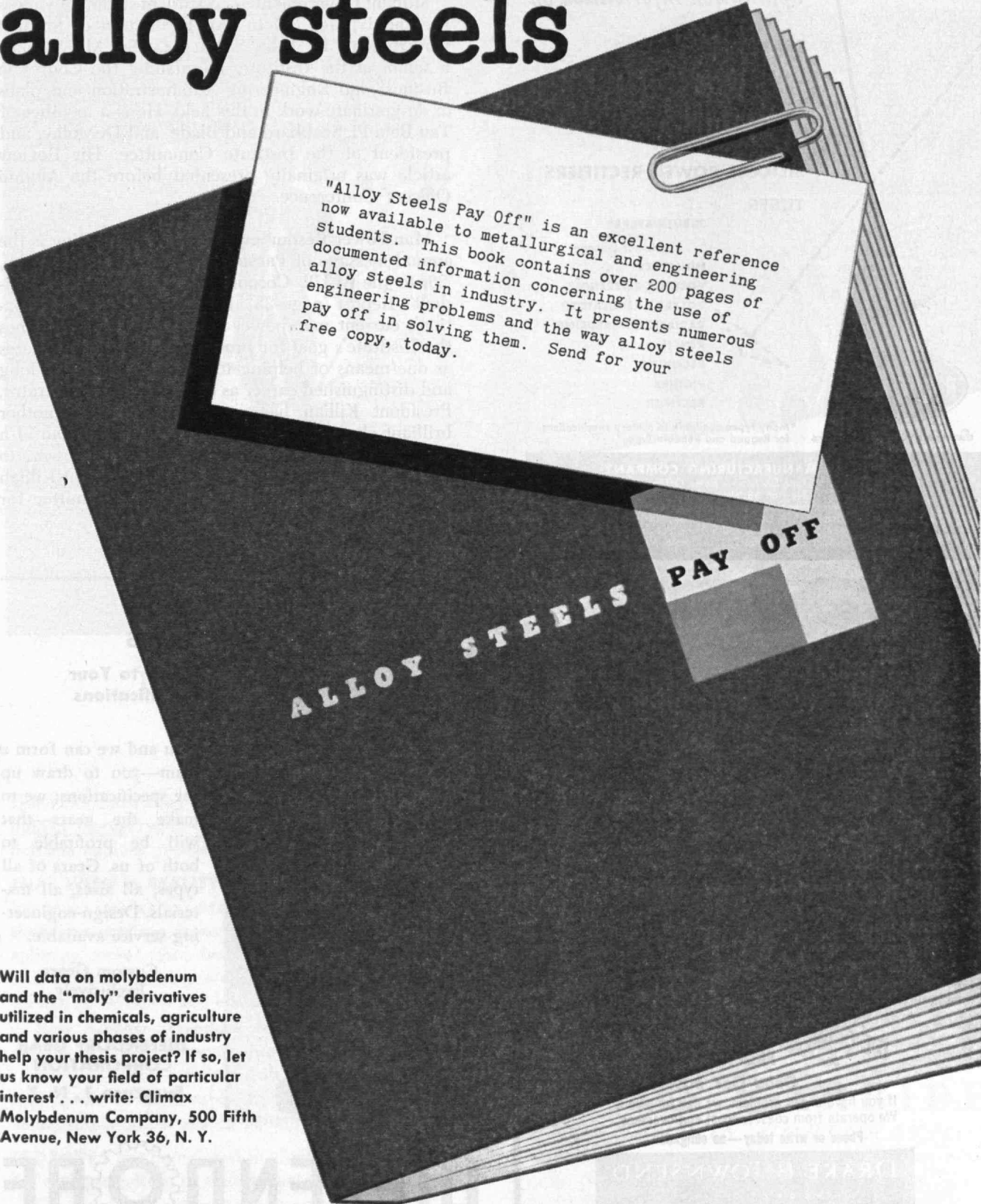
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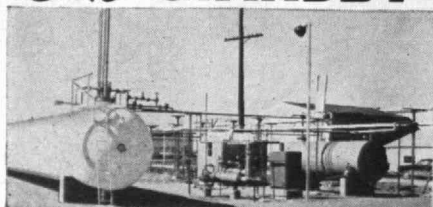
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THE TABULAR VIEW

(Concluded from page 4)

Student Government. — A student's point of view is presented (page 31) in "An Evaluation of Student Government" by JOHN S. SALOMA, 3D. Mr. Saloma, a senior at the Institute, is pursuing the Course in Business and Engineering Administration and plans to do graduate work in this field. He is a member of Tau Beta Pi, Scabbard and Blade, and DeMolay, and president of the Institute Committee. His Review article was originally presented before the Alumni Officers' Conference.

Man-Power Resources. — Always stimulating is the annual message of PRESIDENT JAMES R. KILLIAN, JR., '26, to the M.I.T. Corporation. In this year's President's Report (page 33), Dr. Killian outlines the nation's current man-power needs, and clearly defines the Institute's goal for producing superior graduates as one means of helping to fill this need. To a long and distinguished career as editor, and administrator, President Killian has recently concluded another brilliant chapter as public servant, as chairman of a committee, appointed by President Eisenhower, to study the nation's defense program. President Killian has also been named chairman of a committee for planning Atoms for Peace Awards.



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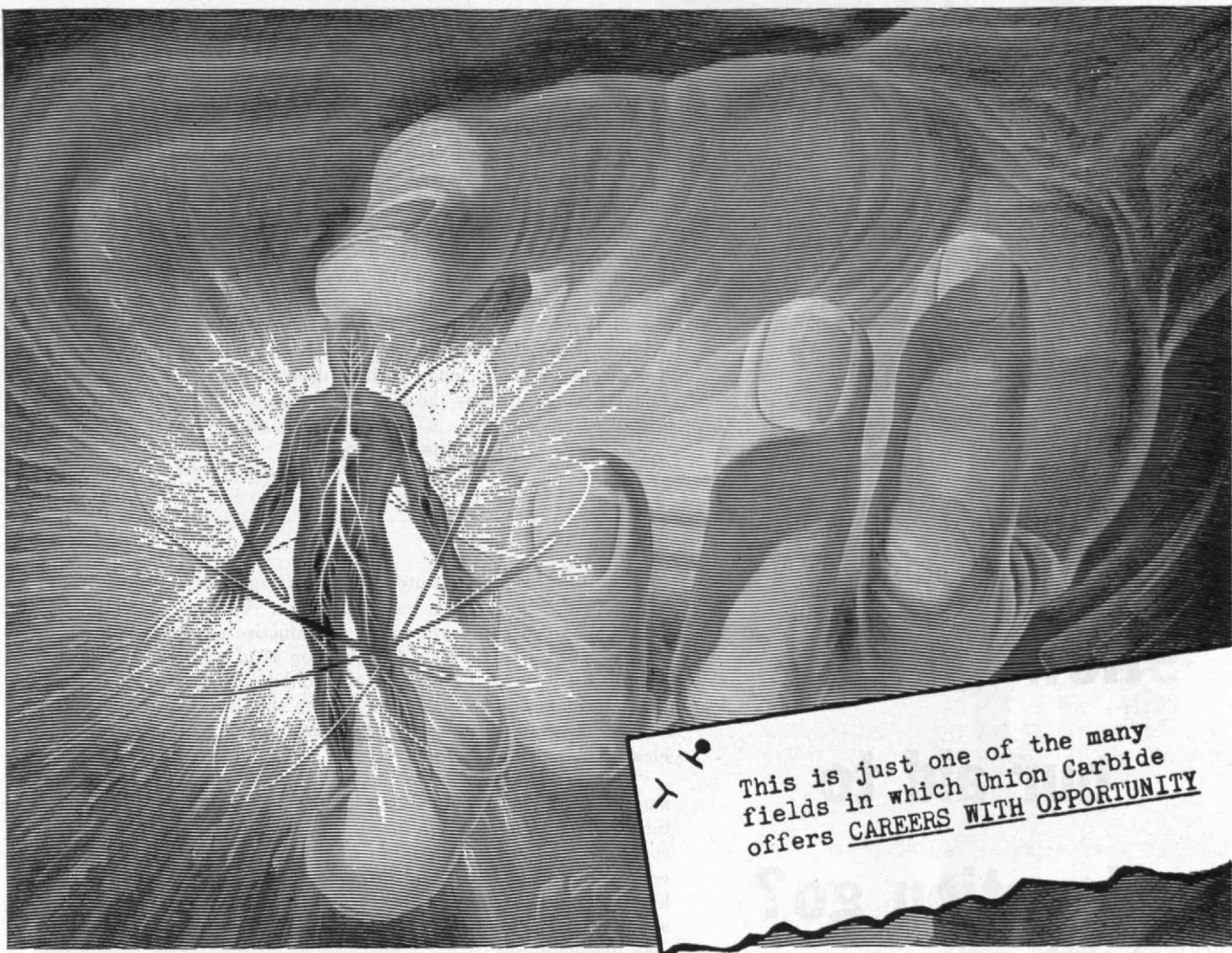
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Now doctors introduce isotopes of iodine, iron, sodium, or other elements into the bloodstream. Their course can then be followed to determine the location and nature of the trouble. Isotopes are also becoming increasingly important in actually treating ailments.

ISOTOPES are being used in similar fashion by industry and agriculture to analyze materials, measure wear,

control processes, and to help answer mysteries of how plants absorb nourishment from the soil and how it affects their growth and health.

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Who's to pay the cost of education?

"**W**HATEVER the plan, there must be more support per person and per corporation. We'll all just have to dig a little deeper. In recent years, our bill for organized education in all categories has been running at less than 4% of the Gross National Product. With predicted growth in our national output, if we can increase only a little the percentage spent on education, our needs will be met.

"Under the Corporate Alumnus Program, the General Electric Educational and Charitable Fund matches up to \$1,000 donated by employees to their alma maters. This concept is based upon the belief that the individual decisions of thousands will form a sound basis for widespread support of education... The responsibility of the alumni group is, I believe, to sell the idea that in a free economy in the long run it is desirable that the real cost of education be borne by the individual who gets the education and benefits from it."*

— PHILIP D. REED,

Chairman of the Board of Directors, General Electric Company

How far can our aid to education go?

"**T**HIS approach (Corporate Alumnus Program) is only a start. But it is rooted in the recognition that you and I can't longer continue to run a progressive and productive school system on a charity basis. I will answer the question as to who should pay for a college education by offering the cold-nosed conclusion that in a free economy in the long run it both should be, and rightfully can be, the man who gets the education; and that should be made clear to him the day he starts to get it.

"Of course, we also favor business support, for business draws many of its ablest profit-making human resources from your institutions. We must examine such support, however, instance by instance, and never let it slide into any license to dictate policy or to restrict academic activities ably conceived by courageous and level-headed educators who are truly alert to both the challenges and the opportunities of the economy and the society in which they live."*

— HAROLD F. SMIDDY,

Vice President, Management Consultation Services, General Electric

What obligation does an alumnus have?

"**I**s it such a revolutionary idea that the real cost of education be borne by the individual who gets that education and benefits from it? Not necessarily across the barrel head, not necessarily all at once, and not necessarily even under certain sets of circumstances. But I submit that it is an unhealthy idea for an individual to expect society to pay his education bill, any more than to expect society to pay for his food, clothing, shelter, hospitalization, vacations, and ultimately for the education of his children and grandchildren, too.

"One of the first things that business babes in the education woods learned was that practically nobody pays the real cost of his education. One reason is that he is never asked to pay it. We have acknowledged that the organization of which an individual is a part shares the benefits, and we are willing to help pay the bill — but this is a joint undertaking."*

— KENNETH G. PATRICK,

Manager, Educational Relations, General Electric

*For free copies of any of the complete talks from which these remarks were taken, write to Educational Relations, Dept. 2-119, General Electric Company, Schenectady, New York.

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