

performances far superior than could be expected with the diluted oxygen in ordinary air.

In the missile field and some industrial operations, oxygen has become so important that it is produced or separated from the atmosphere at the launching site or industrial plant rather than being shipped from an air-reducing facility.

For example, Air Reduction Company, Inc., New York, is building a new 120-ton-per-day oxygen facility at Armco Steel Corporation's new Butler, Pa., plant to provide the vast amount of high purity oxygen needed for that operation. It would be too costly, time-consuming and almost foolhardy to ship such vast quantities of oxygen long distances from production centers when a plant can be built adjacent to the factory.

Supreme Chemical

Oxygen's supremacy in the chemical industry has not been without a struggle against older, "traditional" ways of doing things. And, it appears its supremacy could just as easily be lost as oxygen in turn bows to further progress.

In the missile field, as an example, some more powerful or easier-to-handle oxidizing agents than oxygen itself are being developed.

"Oxidizing agent" and "oxidation" are terms arisen from the early days of chemistry that now describe a type of electron transfer to certain chemical reactions. Fluorine, for instance, is representative of several powerful oxidizing agents that may see wide use in missiles.

Nitrogen tetroxide is another bidder to replace LOX in rockets. It is easier to handle, requires no refrigeration and reacts spontaneously upon contact with many fuels.

New processes for making steel might replace the recent oxygen converter process even before that technique gets its feet off the ground. Steel companies are looking into every research nook and cranny for means of reducing their costs and increasing production.

There was a time when production figures for all-important sulfuric acid were considered the single reliable bellwether of a nation's economy. A few people believe that ubiquitous oxygen has replaced sulfuric acid as the best single indication of national wealth and industrial progress.

Science News Letter, October 18, 1958

ASTRONAUTICS

U. S. Sends Rocket High Above Earth

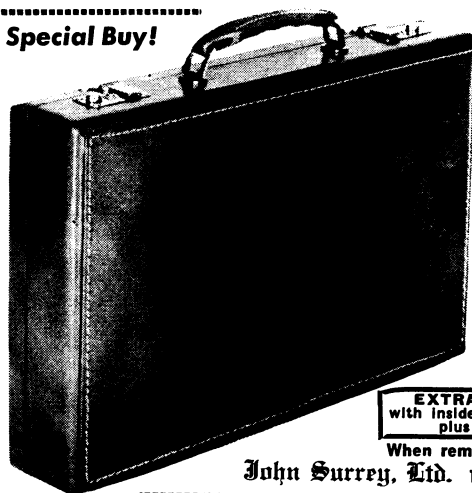
➤ A UNITED STATES attempt to orbit a man-made satellite around the moon has resulted in a successful launching of a rocket that has broken through all past records for height, the U. S. Air Force reported.

On Saturday, Oct. 11, the Pioneer rocket was launched at Cape Canaveral, Fla., at 4:42 p.m. E.D.T. It soared to an altitude of 79,316 miles, more than a third of the distance to the moon, and then started falling back to earth. Scientists report receiving valuable information about outer space from the launching.

(See SNL, Aug. 16, p. 101, Aug. 23, p. 114 and May 24, p. 323.)

Science News Letter, October 18, 1958

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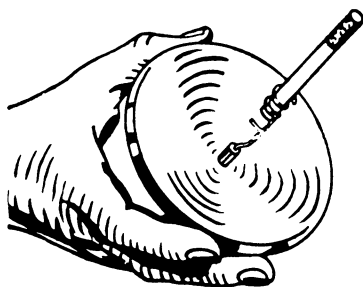
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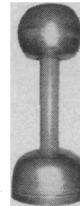
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