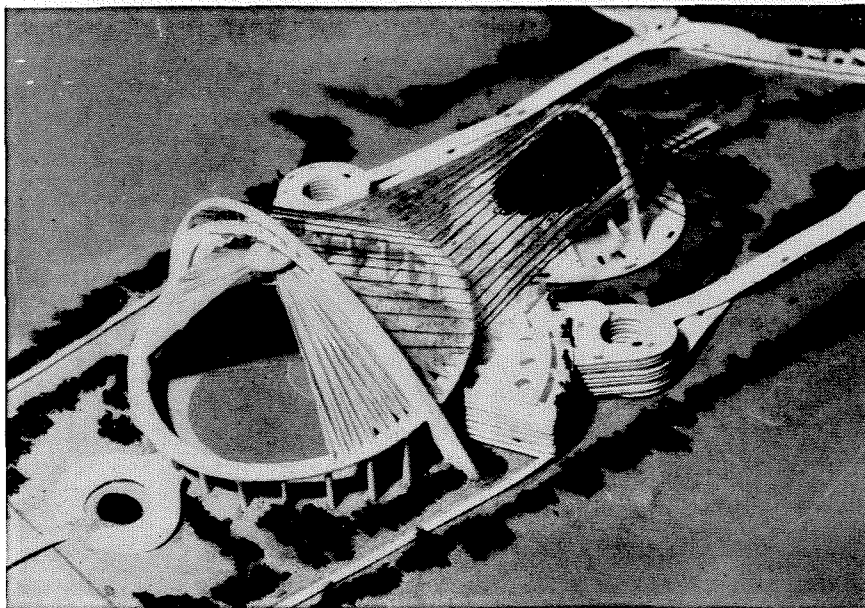


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MARS outstanding design SERIES



umbrella'd stadia

While it isn't always true, an interesting approach often results in a good design, as in these twin all-weather stadia designed by Harry Barone and Arnold Horn, Pratt architecture students. Each bowl would be umbrella'd by its own tentlike roof of translucent plastic, hung from the center of soaring arches. Accordion-pleated, these roofs are planned to fold together out of the way in fair weather, their lower edges riding along the rims of the bowls. Cables that guy the arches form a decorative pattern tying the two stadia together. The big football-baseball bowl would hold 65,000 spectators; the smaller, 20,000.

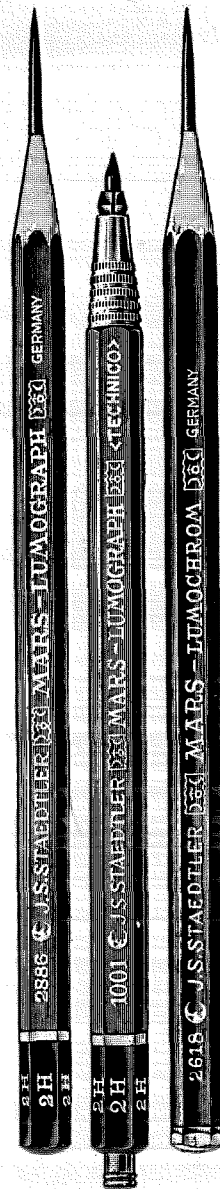
No matter which of today's bright ideas become tomorrow's reality, it will be as important then as it is now to use the best of tools when pencil and paper translate a dream into a project. And then, as now, there will be no finer tool than Mars—from sketch to working drawing.

Mars has long been the standard of professionals. To the famous line of Mars-Technico push-button holders and leads, Mars-Lumograph pencils, and Tradition-Aquarell painting pencils, have recently been added these new products: the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman's" Pencil Sharpener with the adjustable point-length feature; and—last but not least—the Mars-Lumochrom, the new colored *drafting* pencil which offers revolutionary drafting advantages. The fact that it blueprints perfectly is just one of its many important features.

The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEXB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom colored *drafting* pencil, 24 colors.

J.S. STAEDTLER, INC.
 HACKENSACK, NEW JERSEY

at all good engineering and drawing material suppliers



Letters

Ann Arbor, Michigan

Sir:

After reading in the January issue of *Engineering and Science* Professor Zwicky's modest account of how he, with minimal help from the U.S. Government, inaugurated interplanetary travel, I am encouraged to tell you of a similar achievement of mine which if generally adopted would completely change the nature of warfare.

The device is brilliantly simple. It consists of a metal or plastic tube 30 cm. long. Its radius is determined by that of the missile to be projected through it. After exhausting the possibilities I have found that the most satisfactory ones are the dried seeds of the plant *P. sativum*. These do not have uniform radii, but the frequency of distribution is such that a tube 7 mm. in diameter will accommodate 93.8 percent of them.

To use the weapon the operator places between 20 and 25 of the missiles in his mouth, distributing them equally between both cheeks. Of course, if he uses an odd number of missiles the distribution must be only approximately equal. Then he puts one end of the tube between his lips. With a flick of his tongue he transfers one of the missiles from either cheek to the opening of the tube. After taking in a breath of 2 liters around, not through, the tube, he abruptly expels the breath through the tube. A rate of flow of 75 liters per sec. is optimal. The missile is ejected from the tube on a trajectory which can readily be calculated.

So far I have been unable to persuade the Armed Forces to substitute my weapon for more conventional ones, and I attribute this to the jealousy which those like Professor Zwicky and me so easily arouse in lesser minds. Perhaps if Professor Zwicky would use his influence, my weapon might be tried. I would be happy to demonstrate it to Professor Zwicky if he would just stand still for a moment.

I am, sir, your obedient servant,

Arnold Dempster, '35

Engineering and Science