

example, and leave the milk bottle in the sunlight for an hour so that the milk loses most of its riboflavin, he pointed out.

Old people do not eat properly in relation to their lessened output of energy, Dr. Fishbein stated in discussing the special problems of nutrition in infancy and

old age. A greater number of men and women over sixty years, he said, might be capable of standing erect, working efficiently and be free of the aches and pains formerly considered a necessary accompaniment of old age if older people ate properly.

*Science News Letter, January 23, 1943*

## METALLURGY

## Substitutes Are Better

**New alloy steels developed for airplane engines and other war equipment will stretch stores of nickel, chromium and tungsten.**

► AN ALMOST completely new set of alloy steels will soon be used for most of the working parts of aircraft engines and other war equipment. Selected from the "National Emergency" series of steels, they will stretch the nation's supply of nickel, chromium, tungsten and other strategic alloying elements, M. H. Young and H. Hanink of Wright Aeronautical Corporation, Paterson, N. J., told the meeting of the Society of Automotive Engineers in Detroit.

The new steels will prove in all respects equal, and in some cases superior, to those now used in aircraft engines, Mr. Young maintained.

Other new, widely-used substitute materials are plastics, synthetic rubber and silver. Many of the products are cheaper, better and more versatile than they were originally, the speaker declared.

High temperature and stress conditions may limit the use of plastics in engine construction but other applications are being made.

Silver is a highly satisfactory bearing material, Mr. Young said. The new bearings are no more expensive than those they replace.

Development of various types of synthetic rubbers has led to wider use of these products in engines, as blends may be selected which have a particular resistance to heat, oil and fuel.

*Science News Letter, January 23, 1943*

### Few Premature Bursts

► NOT MORE than one high-explosive shell goes off prematurely for every 1,250,000 rounds fired, Col. H. H. Zornig, Ordnance Department, Watertown, Mass., told the meeting of the Society of Automotive Engineers.

This high safety factor depends on

design and metallurgical requirements, the speaker pointed out. American shells must be free from defect, uniform and strong.

Low strength alloys may be used in mortar shells, Col. Zornig explained, because of low firing stresses in this type of weapon. But shells used in rifles larger than 40 mm. must be produced from forged billets and carefully inspected for soundness.

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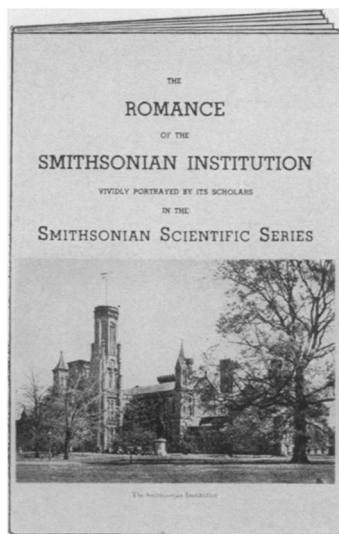
### New Bearing Alloys

► LACK OF TIN alloys need cause no worry that our motorized Army will be handicapped by bearing failures. New bearing alloys with a lead base containing arsenic and silver showed little corrosion when tested with various lubricating oils at high temperatures. L. M. Tichvinsky, senior mechanical engineer of the U. S. Naval Engineering Experiment Station at Annapolis, reported these results to the meeting of the Society of Automotive Engineers.

Further research to develop tin-substitute bearing materials should thus be practical, the speaker pointed out. Bearing alloys of high corrosion resistance are especially important during war because engines must perform overtime at high speed and increased pressure, under adverse conditions.

*Science News Letter, January 23, 1943*

The cannon-carrying *tank destroyer*, brand-new vehicle of World War II, owes most of its mobility and speed to an endless-band type of track in which steel cables and cross-pieces are imbedded in rubber to form a one-piece belt.



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