



#### GASOLINE IN BAGS

Box cars, ordinary motor trucks, and wooden barges, would be turned into tankers if the proposed use of synthetic rubber bags for gasoline transportation proves practical. It is proposed by the manufacturer of the synthetic "Mareng cells," the Glenn L. Martin Company. The cells were originally made for carrying gasoline in military airplanes. The cell can be stuffed into a small aperture in a wing and then filled with fuel—expanding to fill the whole wing cavity. In case it is punctured in battle, the holes tend to close and prevent the loss of the fuel. The damaged cells can be pulled out for patching while others are stuffed in their place. Material for their manufacture is abundant, it is claimed, and manufacturing capacity already available.

#### METALLURGY

## New Electrostatic Device Picks Tin From Worthless Rock

See Front Cover

**T**IN for America's wartime needs may presently be coming from ore deposits in the South, too low-grade for ordinary methods of extraction, if a new device developed in the Westinghouse laboratories operates as successfully on a large scale as it does experimentally. In small-scale tests, it has separated out the worthless rock from the tin so well that an ore of only 1.5% tin content was converted into a concentrate of 70% tin—which is quite suitable for smelting.

The machine (shown on the front cover of this week's SCIENCE NEWS LETTER) is patterned after electrostatic clean-

ers that take dust particles out of the air, furnace gases, etc., by charging them with static electricity. Such devices have been in use for a long time. They take advantage of the attraction between bodies carrying opposite charges—the kind of thing that happens when your hair "follows" the comb.

In the new ore-separating process, the mineral is first ground to the consistency of fine sand. Then it is poured down through a tower, falling toward a slowly rotating metal drum. Just before the particles strike the drum, they receive a charge of static electricity from a series of fine wires.

The tin particles, being good conductors, promptly lose their charges to the metal of the drum, and drop off before they reach the bottom of the turn. The poorly conducting rock particles retain their charges and stick to the drum, until they are pulled off as they come opposite a second series of wires, charged with electricity of opposite sign.

The one drawback in the method is the necessity for having the particles powder-dry, because moist particles cannot be made to carry a workable static charge. Tried experimentally in the past on low-grade iron and gold ores, it worked all right, but proved economically impractical because of the high cost of drying the material. But with tin on a hang-the-expense basis, it may prove worth while to build some large-scale machines to concentrate our domestic low-grade ores.

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#### MEDICINE

## Deferred Duty Status for R.O.T.C. Medical Students

**M**EDICAL students who have completed advanced Reserve Officers' Training Corps courses will have a chance to complete their medical course before being called to active duty, according to a War Department announcement.

If they have been accepted as matriculants in an approved medical school, they will be commissioned second lieutenants in the U. S. Army and placed on deferred duty status. They will be commissioned in the arm or service in which the training was received rather than in the Medical Administrative Corps.

Those who have completed all requirements for the commission before entering medical school except the practical training at the appropriate service school will be required to attend the service school if the date of their entrance into medical school permits. If it does not, they will be permitted to withdraw from their R.O.T.C. course contracts, will be commissioned as second lieutenants in the Medical Administrative Corps and will be placed on deferred duty status until their medical training has been completed or discontinued.

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To combat America's paper shortage, *paper shavings* produced in trimming books and magazines are now graded and reused in manufacturing more paper.