

• New Machines and Gadgets •

⚙️ **DOUBLE PROPELLERS** which rotate in opposite directions around the same axis are aiding the development of more powerful airplane engines.

Science News Letter, September 25, 1943

⚙️ **ADZ ATTACHMENTS** for hammers convert them into cutting tools to dress off lumber. The device is quickly installed over the claw of the hammer and held firmly in place by a wedge lug between the claw and a strap which passes over the handle.

Science News Letter, September 25, 1943

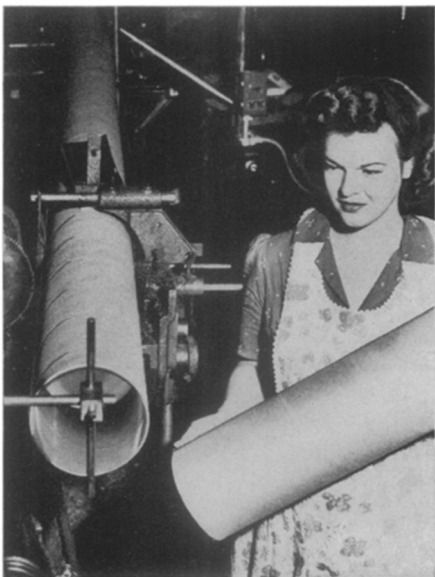
⚙️ **TRAFFIC CONTROL** semaphores, recently patented, include elevated stands for policemen directing traffic. When not in use, they sink into excavations in the streets, presenting no obstruction to traffic. Counter-weights help to raise and lower the apparatus.

Science News Letter, September 25, 1943

⚙️ **MOBILE, ELECTRICAL** air-conditioners, mounted on wheels and weighing about 600 pounds each, are being manufactured for the armed services. They cool and dehumidify the air inside aircraft undergoing field repairs in tropical heat and condition air in rooms where special work demands ordinary humidity and temperatures.

Science News Letter, September 25, 1943

⚙️ **PAPER CONTAINERS** in quart and gallon sizes are used by one paint manufacturer instead of metal cans. The side walls are made of several layers of spirally wound paper strips firmly glued together. These paper paint cans are



claimed to be unbreakable and leakproof.

Science News Letter, September 25, 1943

⚙️ **OLD ANTI-FREEZE** mixtures are given a new lease on life by a chemical preparation which neutralizes any acid that has formed and prevents rust formation in the engine.

Science News Letter, September 25, 1943

⚙️ **CLEANING HATS** at home is simplified by a hollow, adjustable hat holder made of either metal or plastic. To clean the under side of the brim, the hat is placed inside the holder; to clean the top, it is placed outside.

Science News Letter, September 25, 1943

⚙️ **HEAVY TRUCK** and tractor tires stuck to rims are easily removed with a new type of tool. By a system of hooks and leverage the bead is forced loose in a few minutes. This bead-loosener was developed from a similar tool used to remove airplane tires vulcanized to rims by heat generated in landing.

If you want more information on the new things described here, send a three-cent stamp to SCIENCE NEWS LETTER, 1719 N St., N. W., Washington 6, D. C., and ask for Gadget Bulletin 175.

AERONAUTICS

Stratosphere Illnesses Found Not Permanent

➤ **ILLNESSES** induced by extremely high altitudes are not permanent, and only rarely are they serious, is the good news that was brought to parents and friends of stratosphere flyers by Dr. Martin G. Larrabee of the University of Pennsylvania Medical School, speaking in Science Service's Adventures in Science program over the Columbia Broadcasting System.

"Relief is almost immediate as soon as the man is returned to normal conditions," stated Dr. Larrabee, who is doing important medical research in stratosphere flying.

The modern stratosphere chamber, which is hermetically sealed from the outside, reduces the air pressure and temperature at about the same rate as a fast plane climbing into the sky, explained John G. Bergdoll, Jr., chief engineer of the York Corporation, when interviewed during the same program. The York Corporation, credited with developing the modern stratosphere chamber which tests men and materials for altitude endurance, was responsible for engineering and installing the first

one in Canada in 1939. Since then 30 have been built in the United States for use in aircraft plants, universities and government laboratories.

The modern strato-chamber is a steel cylinder 22 feet long which resembles a submarine both inside and out. Within five minutes the temperature can be made to fall from 70 degrees above zero Fahrenheit to 70 degrees below—a drop of 140 degrees—Mr. Bergdoll pointed out. Without even leaving the ground, the person within the chamber can experience all the sensations of both temperature and pressure which a stratosphere pilot must endure. The safe ceiling of human endurance is 38,000 feet, a little over seven miles.

"Stratosphere flying has touched off a life-and-death race between artillery and aircraft to see which can go the higher," said Dr. Larrabee. An altitude of 35,000 feet, which earlier in the war was considered a safe level for bombers, according to the British can now be reached by the latest German anti-aircraft guns. This means that flight ceilings must continually be pushed higher and higher, he explained, but the problem is less one of machines than of human endurance.

Science News Letter, September 25, 1943

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