

The Army, Navy and Marines, as well as certain industrial companies, are using rubber linings in concrete storage tanks for holding high-octane gasoline. Rubber as a liner in these tanks prevents the destruction of the concrete caused by the sludge inhibitor found in all high-octane gases.

The use of rubber for tank linings was developed by the United States Rubber Company.

*Science News Letter, August 12, 1944*

## AERONAUTICS

## Airport That Grows Is Need for Post-War World

► AN AIRPORT that grows up with its town, from a simple grass-plot landing field to a super airport for handling big cargo and transport planes, is described by the Michigan Board of Aeronautics in a new publication.

The planning program for the airport is divided into six stages. The first stage consists of the purchase of a 120-acre plot, which is graded, drained, and seeded to give 1,800 to 2,000 feet of landing area in all directions. Hangars are built as they are needed. This type of airport will meet the needs of the average small community.

Starting with this master plan, additional construction is undertaken as the need for increased facilities becomes apparent.

In Stage Two, pavement is laid on two landing strips, and a taxiway and apron are added.

Two additional landing strips are added in Stage Three, bringing the total to four runways.

An additional 40 acres of land are required for Stage Four, designed to take care of limited airline operations. Also included are a basic administration building, pavement on the runway, and the addition of two diagonal runways.

Enlarging the airport to 200 acres, it is possible to extend the north-south and east-west runways to 3,500 feet, for regular airline operation. Also included in Stage Five are more hangars and facilities for handling passengers and cargo.

The final development of the airport, Stage Six, consists of widening all the runways, paving taxiways, and the addition of more hangars and the final units of the administration.

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*Licorice* growing was introduced into England from Syria about 400 years ago.

## MILITARY SCIENCE

# Barbs Instead of Bombs

Now being showered on enemy airfields and roads, these pieces of sharpened steel are disabling Axis aircraft and vehicles by gashing their tires.

► SHARP metal barbs are now being showered on enemy airfields and roads by Army Air Forces planes, disabling Axis aircraft and vehicles by gashing the precious surface of their tires.

Three types of metal barbs have been developed at the AAF Tactical Center, Orlando, Fla. The "Christmas tree" type is constructed from two pieces of sheet steel with serrated edges that make it look like a fish-hook. After stamping, each piece is bent and the two are welded together. The whole unit is about 3.5 inches long and resembles the branches of a yuletide tree.

Then there is the single barb, a pointed hollow tube about 3.5 inches long, mounted on a curved base containing a lead deposit. The weighted base makes it bob right back up like children's toy clown dolls. Since it is ef-

fective only on paved surfaces, it is used primarily on highways, and paved landing strips.

The "Big Boy" really has a murderous effect on tires. It is a four-pronged barb, 4 inches long. It consists of two hollow steel pointed tubes, bent in the middle and welded together at the bend to form the four prongs. Thus, it will always rest on three prongs, leaving one pointed up at a 90-degree angle to the ground.

If you have ever experienced picking up a nail in an automobile tire, you can appreciate the effect thousands of these barbs dropped on an airfield or highway have on the Axis armies.

Here is how they are used. A group of bombers, loaded with hexagonal boxes made from plywood containing the metal barbs, instead of bombs, fly over enemy airfields and roads at low



**DEATH FOR AXIS TIRES**—When this deadly four inch, four-prong barb comes into contact with an enemy airplane tire, the result is a crack-up.  
*Official Army Air Forces photograph.*