## Cause of Fainting Traced

CAUSE of the undue fatigue, shortness of breath, dizziness, fainting and even distress or pain around the heart in patients with varicose veins of the legs is the pooling of the blood in the varicose veins, Dr. Earle M. Chapman and Dr. Erling Asmussen, of Massachusetts General Hospital and the Harvard Fatigue Laboratory, announced.

"In the aged and in those with known heart disease, the added burden from varicose veins may be enough to provoke severe symptoms," the Boston doctors stated.

Wearing elastic stockings or an operation to cut off the blood supply to the varicose veins relieves the symptoms.

The reason why the cause for the symptoms had not previously been recognized may have been because the symptoms usually are moderate in nature and seldom lead to actual heart failure.

The Boston doctors investigated the problem after examining a patient who was thought to have angina pectoris or some other kind of serious heart trouble. Careful examination disclosed no sign of heart disease but when the patient got off the examining table one of the doctors noticed the large varicose veins in her legs enlarging as they filled with blood. He suddenly had the idea that the pooling of the blood in these veins might have caused such a decrease in the amount of blood returned to the heart by the veins that there was a deficiency in blood flowing through the heart's own artery which would cause heart pain. This patient obtained relief by wearing elastic stockings on both legs.

Investigation then revealed that almost one-fifth of the patients with varicose veins, 47 out of 250, complained of undue shortness of breath that was relieved when they lay down. Studies of blood circulation in normal persons and those with varicose veins when changing from recumbent to standing posture confirmed the idea that the pooling of the blood in the varicose veins could interfere with the circulation enough to cause the heart pain and other symptoms.

*Science News Letter, June 13, 1942*

AERONAUTICS

# Three Possible "Surprises" May Upset Aviation Race

### Successful Gas Turbine, Practical Rocket Plane and Wing Structure That Would Prevent Turbulence Forecast

THREE aeronautical developments would upset the present more or less even military aviation race throughout the world—a successful gas turbine engine for airplanes, a practical rocket plane and the realization of an airplane wing structure that would prevent the air becoming turbulent as it flows over it.

Dr. Jerome C. Hunsaker, Massachusetts Institute of Technology aeronautical engineer and chairman of the government National Advisory Committee for Aeronautics, in talking to the Harvard War Institute listed these as the three possible developments that might with some rapidity spring a surprise.

It is known that engineers throughout the world have been working, attempting to achieve these objectives.

A gas turbine would be an escape from the very real task of lubricating ordinary internal combustion engines at very high temperatures, now a limit to efficient operation. Present engines waste a third of the gasoline's power in heat. Successful gas turbines operating on waste gases from diesel engines and the oil refining process have been perfected and are in use in Switzerland and this country. The gas turbine in the airplane would eliminate the cooling system and also allow operation at 10,000 to 12,000 revolutions per minute instead of the 3,000 of the present engines.

Rocket planes avoid all engines and propellers, the propulsion being given by the kick of the rush of the gases out of an orifice at the rear of the plane. The Italians have already flown a small rocket plane from Milan to Rome. Rocket propulsion would be particularly effective in the high altitudes where the air is rare because the rocket kick doesn't need air to operate.

Making air flow smoothly over an airplane wing so as to maintain its untroubled characteristics might reduce the resistance or drag offered by the airplane by half. This is a major problem that might make a big difference in the performance of airplanes in the future if it could be solved.

*Science News Letter, June 13, 1942*

AGRICULTURE

## Rice Growing in Florida Promises A Major Crop

RICE growing in the Florida Everglades, started only last year as a small-scale effort to provide cheaper chicken-feed for hard-put poultry farmers, may develop into a new major agricultural industry, making good much or all of the loss of overseas sources of this important grain.

It was all started by J. A. Jamison, superintendent of schools for Martin County. A graduate of the University of Oklahoma, he was raised in the rice country of Arkansas. He has taught school in Oklahoma, Arkansas, Kansas and Florida.

When he came to Florida he saw that chicken raisers were having a hard struggle keeping out of the red, on account of the high cost of purchased feed from the Corn Belt and Argentina.

Rice makes chickens fat and hens lay. Why not grow rice in sub-tropical Florida?

It couldn't be done, he was told, it could never make a head. Finally he decided he would try, anyway. A pond of rice on every chicken man's place might bring millions to vast numbers of impoverished Floridians.

So last year he planted about an eighth of an acre with rice in a pond on waste land near Palm City, whose once flourishing citrus groves had been wiped out in the 1928 hurricane, and had gone back to jungle. The rice sprang up luxuriantly. He got a crop of 50 to 60 bushels to the acre.

This year Mr. Jamison set out 18 acres. He is trying out three varieties of rice. They are all doing well. The growth, knee high, is so thick you could almost walk on it. With luck, it will ripen in July.

With a rice scarcity threatening, Mr. Jamison visualizes thousands of acres in Florida being devoted to the cereal. On a large commercial scale rice would have to be grown where the water could be drawn off at harvest time so that mechanical reapers could get at it.

*Science News Letter, June 13, 1942*