

## AERONAUTICS

## Money, Training Needed For Air Traffic Control

► HUNDREDS of lives will be lost through airplane collisions unless Congress acts promptly to improve air traffic control, says Harry F. Guggenheim, aviation authority, predicted.

Speaking at the seventh annual meeting in Washington of the Cornell-Guggenheim Aviation Safety Center, he warned "air traffic control is a Federal responsibility. It is up to Congress to see that adequate safety controls are provided on our airways."

Mr. Guggenheim praised as a step in the "right direction" the \$800,000,000, five-year program proposed by the Department of Commerce for installing modern air traffic control systems.

However, more is needed in addition to large, well-planned expenditures of money. Mr. Guggenheim suggested two other steps that should be taken in order to safeguard flying: better training for private pilots, and fire prevention or suppression devices for aircraft that crash.

"Private pilots are trained today—in the brief training they do get—by methods that go back to World War I," he said.

During 1955, private and business aircraft in the nation had 3,320 accidents resulting in 650 deaths.

Dr. Theodore P. Wright, vice president for research at Cornell University, who also spoke at the meeting, pointed out that since the Aviation Safety Center began its work in 1950, the rate of airline accident fatalities has been less than one person for each 100,000,000 passenger miles. In 1956, it was almost half that rate.

Science News Letter, July 13, 1957

## AGRICULTURE

## Giant Berries Brought From South America

► GIANT South American strawberries and blackberries—some of them two inches long—may be the answer to the American plant breeder's dream, reports the U. S. Department of Agriculture.

G. M. Darrow, horticulturist with the Department, brought back samples of berries that have such desirable qualities as disease resistance, drought tolerance and the hardiness to withstand cold, dry mountain climates or, in some cases, heavy rainfall.

One species of strawberry, *Fragaria chilensis*, one ancestor of our cultivated fruit, was even found growing within 1,500 feet of the permanent snowline on the Andes mountains.

If crosses of the South American berries with common local species are successful, and Mr. Darrow says field studies are encouraging on this point, both the grower and the consumer will profit.

Larger fruit means lower harvest costs and firmer fruit eventually means less waste for the consumer.

The berry plants were collected in Chile, Ecuador and Colombia.

Science News Letter, July 13, 1957



**SMOKE SLICES**—Smoke slices are a new way developed by engineers at Douglas Aircraft Company, Santa Monica, Calif., to visualize the turbulence responsible for jet engine noise. The photograph shows quick diffusion of the jet exhaust resulting from the installation of one form of noise suppressor at the nozzle. Mineral oil injected into the air supply upstream from the jet exit makes the blast visible.

## MANPOWER

## No Engineer Shortage

► THERE has been no severe shortage of engineers in the United States.

Except for temporary shortages of persons with specific skills or in specific parts of the country, the supply of engineers has been ample.

Engineering salaries, when compared to the rest of the nation's workers and professionals, have been on a downward trend and will continue to slide.

These are the findings of Drs. David M. Blank and George J. Stigler in their book, "The Demand and Supply of Scientific Personnel," published by the National Bureau of Economic Research in New York.

Basing their study on the economic aspects of the problem, Drs. Blank and Stigler readily admit their "conclusion that there is no evidence of a shortage of engineers will strike many readers as surprising and some as patently wrong."

But, they imply, when all the facts and figures are tallied, the picture is clearly much different from the popularly held notion that we are currently in the midst of a severe engineering manpower drought.

Tracing the growth of the engineering profession in the U. S. since 1870—when there were only 866 graduate engineers—to the present day, Drs. Blank and Stigler have found the following:

Although the demand for engineers has grown rapidly, the supply has grown more rapidly.

Engineering salaries have drifted downward in relation to other workers' and they

have lost ground compared with doctors and college teachers.

We can look forward to perhaps 35,000 or 40,000 engineering graduates in 1960, 50,000 to 60,000 in 1965, and possibly as many as 80,000 to 90,000 in 1970. Recent figures put the annual engineering graduates at 32,000.

Two factors affect the rising demand for engineers: reductions in the relative cost of highly trained personnel and changes in the technology of production.

"Since 1929, engineering salaries have declined substantially relative to earnings of all wage earners and relative to incomes of independent professional practitioners." This is especially true since 1939, and the minor increase shortly after the outbreak of the Korean War is "hardly more than a minor cross-current in a tide."

Dr. Blank is associate economic advisor of the Columbia Broadcasting System, and Dr. Stigler is a member of the National Bureau of Economic Research and professor of economics at Columbia University.

Engineering manpower experts have reacted violently to the study by Drs. Blank and Stigler. Although they will not comment officially until they have studied the final published form of the report, the experts claim it is based on shaky statistics. They point out that all one has to do is to check the starting salaries being offered engineering graduates this year or the want ad columns of any newspaper.

Science News Letter, July 13, 1957