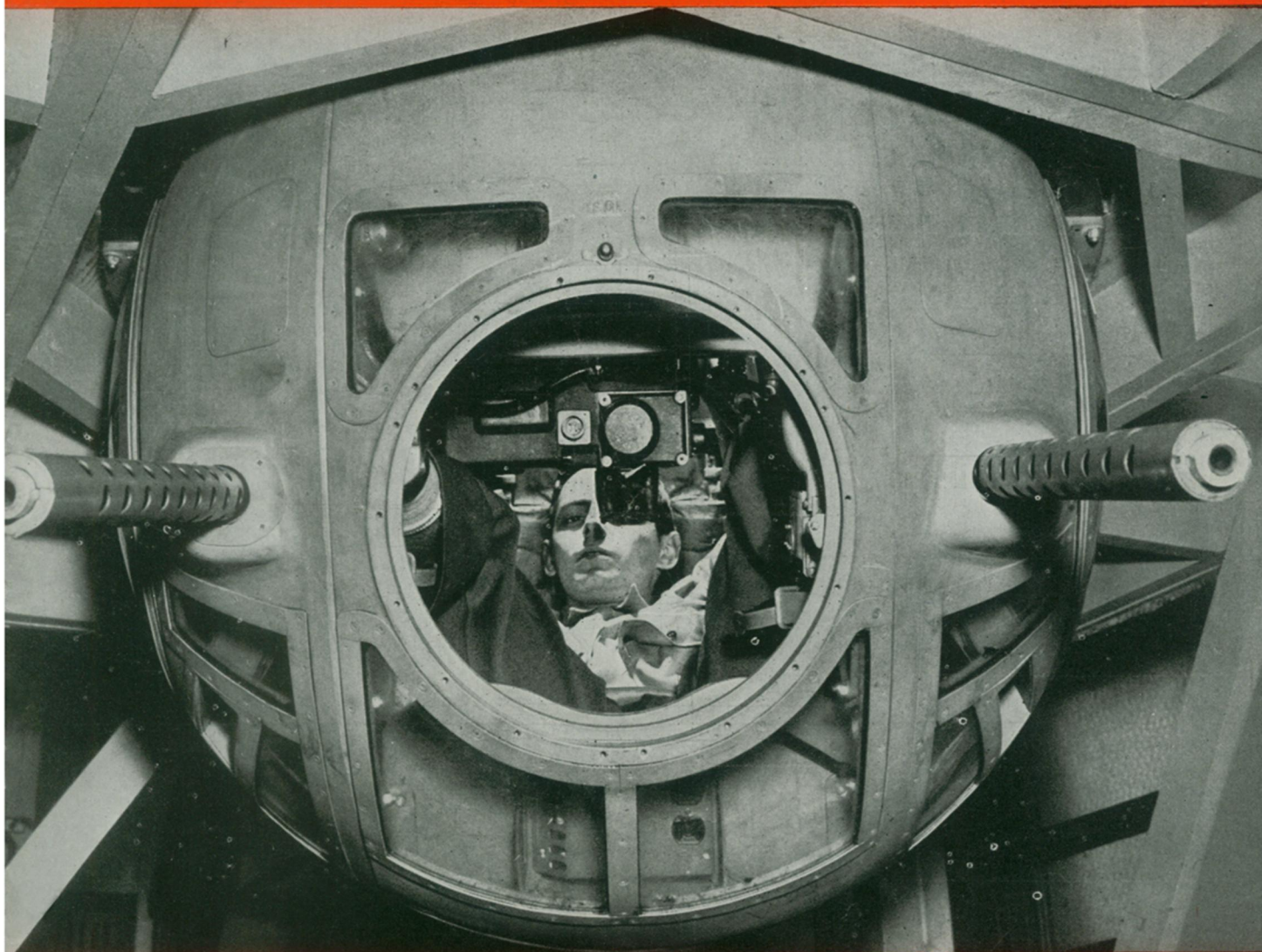


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SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE

• JULY 10, 1943



Secret Sight

See Page 25

A SCIENCE SERVICE PUBLICATION

Do You Know?

White cement floors that reflect about 40% of the light are used in some aircraft factories to *illuminate* the under sides of planes on which work is in progress.

Citric acid, used extensively in pharmaceuticals, foods and beverages, is now allocated by the government; it is obtained from citrus fruits and the fermentation of molasses.

Silver-lead solder, now used increasingly because of the shortage of tin, contains 2.5% silver, 5% tin and 92.5% lead, while the ordinary tin-lead solder is from 30% to 40% tin, the rest being lead.

Magnetic metals are tested for invisible cracks and flaws by putting them in magnetic fields; the edges of any cracks become magnetic poles causing iron powder sprinkled on the metal to collect at these spots.

The recent establishment of the *Meteorological Institute* at Medellin, Colombia, is a recognition that weather forecasting is now a matter of hemisphere interest because of transportation, agriculture and public health.

Some 325,000,000 gallons of *molasses*, now in storage in Cuba, Puerto Rico and the Dominican Republic, may reach American commercial alcohol manufacturers soon because of a new process of dehydrating and packaging.

Question Box

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What do Canadian fliers carry in their belts? p. 31.

AGRICULTURE

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BOTANY

How can you tell what wild tropical plants are good to eat? p. 29.

CARTOGRAPHY

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CHEMISTRY

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GENERAL SCIENCE

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MEDICINE

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Does heat rash ever become a serious ailment? p. 21.
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How can childbirth be made safer? p. 31.
What new and abundant source of vitamin B₂ has been found? p. 21.

MILITARY SCIENCE

Have any mystery enemy weapons been found? p. 23.

NUTRITION

Is food-mold always dangerous? p. 22.
What book tells Army fliers how to get along if grounded in the Arctic? p. 24.

PSYCHOLOGY—PHYSIOLOGY

How many areas affected by nerve injuries be mapped? p. 19.

PUBLIC HEALTH

What action is being taken to insure that women workers can get all the safety shoes they need for war work? p. 24.
What is the condition of the health of America's children? p. 21.

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article.

When plants now under construction are completed this fall, Texas will be the leading state in the production of *synthetic rubber*.

Cotton fabric production for the first three months of 1943 was over 27,000,000 linear yards more than in the same months last year.

Atabrine is producing results in the Amazon rubber country; in one area malaria, which recently affected 15% of the population, now affects only about 3%.

Swordfish caught off the New England coast average around 300 pounds in weight; one, at least, weighing 1,000 pounds has been landed.

Smoke meters have been developed to measure the density of smoke from internal combustion engines; the density indicates the quality of combustion.

Wild and cultivated *fique*, which resembles the Mexican henequen used in rope-making, is gathered around Cucutilla, Colombia; its fibers are used in making coffee bags.

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"PERISCOPE ON THE STARBOARD QUARTER!"



IN SUBMARINE-infested waters, a speeding destroyer must be able to change its course in a split-second—to drop its deadly ashcans on enemy U-boats.

The secret of the destroyer's great speed and maneuverability is the tremendous power of its turbines, operating at steam temperatures high enough to make the turbine blades glow!

This introduces a difficult problem in turbine construction. The highly heated metal parts "creep" under stress. The metallic grains

slowly slide over each other. The metal tends to flow out of shape.

Excessive "creep" would quickly destroy the turbine—due to collision between the blades and other parts of the turbine, which are spaced only a fraction of an inch apart for maximum power.

Westinghouse first introduced the steam turbine in the United States and has built thousands during the past 45 years. And much of the success of Westinghouse steam turbines is due to the intensive study of "creep" by scientists in the Westing-

house Research Laboratories.

As a result of the "knowhow" gained through this research, the "creep" in some turbine metals has been reduced to 1/10,000th of an inch per inch per year—less than 1/64th inch per inch in 100 years.

This has guided the development of metals capable of operating at greatly increased temperatures and speeds—and secured more power per pound of turbine, a vital necessity in a destroyer!

Westinghouse Electric & Manufacturing Co., Pittsburgh, Penn.

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