

MEDICINE

Prevention of Jaundice

If "pilot experiment" of National Institute of Health is confirmed, passing serum in thin stream through artificial sunlight may prevent bad effects.

► A "PILOT EXPERIMENT" suggesting that artificial sunlight may be the weapon for fighting the danger of jaundice in persons who get human blood serum for transfusions or protective inoculations is reported by three U. S. Public Health Service scientists at the National Institute of Health.

The scientists are Dr. John W. Oliphant, Dr. Alexander G. Gilliam and Dr. Carl L. Larson.

The problem caused national concern last year when more than 28,000 soldiers developed jaundice following inoculations against yellow fever. The Army solved its problem by switching to another type of anti-yellow fever vaccine which does not contain human blood serum. So far as known this new vaccine has not produced jaundice.

Jaundice, perhaps of the same type, was the major disease with which the Nazis had to deal on the Eastern front last year, German medical reports only now reaching this country reveal.

Even though our fighting men are not now in danger of jaundice from vaccinations protecting them against yellow fever, cases of the same ailment have been reported among civilians who were given convalescent serum for measles and mumps and following blood transfusions.

If the findings of the Public Health Service pilot experiment are confirmed by further tests, the danger of jaundice following transfusions might be averted by passing the blood or serum for the big transfusion banks in a thin stream through artificial sunlight. For smaller quantities of human serum, used to prepare vaccines against disease, advantage might be taken of the fact that about two and one-half months after a person has had this jaundice, the disease-producing agent disappears from his blood.

The cause of the disease is believed to be a virus but so far scientists have been unable to identify it, or to give the disease to laboratory animals. For the Public Health Service studies, 189 persons volunteered to get the disease so that their blood could be used to learn more about it. Most of them had only mild attacks and all recovered.

This serum jaundice is apparently not caught by contact with patients, although acute infectious jaundice is. Some scientists believe the two are different diseases with different, unknown germ or virus causes. Others think they are the same and that the differences are due to the difference in getting the disease through serum inoculation or through contact with infected droplets on the patient's breath.

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"These components are produced by three different groups of manufacturers who have until recently made no effort to coordinate with each other on the radio noise problem," said Mr. Foulon, pointing out that solution of the noise problem depends on each party's accepting his part of the total responsibility.

Use of the trouble-shooting and fix-it method for correcting radio noise problems at the Douglas Aircraft Company from 1938 to 1940, engineers were told, "led to the realization that the problem should be handled by using proper engineering methods in the first place so that conditions leading to the coupling of radio influence sources to radio equipment could be avoided. Extensive bonding and shielding could then be reduced to the amount actually required to insure a noise-free installation."

Full use of the methods proposed requires teaching the subject to the electrical and radio design engineers, Mr. Foulon urged, perhaps accomplished by preparation of a manual of general material to make the designer aware of the problems involved, and supplemented by material applying to each separate airplane model.

One of the newer concepts of electrical design cited by Mr. Foulon is the discovery that practically all conduits, except that which shields the ignition system and some radio wiring, may be eliminated. This is resulting in economy of labor and material, reduction of vulnerability to gunfire, easier repairs both in flight and on the field, and a saving of weight.

Such developments require that the system of rigid detail specification be abandoned, Mr. Foulon maintained, and the emphasis put upon performance requirements of the completed plane.

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RADIO

Less Radio Noise

Proper engineering methods urged to prevent the need for later trouble-shooting and fix-it methods to get rid of interference in all-metal aircraft.

► NEWER CONCEPTS of chasing noise from radio installations in all-metal aircraft must be adopted in an eleventh-hour effort to replace obsolete practices, Fred Foulon of the Douglas Aircraft Company, El Segundo, Calif., told the American Institute of Electrical Engineers meeting in Salt Lake City.

"Increased use of special radio equipment," he said, "requires that this prob-

lem be approached from an engineering standpoint in order that the most economical use may be made of available radio noise elimination methods."

Message-blurring crackles that affect the safety of airmen are either due to weather or the airplane's electrical equipment. The latter results from electrical give and take between the airplane's radio receiver, the wiring and antenna.

INVENTION

Roman Gets Patent On a Harmless Bomb

► RECENT war events have introduced a wry note of irony into one of the recent U. S. patents. It is on an invention by a Roman citizen with a German name, Erwin Puchner. The subject of the patent, No. 2,328,491, is a bomb. However, although it is filled with powder, it is neither an explosive nor an incendiary bomb. The powder is of the kind that smothers fires; it is a fire extinguisher.

Rights in the patent have been vested in the Alien Property Custodian.

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