

MEDICINE

New Vaccine Gives Immunity To American Typhus Fever

A NEW VACCINE which promises to give protection against the endemic typhus fever of the United States has been developed by scientists of the U. S. National Institute of Health, Drs. R. E. Dyer, W. G. Workman, A. Rumreich and L. F. Badger. The vaccine, made in the same way as was that for Rocky Mountain spotted fever, has been successfully used to protect guinea pigs against typhus, and when further perfected it will be used on human beings. The first persons to be given it probably will be the group of men who have developed it, thus following the usual custom of scientists of trying their new products on themselves first.

The vaccine was made from typhus fever infected rat fleas. The fleas were mashed up in a salt solution. Carbolic acid was then added to the emulsion and the whole mixture allowed to stand for five days. This weakened the typhus germs so that they were no longer capable of causing typhus fever to develop, yet were able to stimulate the body's specific powers of resistance to the disease. About half of the guinea pigs receiving the vaccine developed resistance, or immunity as the scientists call it, to typhus fever within two or three months. By using a stronger virus from which to make the vaccine, Dr. Dyer and associates hope to give a higher degree of protection against the disease.

Milder in United States

Typhus fever in the United States is much milder than the disease as it occurs in European countries. There, it is highly fatal, and occurs where crowding or poverty or other factors produce unsanitary conditions. It frequently follows wars and was very prevalent after the World War. In this country it is not fatal, although it is an illness lasting from two to three weeks. It was once thought to be the same as typhoid fever, but in the middle of the nineteenth century the two diseases were distinguished.

Typhus fever is caused by a virus which is transmitted in the United States by the rat flea. In Europe it is caused by a slightly different strain of virus and is transmitted by the body louse. Forms of typhus very similar to the

American have been reported from Australia, South America, Mexico and the Dutch East Indies. Dr. Dyer hopes to get strains of the virus causing the disease in these countries to determine whether it is the same as the American.

Science News Letter, July 2, 1932

ENGINEERING

Hollow Steel Planks Form New Flooring

HOLLOW steel planks are welded together to form a new type of flooring which has been developed at the Mellon Institute of Industrial Research in Pittsburgh by Dr. J. H. Young.

Homes, apartments, office buildings and even factories can adopt this kind of construction, Dr. Young explained. He expects it to speed up building, reduce costs and prevent the waste of floorspace. Sections of steel for use in forming the new flooring are already being produced commercially.

Each so-called steel plank is made up of four keystone-shaped ducts, hence the name keystone beam flooring for the new development. When a number of these planks are welded together they make a heavily ribbed flooring which is exceptionally strong.

"Besides being incombustible and fire-safe," Dr. Young stated, "this floor slab is exceptionally adaptable to various types of finishes. Concrete fill may be applied directly to the surface. Ceilings can be suspended from the underside of the flooring, as can steam or water pipes. Plumbing, wiring and various other services are easily installed."

The new type of flooring is seen as a boon to skyscraper construction because of the great reduction in weight it effects. Its keystone-arch-shaped hollow steel slabs, which take the place of masonry types of floors, can be handled as readily as heavy wood planking.

The slabs are about four and one-half inches thick and 24 inches wide. They are made as long as 12 feet 5 inches at present. The readily accessible ducts or cells greatly facilitate the installation of electric wiring.

Science News Letter, July 2, 1932

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2101 Constitution Ave.,
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