

PUBLIC HEALTH

**Illinois, Texas, California
Hard Hit by Polio Epidemic**

► INFANTILE paralysis is still on the increase in many areas of the nation, with Illinois joining Texas and California during the past week as an epidemic center, U. S. Public Health Service reports show.

With three states, including hard-hit Texas, still not reported, the nation tallied 678 new cases for the week ending Aug. 21, already an increase of nearly a fourth over the previous week's total of 546 for all states.

New cases in Illinois shot up to 117, as against 70 for the previous week, with Chicago and nearby Cook County showing a heavy incidence.

California reached a new high of 163 cases after a downward trend that had raised hopes that the epidemic was slackening. Two Midwestern states that had so far remained in the background of the polio picture attracted the attention of health officials: Ohio jumped from one to 14 cases and Kentucky from three to 22.

Danger point on the eastern seaboard seems to be Connecticut with 47 new cases for the week ending Aug. 21, as against only 27 reported the previous week. Many of the cases were around New Haven, where Navy and Marine Corps trainees were reported to have had their liberty restricted because of the outbreak.

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AGRICULTURE

**Chocolate from Ecuador
To Help Feed United States**

► COCOA, chocolate and other cacao products for the United States may soon be obtainable in increasing quantities from Ecuador in equatorial South America. Other tropical and semi-tropical products which in pre-war days came from the Far East, may in post-war days come more largely from the Western Hemisphere, from its tropical regions on the Pacific coast. A "good neighbor" rehabilitation project in El Oro Province, Ecuador, has this vision as its great objective.

This project is being carried out under the leadership of the Office of the Coordinator of Inter-American Affairs in cooperation with the government of Ecuador. The area concerned, the province of El Oro on the south coast of Ecuador, was laid waste in 1941 in the

century-old boundary dispute between Peru and that country. The actual rehabilitation work in the field started a year ago.

At the end of a year, El Oro now has a good cacao crop for export, as well as some tobacco and coffee, and a record-breaking crop of rice for feeding its own people. It is harvesting rubber from native trees, and gathering native fibers and making bags for packaging its export materials. Poultry and cattle are assisting in its home economies. America's investment in capital, technical assistance, and in good-will may be amply repaid.

El Oro province is about half the size of Connecticut. Its population is around 77,000. It has tropical lowlands near the coast and a high, cool mountainous area inland. It is capable of producing all of its own needs in food and much for export. By way of the Panama Canal, it is about 3,000 miles from New York.

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PUBLIC HEALTH

**Dengue Fever Outbreak
Reported in Honolulu**

► DENGUE FEVER has broken out in Honolulu. Reports just received by the U. S. Public Health Service indicate that 76 civilians were stricken up to Aug. 20, the number of cases nearly doubling in about 10 days. Airmen returning from the southwest Pacific are believed to be the source of the infectious disease.

Mosquito eradication measures are being pushed, as the tropical disease is spread by the same mosquito species that carries yellow fever.

Dengue, also known as breakbone fever or dandy fever, is believed caused by a virus which mosquitoes pick up by biting a patient who has it in his blood.

Symptoms come on suddenly after an incubation period of three to six days. Fever goes up rapidly and may reach 105 degrees. Severe pains are felt in the joints, muscles, head and eyes, often accompanied by sore throat and catarrhal symptoms.

After three or four days the temperature drops to normal and the patient feels better. But there is usually a relapse after a day or two and a rash like measles appears.

Dengue occurs mainly in Persia, Egypt, India and the West Indies, where there are sporadic epidemics.

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IN SCIEN

PUBLIC HEALTH

**Women Analyze Dust
Found in War Industries****See Front Cover**

► ANALYSIS of dust in war industries is important if the danger of harmful exposure is to be kept at a minimum.

Women at the National Institute of Health in Bethesda, Maryland, are shown on the cover of this week's SCIENCE NEWS LETTER performing this important task under the supervision of Dr. W. W. Smith.

This picture is in response to a request from the War Manpower Commission that the various tasks which women can do, sometimes not directly connected with defense jobs, be given greater publicity. The man-power problem today is in a great part a woman-power problem as men inducted into the military services must be replaced by women and older men. By the end of 1943 it is estimated that 17,400,000 women must be working, not necessarily in the factory, but in stores, schools, and offices. A scientific job, these days, is practically certain to be a war job.

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AERONAUTICS

**Future Planes to Have
Better Spacing of Windows**

► POST-WAR stratosphere planes can have their windows spaced the way passengers like them best, through the application of a panel construction method on which patent 2,327,636 was granted to John Gerber of Burbank, Calif., assignor to the Lockheed Aircraft Corporation.

In monocoque fuselage construction, in which the shell of the craft supplies most of its own mechanical stiffening and support, locations of particularly stressed areas sometimes conflict with the convenient spacing of windows, and this in turn may necessitate entire redesign of passenger accommodation. Mr. Gerber's method permits the inseting of a whole long panel down each side of the fuselage, carrying window openings at the right intervals for most convenient seating.

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CE FIELDS

NUTRITION

Soybeans Found to Contain More Vitamins Than Wheat

► SOYBEANS, which are being boosted as a supplement to our rationed wartime meat supply, have been found to be good sources of a number of vitamins, in analyses made by Prof. Paul R. Burkholder of the Osborn Botanical Laboratory at Yale University (*Science*, Aug. 27).

Prof. Burkholder determined the percentages of seven vitamins in six of the soybean varieties commonly cultivated for human food. He found no great differences among the varieties, but he did discover that most of the vitamins tested change in concentration as the beans ripen. Thus, thiamin, often called the morale vitamin, is more abundant in ripe beans than in green ones; whereas riboflavin has higher concentration in the green beans. This may eventually be a matter of dietetic importance, since the beans can be eaten either way.

Prof. Burkholder also compared the vitamin concentrations in soybeans, lean beef, lean pork and whole wheat. In all but one (niacin), the beans had a decided advantage over the wheat, and as sources for most of the vitamins they were able to compete on at least even terms with the two kinds of meat.

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ENGINEERING

Engineering Society Urges Post-War Construction Plan

► PLAN after-war constructions, both private and public now, so that work may begin immediately at the end of the war without an intervening unemployment period.

Every community should plan so that work will be available to homecomers from the armed services and war industries in their own neighborhoods.

This immediate program is urged by the Board of Directors of the American Society of Civil Engineers. This society, the oldest national engineering society in the United States, states that it is a "conservative" organization, but its officers feel that no time should be lost in preparing for post-war work so that

ill-advised and unnecessary engineering projects will not be undertaken in a mad scramble to "make-work."

Federal money may be necessary for public works, but in practically all cases, the report urges, preference should be given to self-liquidating projects, or "pay-as-used" projects, such as water supplies, bridges, public markets, hospitals, motor tunnels, drainage and irrigation projects. From such undertakings the Federal government may expect reimbursement.

Many local communities will be able to finance their own undertakings through local taxation, the civil engineers state. These include new school buildings, street-repairs, sewage disposal, park improvement, library construction, municipal buildings and public health provisions. States also will be able to finance state-wide projects. The A.S.C.E. recommendations hold that Federal financial aid "should be available only upon the requirement that any and all such financial assistance shall be returned to the government when the financial provisions for the construction of the project have been completed."

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ENGINEERING

Coffee Can-Making Method Applied to Fuse Containers

► METHODS used in manufacturing coffee cans, applied to the making of fuse containers in at least one Naval magazine, have speeded up production by five-fold and decreased cost to from one-third to one-ninth of the cost under pre-war methods, saving over \$3,000,000.

Before the new technique was adopted by the Navy, fuse containers were made by hand by sheet metal workers and tinsmiths. After fuses were packed at loading plants, the containers were sealed in these plants by hand-soldering.

Machine methods have now been substituted, the same methods used successfully for years in producing hundreds of millions of cans annually. Machine-sealing is used at the loading plants.

In actual tests the new machine-made, machine-sealed containers are shown to be superior to the old hand-made ones. They keep the fuses in better condition so that they are more reliable in use. They will withstand 15 times the pressure without leakage. No duds result from their use. They have the same reliability as metal containers for perishable foods.

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MEDICINE

New Device Would Make Loading Ambulances Easier

► THE PROFIT MOTIVE, supposed to be the dominant drive in all matters relating to patents, steps aside for a combination of humanitarian and patriotic impulses in the case of U. S. patent 2,327,680, which has just been issued to Joseph G. Tavaris of Sutter Creek, Calif.

Mr. Tavaris' invention is an inclined loading track to be used at the loading end of an ambulance, with the double objective of making the loading process less painful and risky to the patient and less laborious to the ambulance attendants. In present practice, the gurney or wheeled stretcher-like carriage on which the patient rests is lifted bodily by two or more men and slid into the ambulance. Mr. Tavaris states that the gurney can be pushed right up the two inclined channels of his loading track by one man, with no jolts or risk of being dropped. An easily reached lever makes it possible to lock the device against back-sliding at any desired point.

Rights in the patent have been vested in a unique type of assignee: American Legion Amador Post No. 108, of Jackson, Calif.

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CHEMISTRY

Better Plastic Layers Designed for Safety Glass

► SAFER safety glass, made so by a better, stronger plastic layer in its sandwich construction, is the promise of the invention protected by patent 2,327,627, issued to G. J. Esselen of Swampscott, Mass., and assigned by him to the Monsanto Chemical Company.

The transparent plastic sheeting used in safety glass is difficult to make. It must be of a uniform thinness, yet free of strains that might impair either its optical qualities or its mechanical strength. It must have a certain stickiness, so that it will adhere to the glass layer on either side, and this makes it very mean stuff to handle in the necessary preliminary heat-processing.

Mr. Esselen overcomes these difficulties by extruding his sheet through a slot with highly polished edges. It is immediately led onto an endless belt of polished metal, where it receives the necessary heat treatment.

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