

PUBLIC HEALTH

Meningitis Cases Reach Highest Number Since 1927

➤ MENINGITIS cases throughout the nation in the past week reached the highest figure for any week since 1927. The total for the week ending March 6 reported by state health officers to the U. S. Public Health Service is 546. This does not include any cases in Indiana, still unreported, but does include 25 delayed case reports from the previous week.

For the first nine weeks of this year the total number of cases has reached about 3,500. This figure, recorded in less than one-fourth of the year so far, is one-third of the total reported in 1929, the biggest meningitis year in Public Health Service records, when a total of 10,551 cases with 4,781 deaths was reported. No figures on meningitis deaths this year are as yet available, but it is believed the sulfa drugs are saving many lives in the present outbreak.

The peak of this outbreak should come sometime this month, meningitis being a winter and spring disease chiefly. Last year, however, the number of weekly cases continued at a high level throughout the summer and early fall. It is impossible to predict whether that will happen this year.

The outbreak is concentrated chiefly in the states along the Atlantic and Pacific coasts.

Influenza, believed by some authorities ready to flare into an epidemic of 1918 scope this year, declined from 5,096 cases the week ending Feb. 27 to 4,290 cases the week ending March 6.

Science News Letter, March 20, 1943

NUTRITION

Food Composition Group Set Up for the Army

➤ AT THE request of the Quartermaster General of the United States Army, the National Research Council's Food and Nutrition Board has organized a Committee on Food Composition to collect, coordinate and appraise food composition data. Dr. C. A. Elvehjem is Chairman. The Committee is to act as the repository and point of dissemination for authentic data on all foods being used or considered for use by all branches of the Military Services.

Proximate and mineral composition as well as analyses for vitamins A, C, thiamin, riboflavin, and niacin are required as a basis for nutritional evalua-

tion of these foods. Data on new products, processed foods and dehydrated meats, fruits and vegetables especially are needed.

The Committee has already enlisted the cooperation of Federal and State laboratories throughout the country. However, it is also aware that a great wealth of food composition data has been accumulated in the course of research and routine analyses by laboratories.

An appeal is being made to these laboratories of the food industries to make their data active in the war effort. The Committee assures that data received for this purpose will be handled with such reservations as should be exercised in the official utilization of this information by the Armed Services only.

Those having information to offer are requested to address Dr. Paul L. Pavcek, Secretary, Committee on Food Composition, National Research Council, 2101 Constitution Avenue, Washington, D. C.

Science News Letter, March 20, 1943

MENTAL HYGIENE

Mental Disorders Are Big Problem, New Survey Shows

➤ AN EVER-BROADENING research program to find causes of and ways to heal mental disorders is revealed in a study issued by the National Committee for Mental Hygiene.

The magnitude of the problem is seen from the findings that mental disease "fills more hospital beds in this country than all other disabling diseases combined," and that there is a "great and evergrowing demand for hospital and clinic accommodations for the care and treatment of sufferers from mental and nervous disorders."

Building more and more hospitals is a "defeatist policy" of handling the problem, Dr. George S. Stevenson, medical director of the committee, states. Acceleration of psychiatric research into methods of prevention and treatment is believed to be a better way.

"The initial advance usually seems to be with those private agencies that 'can follow a hunch' on a day's notice, using whatever means happen to be at hand, and that have again and again furnished a stimulus to public progress," Dr. Stevenson said in explaining how the committee, after first studying research in public institutions, made this second study of private mental hospitals and clinics, university and medical school research centers.

Science News Letter, March 20, 1943

IN SCIEN

ENGINEERING

Standard Specifications Aid War Production

➤ WAR PLANE output is being speeded by the production of aircraft parts by thousands of factories scattered throughout the country. These converted plants are assisted in their war work by the use of standard specifications distributed by the Society of Automotive Engineers.

The specifications include precise engineering instructions covering processes and materials, types, qualities and tolerances. They have enabled widely separated plants to turn out standard aircraft parts which on the assembly line in the warplane factory are used in the assembling of the completed plane.

Metallurgists and material engineers representing the aircraft industries, and Army and Navy officials cooperated in writing the specifications. Some 283 specifications have been completed. Others are in preparation. Nearly half of those originally issued have been revised to meet newer aircraft specifications.

Science News Letter, March 20, 1943

METEOROLOGY

Chief of Weather Bureau Gets Aeronautics Award

➤ THE CHIEF of the U. S. Weather Bureau, Comdr. F. W. Reichelderfer, has been chosen as this year's recipient of the Robert M. Losey Award, in recognition of outstanding contributions to the science of meteorology as applied to aeronautics. Presentation was made at a dinner held by the Institute of Aeronautical Sciences in New York.

Comdr. Reichelderfer has been head of the Weather Bureau since January, 1939. Previous to that time he had been a meteorological officer in the U. S. Navy. He has been particularly interested in the development of the radiosonde, by which data on upper-air conditions are transmitted automatically from a small sending set attached to feather-weight instruments carried aloft on a small, unmanned balloon.

Science News Letter, March 20, 1943

CE FIELDS

ENGINEERING—AERONAUTICS

Giant Blimp Hangars Will Be Made From Timber

See Front Cover

► FIRE-RESISTANT wood instead of steel is being used to build the giant hangars for the Navy blimps that will appear along America's seacoasts.

The great structures, made fire proof with a mixture of ammonium and boron salts, have arches 17 stories high. They are about 1,000 feet long and 250 feet across. Ten football games could be played at once on the huge floor space—but probably won't be.

The arches will rest on concrete frames 24 feet high.

The doors will be separate structures which can be rolled into place against the front of the hangar, thus overcoming the problem of developing sufficient strength in the roof framing to meet wind pressure. The doors contain the only structural steel used in the entire structure.

Science News Letter, March 20, 1943

ENGINEERING

New Method of Making Gears Saves Manpower

► GEARS FOR TANKS, trucks and other military vehicles are being forged on presses without the usual machining, by a new process developed by Timken-Detroit Axle Company engineers, in Detroit.

Need for scarce machine tools is eliminated and thousands of hours of skilled labor are saved. Former methods required cutting the gear teeth into forged blanks of steel by a generating process, often followed by roughing and finish machining.

About half the steel used when differential pinions were machined from bar stock will now be saved, company officials report. This will amount to more than a million pounds of high-grade steel conserved during the current year from the manufacture of hundreds of thousands of pinion gears.

The process was developed as a result of a modern type forging machine that produces the gears almost as fast as shelling peas from a pod. And the method is so accurate that machining of gear teeth has been eliminated entirely and only three other machine operations are necessary to finish the job.

Increased strength is said to be an additional advantage, stemming from the denser, harder metal structure produced by the forging operations.

Technical details of the process are to be announced at the meeting of the American Society of Tool Engineers on March 27, and complete information is being made available to others manufacturing similar types of gears for military purposes.

Science News Letter, March 20, 1943

ENGINEERING

Tiny Steel Mill Plays Role in Plane Production

► A BABY STEEL MILL is playing an unexpected role in plane production. Used by Howard Scott and William Johnson, Westinghouse research metallurgists, to replace a thermometer maker's dwindling supply of a special metal alloy, it has averted a threatened break in production of gauges.

Originally developed at Westinghouse as a metal sealer for electronic tubes, the alloy known as Kovar was then adopted to measure heat in plane engines and wings by electrical resistance.

War demands depleted the thermometer maker's original supply, which could not be replaced. Sample after sample was tried without satisfactory results. Then the metallurgists went to work, painstakingly measuring the alloy ingredients and carefully cooking the mixture in a tiny electric furnace.

Small 13-pound ingots were turned out and samples from them were closely checked in the laboratory to test electrical resistance. By making minute changes in the ingredients and process the research men finally duplicated the original supply of the special alloy, so that plane-thermometer output can keep pace with the Air Forces' demands. Within a few weeks four suitable ingots were produced.

"A half-dozen ingots of metal with the proper resistance will keep this plant supplied for years to come," Mr. Scott reported. "Each ingot contains enough Kovar to make 56 miles of wire. That's enough wire to make thermometers for 20,000 four-motored bombers."

Science News Letter, March 20, 1943

PUBLIC HEALTH

Huge Influenza Epidemic Possible in 1943

► AN INFLUENZA epidemic like the world-wide one of 1918 is "a very definite possibility in 1943". It could be fought very effectively, however, if the medical profession has enough doctors at the scene of an outbreak to vaccinate enough of the population against the disease to keep it from spreading into an epidemic.

This is the opinion of Dr. Thomas Francis, Jr., of the University of Michigan School of Public Health, who issued a "grim warning to the medical profession and the public" on the influenza situation at the National Conference on Planning for War and Postwar Medical Services held under the auspices of the Carlos Finlay Institute of the Americas.

The great hazard in the influenza situation today, as in 1918, is overcrowding, Dr. Francis states. Great care should be taken, he says, in our huge war production plants where thousands are closely crowded together, working long hours at top speed, so that their resistance is reduced to a minimum. Care should also be taken on crowded buses and trains where a disease such as influenza has an excellent chance to spread.

Vaccines against two types of influenza have been produced and Dr. Francis believes these greatly strengthen resistance to the disease, although he said their real value has not yet been conclusively proved.

Science News Letter, March 20, 1943

INVENTION

New Compact Farm Tractor Invented by Italian

► AN ENEMY-OWNED patent held by the Alien Property Custodian is on an unusually well-designed, compact farm tractor invented by Tullio Gavagnin of Genoa; his patent number is 2,310,775. The power is applied at the forward end to a pair of caterpillar-type treads equipped with spikes on each plate to give them better grip on the ground. These treads are relatively short, and they are pulled around wheels arranged in a flat triangular pattern, with a sloping front intended to give a better angle of attack on obstacles.

At the rear there is an axle and a pair of large wheels, over which are the driver's seat, steering wheel and gear shift, much as on the ordinary four-wheeled farm tractor.

Science News Letter, March 20, 1943