

MEDICINE

Convalescent Serum Used To Treat "Shipyard Eye"

➤ "STRIKING clinical improvement" in nine out of 10 patients suffering with "shipyard eye" has been achieved by injections into the veins of blood serum from other patients already recovering from the eye condition, Dr. Alson E. Braley and Dr. Murray Sanders, of New York, report (*Journal, American Medical Association*, March 27).

The group of cases treated is small and further studies with control cases are needed, the doctors point out, before convalescent serum can be accepted as a cure for the condition. However, since this eye ailment is occurring in epidemics in industrial areas in many parts of the country, and since no other treatment has materially shortened the course of the disease, the New York doctors feel justified in calling attention to the possibilities of convalescent serum treatment.

Seven of their 10 patients were "clinically cured," six of them in 48 hours. In two others the normal course of the disease was shortened and corneal changes possibly aborted. One case is classed as a failure because adequate information following treatment could not be obtained.

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ENGINEERING

Castor Oil Serves Many Purposes in the War

➤ CASTOR OIL is "bad medicine" for the Axis; presently Mussolini and his pals will be wishing they'd never heard of the nasty stuff. It turns up at war in all sorts of unexpected places, all the way from the hydraulic fluid that fills the recoil-absorbing cylinders of big guns to the paint that protects ships' bottoms. Some of these uses were detailed before the Ninth Annual Chemurgic Conference by J. Edmund Good, vice-president of the Woburn Degreasing Company of New Jersey.

Castor oil mixed with alcohol makes a good fluid for recoil cylinders, hydraulic brakes and the shock absorbers on airplane landing gear because it retains its consistency at all outdoor temperatures, not thickening and getting stiff as many other oils do when the mercury slides down below the zero mark. Russian gunners and truck drivers could tell you a thing or two about that; so could our own fliers who take Flying Fortresses and Lightnings up into the perpetual Arctic that reigns at the 30,000-foot altitudes.

Another usefulness of castor oil to aviators is hidden in the white folds of their nylon parachutes, for from castor oil comes sebacic acid, one of the chemical building-blocks of nylon in one process of manufacture.

Not from castor oil, but from the stems and leaves of the castor plant, a new form of sudden death is extracted, useful in a different kind of war—the unending campaign that farmers and orchardists have to wage against insects to save our food. It has long been known that castor-plant foliage is extremely poisonous, but this is the first practical use of it that has been made for insecticide purposes.

Until now, we have obtained all our castor oil from overseas sources, some of which are now in enemy hands, and all of which are under the handicap of shipping lack. So strong efforts are now being made to get castor-bean growing, once a thriving industry in the United States, back into action again.

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MEDICINE

Sulfa Chewing Gum Developed as Remedy

➤ THE DEVELOPMENT of a kind of sulfa drug chewing gum as a possible remedy for severe sore throats is announced by Dr. John H. Arnett, Dr. Wesley W. Spink, Dr. Ruth Boynton and Dr. Suzanne Agnew, of the Episcopal Hospital, Philadelphia, and the University of Minnesota Medical School, in a report to the Society for Experimental Biology and Medicine in New York.

The sulfa "chewing gum" is a paraffin block, of suitable size for chewing, in which sulfadiazine or some other sulfa drug is incorporated by mixing with melted paraffin and allowing the mixture to harden.

Use of the sulfa chewing gum by patients with acute pharyngitis or tonsillitis caused by streptococcus germs has not been tried long enough to tell how effective this method of giving a sulfa drug may be. The scientists found, however, that when patients chewed the paraffin-sulfa drug block, "remarkably high concentrations" of free sulfadiazine were maintained in the saliva.

This would have the effect, they believe, of getting the sulfa drug directly to the throat and tonsils where it might exert its curative effect, without the disagreeable side effects of the sulfa drugs which sometimes occurred when they gave them in moderate doses in capsules.

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HORTICULTURE

Rationing Lifted on Peas Intended for Garden Seed

➤ VICTORY gardeners will not need to surrender any of their precious ration points to get pea and bean seeds, the Office of War Information states. Rationing restrictions have been lifted on dried peas, beans and lentils intended exclusively for planting.

Thrift in the use of packaged seeds is recommended by the Department of Agriculture. It is pointed out that seedsmen, in order to give their customers a good dime's worth, have the habit of putting four or five times as many seeds into each ten-cent package of tomato, pepper, parsley and certain other vegetables as the ordinary home garden requires. The Department suggests that Victory gardeners arrange to share seeds, just as they take turns in using some of the now hard-to-get heavier garden tools.

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ENTOMOLOGY

Honey Bees Contract Disease; Queens Killed

➤ NOSEMA is a little known disease of honey bees, but it has been disastrous to many colonies because it kills the queen bees or stops their egg-laying. It infects worker-bees also but their loss does not prevent the production of future colonies.

Nosema seems to be associated with some types of dysentery, state C. L. Farrar and C. W. Schaefer of the United States Department of Agriculture, who have been studying the disease with scientists of the Wisconsin Experiment Station.

No adequate control for nosema has been found. It is more serious in colonies in the late winter and early spring months. This suggests that long confinement aggravates the problem. When bees fly out a great deal there is less chance of infection to spread. A mixture of pollen and soybean flour in the winter months is recommended to keep the bees in disease resistant condition.

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CE FIELDS

RESOURCES

Japs Have Rich Source For Raw Material of TNT

► JAPAN has one of the richest sources of high-grade toluene, raw material for TNT, in the oil from the great fields in Borneo, states B. Orchard Lisle (*Army Ordnance*). Mr. Lisle was formerly an editor of technical oil journals, and is now with the U. S. Army Air Forces.

Bornean crude oil is exceptionally high in toluene content, he states, and extraction with equipment now operating in Japan is easy. It is probable that the Japanese are already using at least some of the oil from Borneo, for the wells there are relatively shallow and easily re-drilled; and it is not certain that during the first rush of the Jap invasion they were thoroughly demolished anyway. The foresighted enemy planners also had oil-field experts openly in training for the conquest they as openly stated they intended to undertake.

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BOTANY

Oriental Flowering Cherry Not a New Name

► ORIENTAL Flowering Cherry, as applied to the beautiful ranks of trees that surround the Tidal Basin in Washington and frame the new Jefferson Memorial, is not a new title, applied under the spur of wartime emotion to remove the stigma of an enemy-alien name. Botanists in the U. S. Department of Agriculture have never called it anything else, insisting always that the popularly bestowed title of Japanese Flowering Cherry was incorrect because the tree is not native to Japan but to the Asiatic mainland, in particular Korea and China.

Confirmation of this official stand is now forthcoming from a scholarly Japanese source: the standard reference work that in Japan corresponds to the *Encyclopedia Britannica* in English-speaking lands. This Japanese encyclopedia definitely states that the tree is

native to an island off the coast of Korea, though it omits mention of its presence elsewhere. It adds that it was brought to Japan in the last half of the nineteenth century, and that its cultivation spread rapidly throughout the empire. The story of its introduction into the United States is well known.

Translation of the full text of the Japanese encyclopedia article follows:

"Somei-sakura ('Somei cherry'), *Prunus yedoensis*, is commonly called Yoshino cherry, but is in fact a distinct species from it. Somei cherry is said to have been cultivated first in Japan by Hanado at Somei in the early years of the Meiji era (1868-1912), but its original habitat was ascertained to be Futsuryu Island, Korea, by Dr. Kohara, Kyoto Imperial University, in 1932. The species has spread not only in and around Tokyo, but also all over the country. The flowers and leaves do not appear at the same time, the latter growing after the former have been shed. The buds are red in the beginning, but as the flowers blossom the color turns pink and then finally white. The growth of the tree is rapid. The tree is easily damaged and is relatively short-lived as compared to other species."

Cherry-blossom time in Washington in this wartime spring is expected to be about April 4, if normal weather for the season prevails. Thousands of recently arrived war workers in the city, and men on leave from nearby army camps, will see them, but the customary throngs of tourists will be absent.

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INVENTION

Fine Glass Filaments Made Stronger and Less Brittle

► GLASS filaments of spiderweb fineness, used in fabrics, insulation, etc., can be made stronger and less brittle by a method developed by a German, Armand Lamesch of Herzogenrath, near Aachen. His patent, no. 2,313,296, is vested in the Alien Property Custodian.

Secret of the strengthened filaments is their use of two kinds of glass, of differing coefficients of expansion. In one method of manufacture, a rod with a core of a second kind of glass is heated and spun out; in another, two concentric nozzles deliver the two kinds of glass simultaneously in molten condition. In any case, the resulting filament, no matter how finely drawn, still has the strong, sheathed core structure.

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CHEMISTRY

"Soapless Soap" Reserved For American Fighting Men

► "SOAPLESS SOAP," which makes water wetter and may be used in hard, soft, alkaline or acid water, and even in salt water dipped up from the ocean, is now used by American soldiers and sailors all over the world.

This new type of cleansing material is made with a base of petroleum or coal tar. It is known as a synthetic detergent. It will combine with whatever water is available to form a penetrating solution which rapidly reaches into the fibers of the clothing being cleaned. Greasy particles are removed without the formation of insoluble suds by this wetting process, as it is called in industry.

The detergent acts more quickly than common soaps so that the danger of shrinking of woolen materials being washed is lessened.

Soldiers in the field must do their laundry whenever the opportunity permits and must use whatever water is available. Sailors use sea water. Ordinary soaps made by treating fats and oils with an alkali can not be used with some of the waters encountered. It was desirable to find a cleansing material that could be employed under all circumstances. The result is the development of this new cleansing agent by the chemical industry, working with the Army, the Navy, and the War Production Board.

A toilet soap has also been developed which may be used by the fighting man regardless of the type of water in which he has to clean himself. Both the laundry and the toilet cleansing agents look like soap which causes them to be dubbed soapless soap. Like many soaps they reduce the effects of disease germs.

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METALLURGY

Tin From South America Is Processed in U. S.

See Front Cover

► THE STOCK PILE shown on the front cover of this week's SCIENCE NEWS LETTER, is of the strategic ore, tin. Brought from the mines of South America in bags, the ore goes through a crusher in a Southern smelter in the United States. It is then stored in these large stock piles. Later the pure tin will be extracted for use in war industries.

The cover illustration is an official photograph of the Office of War Information.

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