MEDICINE

Trench Mouth Remedy

Penicillin brings speedy recovery from this disease. Pain and other symptoms completely banished in 48 hours in the first 14 patients treated.

➤ PENICILLIN can bring speedy recovery from Vincent's angina, popularly known as trench mouth, it appears from two reports in the *Journal of the American Medical Association* (July 7).

Decided improvement in four to six hours, with pain and other symptoms completely banished in 48 hours, was achieved in the first 14 patients treated by Capt. Bernard M. Schwartz, Army Medical Corps, at the A.A.F. Regional Hospital at Truax Field, Madison, Wis. Altogether Capt. Schwartz has now treated 41 patients with similarly good results. He recommends giving the penicillin by hypodermic injection into the muscles in 20,000 unit doses every three hours until 100,000 units have been given.

Results with intramuscular injections were "so dramatic" that this method, giving 25,000 units of penicillin for four doses at three-hour intervals, is called "apparently the optimal treatment of Vincent's angina" by Maj. Paul L. Shallenberger, Lt. Col. Earl R. Denny and Maj. Harold D. Pyle, Army Medical Corps, in the second report.

Before trying the injections of penicillin, these medical officers had treated trench mouth patients at Gardiner General Hospital by swabbing a solution of the mold chemical directly onto the sore, ulcerated places in the patient's mouth. In these patients the ulcers showed marked improvement in 24 to 48 hours and pain in those who were suffering severely was rapidly relieved.

Comparing the results of penicillin treatment with other methods, including sulfadiazine lozenges, Maj. Shallenberger and associates found that the germs causing the trouble disappeared in 3.7 days, on the average, in the penicillin-treated group. The average time for this was 7.1 days in the group getting sulfadiazine lozenges and 8.8 days in the group treated with the standard trench mouth medicines, sodium perborate and hydrogen peroxide, chromic acid and silver nitrate, and oxophenarsine hydrochloride.

The most rapid response, however, came in a patient who was given 15,000 units of penicillin injected into the muscles every three hours for eight doses. Pain disappeared in six hours and the germs could not be found after 11 hours.

Science News Letter, July 14, 1945

ENGINEERING

Good for 100,000 Miles

Automobile tires that are practically blowout-proof and with non-skid qualities are expected. Progress toward these objectives is promising.

➤ AUTOMOBILE tires that will run 100,000 miles, practically blowout-proof and with greater non-skid qualities, are ultimately expected, declared John W. Thomas, directing head of the Firestone Tire and Rubber Company, in discussing the new $2,000,000 Firestone research laboratory.

"No one can estimate accurately how long it will be before such tires are on the market," he said, "but there is little question that through the limitless capacities of research these objectives may be achieved."

"A tire that would run 3,500 miles was the goal of the rubber industry several decades ago," Mr. Thomas stated. "Now it's not unusual for passenger car tires to run ten times that far and it is no trade secret that we ultimately expect to produce a tire that will run 100,000 miles.

"We know how to make blowout-proof tires," he added, "and we are making progress on the development of tires that are puncture-proof and have greater non-skid qualities."

The new laboratory was designed and constructed under the direction of Mr. Thomas who was the company's first chemist. It will be devoted entirely to research. It will serve as the focal point of the company's extensive program for the development of new products and the improvement of those now in use.

TOUGH TIRES—Chemicals used in compounding rubber are ground and mixed in this ball mill at the Firestone Tire and Rubber Company's research laboratory. The chemicals (also called compounds or pigments) are ground up by the stones as the jars turn on rubber rollers in the mill.

The building is a three-story brick structure, air-conditioned, and containing approximately 100,000 square feet of floor space. It has prefabricated steel inner partitions which can be moved to completely rearrange the interior as desired. It is equipped with modern facilities and with the latest scientific apparatus, including an electron-microscope that magnifies up to 100,000 times compared with 2,000 for more ordinary microscopes.

Among the special equipment are a forced vibrator to determine properties of rubber in motion; a plastometer to measure processibility of rubbers and rubber-like materials, and a relaxometer to study the effects of heat and oxygen on stretched rubber.

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Wood and wood products are still on the war critical list because of the unprecedented demand for lumber, pulpwood, plywood and other materials.

During one season, an active *bee colony,* gathering about 65 pounds of pollen, will have visited and provided free pollination for roughly a half-billion flowers.