

not accumulate under normal conditions when the tissues are supplied with oxygen via the blood stream. Normally such amines are rapidly destroyed by an enzyme, amino oxidase. They may also be inactivated by certain quinones which previous experiments suggested may have blood-pressure reducing qualities in rats with high pressures. The blood pressure lowering material found in the body and liver oils of fish is also believed to be a quinone.

With this background, the Philadelphia scientists decided to try another quinone, vitamin K, in rats with high

blood pressure resulting from insufficient blood supply to the kidneys.

Vitamin K is widely distributed in nature, among its richest sources being green leaves of different kinds, such as spinach and cabbage among food plants. A number of synthetic chemicals with vitamin K activity have been prepared and are available commercially. The anti-bleeding action of the vitamin is due to its part in the formation of prothrombin, first in a chain of substances essential for the clotting of blood when it is shed.

Science News Letter, May 6, 1944

Mr. Geisse does not believe that the development of the private airplane and its power plant will follow the pattern of gradual refinement of present designs. Nor does he feel that all the new developments will come from well-equipped and staffed laboratories.

"I expect," Mr. Geisse said, "that in the future as in the past much of the real development of the personal plane will be brought about by individuals with unorthodox ideas who have the stamina to stick to their ideas through hell and high water until they have proved that they were right."

Science News Letter, May 6, 1944

DENTISTRY

Chill Jaw To Kill Pain

Refrigeration may take the place of currently used drugs as a local pain-killer in dentistry. Proves effective in 15 out of 22 cases tried.

► REFRIGERATION of the jaw may replace currently used drugs as a local pain-killer in dentistry, it appears from trials reported by Lt. Comdr. J. S. Restarski, of the U. S. Naval Medical Research Center, Bethesda, Md. (*Journal, American Dental Association, May*)

Sixteen sailors and WAVES volunteered for the experiments, in which 22 cavities were filled under local refrigeration at the near-freezing temperature of one or two degrees Centigrade. Preliminary studies with animals had demonstrated that no damage to tissues of the jaw occurred as a result of such chilling. In 15 instances, complete anesthesia or loss of sensation was obtained, while in seven a mild degree of pain was experienced.

To prevent pain caused by abrupt temperature changes, a means of gradually lowering the temperature was devised. Room-temperature refrigerant, placed in the circuit between the refrigerating unit and the metal gum applicators, was replaced by degrees with cold refrigerant as a centrifugal pump circulated the solution.

Only those cases in which pain on drilling recurred after refrigeration was discontinued were included in the study, in order to be sure the pain would have been present if the area had not been chilled.

"These preliminary findings are very encouraging," Dr. Restarski declares, "but trials on a large number of patients of all ages are needed to determine the effectiveness, limitations and

practicability of this type of local anesthesia in dentistry."

The suggestion for using refrigeration as a local anesthesia in dental work came from George Chaydeane, an air-conditioning engineer. He and Comdr. A. P. Black, of the Navy Medical Corps, conducted the initial studies in 1937 and Comdr. Black suggested the further investigation reported.

Science News Letter, May 6, 1944

AERONAUTICS

2-Cycle Engine Suggested For Private Airplanes

► NO AIRPLANE engine suitable for the post-war private market is now available, declared J. H. Geisse of the U. S. Civil Aeronautics Administration at the National Light Aircraft meeting of the Institute of Aeronautical Sciences in Detroit. It is necessary that either engine design be so simplified that engines can be produced cheaply in relatively small quantities or they must be produced in quantities exceeding any probable demand for personal airplane use, he said.

Research work is needed in the development of a suitable power plant and, he emphasized, it should certainly include work on two-cycle engines because of their simplicity. It would be a boon to private flying, he added, if such research developed an engine that would have increased power without greater fuel consumption.

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