

MEDICINE

**High Blood Pressure,
Long Life Compatible**

➤ YOU CAN HAVE high blood pressure and live a long life, Dr. Hugh J. Morgan and Dr. Laurence A. Grossman, of Vanderbilt University School of Medicine, declared at the centennial celebration of the University of Buffalo.

Courage, serenity and optimism are the best medicines for the patient with high blood pressure, they believe.

They emphasized the importance of treating the patient, rather than the disease. In the vast majority of cases, they stated, the cause of the high blood pressure cannot be located and removed. Most students of the problem, they pointed out, are opposed to drugs prescribed specifically for reducing the blood pressure.

Drugs from potassium thiocyanate to extracts of mistletoe, garlic and watermelon seed are included in the ban because those which do lower the blood pressure are either poisonous when given continuously or have a passing effect and are not suited for prolonged use.

The doctors were equally unenthusiastic about diets, gland therapy and physiotherapy. Psychiatric treatment which aims at relieving tension and fears and developing confidence may help the patient live with his high blood pressure.

Science News Letter, October 12, 1946

ENGINEERING

**German Papers Aid
In Power Transmission**

➤ GREAT DAMS built by the United States for hydroelectric power plants, or others constructed for irrigation or flood control that produce electricity as a byproduct, can serve a much larger area by means of German developments.

German documents, now in America, outline procedures for transmitting power up to 500 miles over wires carrying 400,000 volts. Heretofore the maximum transmission was up to 300 miles, at 287,000 volts or less, officials of the Power Division of the U. S. Department of the Interior state.

These valuable documents were obtained by representatives of the Office of Technical Services, Department of Commerce, and now have been translated by the Interior Department. They indicate that Germany was far ahead of the United States in the development of

alternating and direct current 400,000-volt transmission lines, the Power Division declares.

The United States is using long-distance transmission with potentials up to 287,000 volts on the Boulder-Los Angeles line, a distance of some 250 to 300 miles. The Bonneville Power Administration, studying the problem of ultra high-voltage transmission since 1938, sees in the German system a solution by means of which large blocks of power can be sent to coastal and other communities 500 miles away. The Grand Coulee dam, also on the Columbia river, is located well within a 500-mile distance of much of the industrial northwest.

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GENERAL SCIENCE

**Pacific Scientific Outposts
To Be Living Memorials**

➤ UNDER A PLAN just announced, scientific outposts in the far-flung Pacific will become memorials to American fighting men who lost their lives in the Pacific area.

Dr. Dillon Ripley, Yale biologist, is leaving on a survey trip for the Pacific War Memorial Foundation to determine where the field stations for scientific research are most needed.

A national fund of \$10,000,000 will be sought by the Foundation under the presidency of Col. Archibald B. Roosevelt.

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CHEMISTRY

**Germans Used Sugar
For Making Glycerine**

➤ AMERICAN housewives saved fats to make the war-essential glycerine, but the Germans supplemented their supply by making glycerine from sugar.

This has come to light in postwar studies of German industries made on the spot by American investigators. The process is now revealed by the Office of Technical Services, U. S. Department of Commerce.

The sugar, in the German process, was first inverted in a weak solution of oxalic acid at approximately 75 degrees Centigrade, then neutralized with calcium carbonate. When the solids had settled, the solution was treated with charcoal and distilled. The resulting product contained about 40% glycerine, 40% propylene glycol, and 20% alcohols.

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IN SCIENCE

SAFETY

**Electric Warning System
Helps Control Fire**

➤ ELECTRICAL early-warning systems for use in homes and all types of buildings, trucks, buses and aircraft, give an audible signal or flash of a light if any of its heat-detecting elements scattered throughout the structure are heated much above normal atmospheric temperatures, indicating fire. Some are arranged to open valves on carbon-dioxide distribution lines to release the gas to extinguish the fire. It is a better and more sensitive system than the older automatic sprinkler type in which the heat of the fire melted or expanded a metal control, releasing piped water.

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METALLURGY

**Good Steel Made from
Low-Grade Iron Ores**

➤ WHEN America's high-grade iron ore is exhausted, which some predict may be within a few decades, domestic low-grade ores may be used to make excellent steels as a result of studies and experiments by the U. S. Bureau of Mines. The reserves of these low-grade iron ores are plentiful.

After 15 years' work on the problem, the Bureau now announces that it has found ways of producing pure metals from off-grade ores, and combining these metals to obtain steels and other ferrous alloys frequently superior to those made by standard methods from high-grade imported ores.

During these years, the Bureau has conducted studies in iron ore concentration, reducibility of ores and agglomerates, direct reduction of iron ores and concentrates by a wide variety of processes, special refining processes for iron, and the production of pure manganese, chromium and cobalt from low-grade ores by electrolytic processes. A special report gives many of the details. It may be obtained free from the Bureau. It is entitled "The Metallurgical Research Program of the Bureau of Mines Relating to Iron and Steel."

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E FIELDS

PLASTICS

World-Round Flight Tests Plastic Packaging

► SOMETHING NEW in testing—a globe-circling jaunt—is about to start. The effectiveness of a plastic packaging of various products is being tested on a round-the-world flight.

The value of the plastic coating on the various materials will be tested under all the different kinds of climatic conditions encountered by a plane encircling the earth. The cargo includes machinery, airplane parts, fragile chinaware, precision instruments, medicals, blood plasma, bottled fruit juices, fresh eggs, and other hard-to-ship products. Handling properties will also be tested. The cargo is to be transferred eight times during its 25,000-mile trip.

The plastic is known as "Seal-Peel." It is applied by dipping into it the article to be packaged. When no longer needed, it can be peeled off. The coating applied can be of various thicknesses. It is claimed to protect against breakage, scratches, rust, corrosion, fungus growth, tampering and moisture penetration.

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DENDROLOGY

Second Stripping of Trees Yields American Cork

► AMERICAN-GROWN cork moved one step closer to becoming a full-fledged industry, with the stripping of more than 1,000 pounds of second-growth cork from trees in California, six years after the first, or virgin bark had been removed. This second-growth, or reproduction bark ranged between one and one-half inches in thickness and was of first-grade commercial quality.

The movement for the large-scale planting of cork-oaks in the United States, to supply at least a part of the nation's cork requirement, was established by the late Charles E. McManus, former president and chairman of the board of the Crown Cork and Seal Company in Baltimore, Md. Initiated more than six years ago in California, the cork project is active in 22 states today.

During the past six years more than 12 tons of virgin cork have been removed

from over 500 cork trees. All of this cork has been processed and manufactured into cork products for thorough testing. In every case the home-grown product was found equal to the imported material of the same grade.

In the same period some 18 tons of cork-oak acorns have been collected and distributed over the warmer half of the country. This outstanding progress in planting cork-oaks has been achieved through the effective cooperation of forestry specialists and agricultural advisers interested in tree culture. Thousands of little cork-oaks are now growing from coast to coast and thousands more are being planted each year.

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CHEMISTRY

Plasticizer Makes Resins Resistant to Water, Oil

► BETTER protection of cloth and clothing from water, machinery from corrosion, electric circuits from shorting, and improved automobile finishes, will result from the development of a new substance to add to resins now used.

The compound makes the resins more resistant to water, oil and abrasion. These properties suggest its use in coated textiles, shower curtains, hospital sheeting, shoe soles, electrical insulation, and packaging. It may be used in automobile and furniture lacquers to provide tough, abrasion-resistant finishes.

Technically, the new material is a plasticizer. It is a product of Monsanto Chemical Company, and has been given "Santicizer 160" as a trade name. It is designed especially for use in polyvinyl chloride, polyvinyl chloride-acetate and polyvinyl butyral resins, but imparts desirable qualities to a wide variety of resins.

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CHEMISTRY

New Process Prepares Sweet Fruit Syrups

► SWEET CONCENTRATED fruit syrups are prepared by first acidifying the pulp with phosphoric acid, then adding lime to obtain a dense precipitate, then re-acidifying, after which the clear juice is drawn off and concentrated by evaporating off excess water.

This process is covered by patent 2,408-418, obtained by A. M. Erickson of San Jose, Calif., and J. D. Ryan of Campbell, Calif.

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OCEANOGRAPHY

Piled-Up Ocean Water May Cause Baby Quakes

► OCEAN WATER piled up in the tormented vortices of hurricanes is suggested as the probable cause of the miniature earthquake waves called microseisms, by Dr. James B. Macelwane, S. J., director of the Institute of Geophysical Technology of St. Louis University.

Microseisms get their start in the earth's crust under the ocean bottom when the wide, whirling cyclone of a hurricane passes over.

The whirling sweep of the storm area, he points out, sets the ocean into whirling motion also. The water converges toward the center, piles up there above normal ocean level. It becomes lighter under the action of higher temperature, lower atmospheric pressure, and addition of fresh water from the pouring rain.

It cannot flow outward against the constant push of the intruding winds; there is nowhere to go but down, so down the lighter surface water goes.

But at the same point on the way down, it encounters water sufficiently dense to stop it—with a bump. This happens repeatedly, as the storm center travels along.

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INVENTION

Freight Containers Useful In Air Transportation

► FREIGHT containers, those handy box-like affairs for carrying less-than-carload shipments by rail, have now been adapted for use in air transportation. U. S. patent 2,407,774 has been issued to Harlan D. Fowler of San Diego, on what might be called a "flying flatcar," by analogy with the already familiar "flying boxcar" planes.

Except for the pilot's cabin forward, and a small compartment for mail and small-package shipments aft, the whole fuselage is simply a platform on which a row of pre-loaded containers can be set and secured. In an alternative design, a similar platform for freight containers can be arranged along the top of a giant flying boat, above the passenger deck. Provision is also made for refrigeration, by mechanical means or with dry-ice, for planes that need to spend time on the ground in hot climates.

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