

INVENTION

Current U.S. Patents

A built-in beverage dispenser that pours hot and cold drinks for traveling motorists and can be fitted under the car's dashboard has been patented—By William McCann

► **THIRSTY AUTO** passengers can be served cold water, ginger ale or hot coffee automatically from a beverage bar located under the dashboard of the car.

The beverage machine, which was granted patent 3,168,914 by the U.S. Patent Office, utilizes the vacuum in the manifold intake under the hood to pour a selected beverage into a waiting glass. A beverage can be poured only when the engine is running and when the glass is in the proper position under the dispensing opening. The glass controls the operation of the device since it creates a vacuum when fitted into place under the opening.

Water for the coffee can be made hot by a suitable heat exchanger, which uses normally wasted heat from the exhaust of the car, reported inventor James R. Brown, Burlington, Ontario, Canada. A refrigerant system for the cold beverages can fit in the trunk of the car.

Thermotunnel Converter

A thermotunnel converter, a device that changes heat energy into electric power, was awarded a patent.

The converter, described as "far ahead of its time" by an Atomic Energy Commission official, will probably not be in commercial use for a number of years.

These converters are free from the inherent limitations of both thermionic and thermoelectric devices and give greatly improved operation between about 800 degrees and 1880 degrees Fahrenheit.

The device earned patent 3,169,200 for Fred N. Huffman, Baltimore, Md., and patent rights were assigned to the Government through the Atomic Energy Commission.

Deferred Action Battery

A battery that fits into an electrically detonated shell shot from Naval guns has been kept secret for nearly 18 years.

The battery, which is unaffected by temperature extremes and moisture conditions, supplies voltage to the explosive shell. It earned patent 3,169,084 for George M. L. Sommerman, Evanston, Ill., Dale C. Gerber and Roy D. Livingston, both of North Canton, Ohio. Patent rights were assigned to the Government through the Secretary of the Navy.

Automatic Water Control Gate

A gate located in a stream or irrigation channel lifts automatically when the water level upstream gets too high.

Too much pressure on the arc-shaped face of the gate from upstream water causes

it to lift and let excess water escape, thereby keeping the upstream water at a uniform elevation.

The gate, which is being used by the Department of Interior's Bureau of Reclamation on spillways at the Missouri River Basin Project, earned patent 3,168,814 for George R. Hurlburt, Farmington, N. Mex. Patent rights were assigned to the Government through the Secretary of the Interior.

Other Interesting Patents

A radio relay communication system by satellite earned patent 3,169,245 for Cassius C. Cutler, Gillette, N.J. Patent rights were assigned to Bell Laboratories, Incorporated, New York City.

A watering device for use in agricultural experiments measures the moisture in test soil samples, then waters the samples, if they need it. The device earned patent 3,168,797 for Frank Z. Patassy, San Francisco, Calif., and patent rights were assigned to International Agricultural Services, Inc., San Francisco.

For a list of registered patent attorneys and other Patent Office information write the Commissioner of Patents, Washington, D.C. 20231, or call 202-967-4058 for specific information.

• Science News Letter, 87:143 February 27, 1965

GENERAL SCIENCE

Light Helicopters Pinpoint Spraying

See Front Cover

► **HELICOPTERS** may revolutionize pest control spraying by precision flying that can release pesticides over forests and fields without contaminating streams and waterways.

Skimming over tops of forests at speeds of about 30 miles an hour, these light Hiller helicopters can fly lower and slower than the conventional fixed-wing light planes which usually fly at speeds from about 80 to 180 miles per hour, said an official of the Forest Service, U. S. Department of Agriculture. Helicopters can avoid streams and other water courses, and the down-draft from the rotor directs the pesticide directly into the trees.

Two large-scale helicopter operations undertaken by Washington and Idaho states killed as much as 99.7% of hemlock loopers and spruce budworms teeming in forests.

Seen on this week's front cover is the Hiller 12E, its rotor blades beating spray into trees in the Willapa Bay, Washington, area. This slow, pinpoint spraying does not contaminate oyster beds in the nearby bay.

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DOCTORS TRIM 2 INCHES OFF FLABBY WAISTS!

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