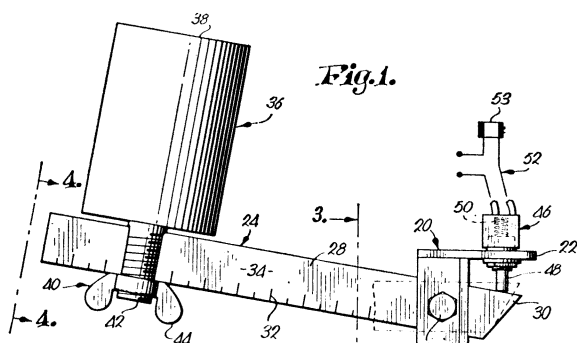


Current Patents



Irrigation Control

A device to shut off irrigation pumps when it rains received patent No. 3,309,474 last week. The automatic switch should save farmers money by eliminating unneeded irrigation, according to inventor Elmer G. Heinrich of Goodland, Kans.

The apparatus consists of a cup attached to a lever arm which moves up and down on a pivot. When rain fills the cup, the lever moves down. Its other end pushes a button switch to cut off power to the electric irrigation pumps. The rain cup can be moved along the lever arm so that the amount of rain needed to flip the switch can vary. This makes it possible to adjust for different crops, different fields, and different seasons.

Inventor Heinrich, who assigned half the patent to Selby S. Soward of Goodland, claimed the patent should be very helpful for night irrigation, when the farmer might sleep through a heavy rainfall or not be able to reach far-flung fields quickly. Soward said they hoped to put the device into production. He said the system

works very well, but they haven't been using it in the field because for the past few years "it's been so dry there hasn't been enough rain to turn off the switch."

Hot-Gas Generator

An electric generator using the principle of magneto-plasmadynamics—MPD—received patent No. 3,309,546 last week. Inventor Richard H. Boll assigned the patent to the Babcock and Wilcox Co.

Interest in MPD devices developed in recent years from the discovery that combination gases, when heated to around 4,000 degrees F., become conductors. If the superheated gas is passed through a magnetic field, electricity is generated in it. The same thing happens when a wire is passed through a magnetic field—the principle of the ordinary electric generator.

A superheated gas is much harder to handle than a wire, however, and a major obstacle in developing a practical MPD generator has been in finding materials to withstand the corrosive temperatures. The electrodes which draw off current from the charged gas are especially vulnerable, since they burn up if unprotected and become coated with nonconducting slag if cooled. The insulating material between electrodes also is a problem, since most insulators that can stand the heat become conductors at the high temperatures used.

The generator patented last week helps to correct both difficulties. The electrodes are protected by cooling them just to the point where a thin film of molten slag forms on them. The film, thin enough to conduct, prevents the hot gas from getting to the electrodes. The insulators are kept from conducting by cutting slits in them and blowing air through the slits.

New Ideas and Gadgets

New Ideas and Gadgets is an editorial service to readers; more information on items can be secured from the manufacturers.

Laboratory Grinder

Laboratory samples, small batches of plastic and rubber and other materials can be ground with this grinder equipped with two four-inch rotary cutters and one stationary cutter. Useful in vocational and technological schools for preparing laboratory samples for demonstrations, the 24 by 20 by 50-inch unit can prepare small batches in minutes.

Brabender Instruments Inc., 50 East Wesley St.,
South Hackensack, N.J. 07605

Microphone-Earphone Combination

Weighing only $\frac{3}{4}$ ounce, this compact and highly sensitive instrument can be used for underwater sound measurement as well as for a communication microphone and earphone. The unit, which is 1.25 by $\frac{7}{16}$ inches, is leakage resistant and can be driven directly by integrated circuit.

Y Square Marine Inc., 2001 S. Eastwood, Santa Ana, Calif. 92705

Sodium Ion Electrode

Useful for clinical, industrial and research laboratories, this glass membrane electrode detects sodium with high specificity in the presence of potassium ions over a wide

range of concentrations. The electrode, $\frac{15}{32}$ of an inch in diameter and $\frac{4}{8}$ inches long, is equipped with 30-inch coaxial leads and a standard pH input connector. Silver determinations can also be made with the unit.

Corning Scientific Instruments,
Corning Glass Works, Medfield, Mass. 02052

Wall Decorator

Patterns like those of wallpaper can be easily rolled on any painted surface with this unit consisting of a roller with an interchangeable design pattern and one of foam for feeding the paint. Suitable for professionals as well as the do-it-yourselfers, the roller, weighing about one pound, can be used with any paint including water, rubber and oil base paints.

Decoroll, P.O. Box 345, Milford, Mass. 01757

Dual Viewing Microscope

Two inclined binocular or monocular heads are included with this microscope that allows two persons to view the same specimen at the same time either side by side or opposite each other. Useful for teaching as well as for conference work, it has a built-in pointer, and permits independent focusing by the viewers.

William J. Hacker & Co. Inc.,
P.O. Box 645, W. Caldwell, N.J. 07006

1 April 1967 / Vol. 91 / SCIENCE NEWS 313