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### INVENTION

# Patents of the Week

Radio and television ventriloquist Paul Winchell received a patent for an internal, artificial heart, driven by a motor worn outside the body, which circulates the blood.

► A RADIO and television ventriloquist who has spent his life entertaining people has devised an internal artificial heart that was awarded a U.S. patent.

Paul Winchell, human member of the Paul Winchell-Jerry Mahoney team, patented an artificial heart, number 3,097,366, driven by a motor worn outside the body, which circulates the blood and is made of a material not poisonous or irritating to the body.

The lightweight heart will not strain the supporting organs, and includes an automatic means of switching to a reserve power supply. Although it has not yet been tested in a human being, Mr. Winchell plans to go ahead with tests and possible production in the near future.

Mr. Winchell, who has patented or has patents pending on more than 30 inventions, also received patent 3,097,407 at the same time for non-visible garters for women's hosiery.

His earlier inventions include a plasma plastic measuring container, a device for transferring gasoline from one car to another, a refrigerator defroster indicator, a fountain pen, and a reverse-image mask for children's entertainment.

### Echo Sounding System

An improved underwater ultrasonic echosounding system for finding fish in the sea has been patented by four British inventors.

The device, which received patent 3,098,210, transmits exploring signals into the

sea. If fish are in the signal's path, the reflected echoes are very weak, whereas signals bouncing off the sea bed are echoed strongly.

Previous detectors have been unable to distinguish between the presence of fish lying close to the bottom and the sea bed in relation to the varying vertical motion of the ship. This invention is able to block out part of the bottom echo, so that fish echoes stand out clearly if the fish are present.

Assigned to Kelvin and Hughes Limited, Glasgow, Scotland, the device was invented by Stanley C. Sparling, Roy W. G. Haslett, Peter R. Hopkin and John E. L. Sothcott, all of Barkingside, England.

### Deliberate Mine Caving

Cave-ins used to be dreaded by all miners, but they are a necessity in Sweetwater County, Wyo., where trona, a sodium carbonate mineral, is found. In its pure crystal form, small amounts of trona are used in detergents and other cleaners, but the mineral's primary use, after conversion to soda ash, is in glass manufacturing and baking soda.

Since trona lies between two weak layers of shale, the ceiling caves in and the floor heaves up as it is removed. The common practice has been to cave in the old mined-out area before moving on to the new, but this is hazardous and expensive.

In a new method of mining trona, invented by Robert F. Love of Rowayton, Conn., and Thomas S. Bernatis of Rock Springs, Wyo., special rooms are drilled between the active mining area and the unmined area. The rooms are caved in and thus relieve pressure on the timbers supporting the active mining areas. Rights for patent 3,097,830 were assigned to FMC Corporation of New York.

### Enzymatic Removal of Meat

A chemical-mechanical process for removing the meat from bones has been assigned to Swift and Company of Chicago. The process takes advantage of the chemical action of enzymes, proteins that act as catalysts in digesting food.

The bones are agitated in an enzyme solution at a high temperature, but not high enough to cook them or cause the meat to lose flavor. Several suitable enzymes for this purpose are papain, ficin, bromelin, trypsin, pancreatin and chymotrypsin. Generally speaking the process calls for five to 150 milligrams of enzymes per pound of meat and bone.

The process, which received patent 3,098,014, was invented by Arnold E. Denton of Moorestown, N. J., Jack F. Beuk of Hinsdale, Ill., John M. Hogan of Oak Lawn, Ill., and William J. McBrady of Chicago.

Science News Letter, 84:78 Aug. 3, 1963

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