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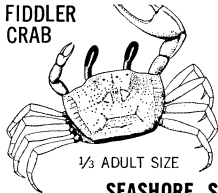
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## INVENTION

**Patents of the Week**

**A device that turns the human body into a refrigerator stops bleeding stomach ulcers and cools parts of the body, using the heat exchange cycle of conventional refrigerators.**

➤ **THE HUMAN BODY** virtually becomes a refrigerator with a newly patented apparatus that stops bleeding stomach ulcers.

The apparatus is designed to replace conventional ice baths and the pumping of ice cold brine into the stomach. It cools parts of the human body, using the same heat-exchange cycle of conventional refrigerators.

The stomach acts as the expansion chamber, in which the liquid refrigerant Freon evaporates into a gas that produces the cooling effect. As the gas expands, it inflates a vinyl plastic balloon that protects the walls of the stomach.

A thin catheter tube attached to the balloon reaches from the patient's mouth to his stomach. The tube is connected to pressure and temperature controls, which keep the operator from "blowing up the patient" or freezing his stomach.

The U.S. Patent Office issued patent 3,125,096 to Dr. Leonard Antiles of Albany, N. Y., and to Norman C. Jeckel, president of the United States Catheter & Instrument Corporation, Glens Falls, N. Y., and inventor of the only known successful artificial arteries.

As the cooling gas in their new apparatus absorbs body heat in the stomach, it is continuously sucked back up through the catheter and recompressed into a liquid for recycling.

Although the apparatus is not yet available commercially, it is being used as an experimental research tool in hospitals in Albany and at the University of Virginia, Mr. Jeckel told SCIENCE SERVICE.

In addition to stopping bleeding ulcers, the apparatus can be used to lower body temperature quickly and efficiently without causing shivering.

**Personalized Voting Guide**

A Philadelphia inventor has devised an aid for voters who become confused by too many candidates on the ballot when they enter a voting booth. This plastic, personalized voting guide fits over the levers inside the machine and enables the voter to select only the desired candidates.

Invented by Joseph F. Lockard of Philadelphia, the device replaces sample ballots carried into the booth. The voter makes up his mind from campaign literature before ever reaching the polls. Depending on which version of the guide he has, he adjusts certain arrows or enlarges holes that fit over the levers so that he votes only for his original choices.

After the machine registers the votes, the device is removed, thus speeding up time in the booth and eliminating confusion. The device, which received patent 3,125,288, has been used in some Philadelphia elections.

**Rotating Restaurant**

The design used in the popular rotating restaurant on top of the Space Needle at the Seattle World's Fair earned patent 3,125,189 for John Graham of Seattle.

The floor of the dining area slowly rotates while diners are eating. Thus they get a panoramic view of the entire area as they travel a full circle. A stationary floor in the middle of the spherical restaurant provides a service area and elevators to the ground.

**Other Significant Patents**

Other patents included:

A combined auto bumper and bottle opener for picnickers—patent 3,125,368 to Rafael D. Bonnelly, New York City.

A hummingbird feeding device that denies access to the food to other birds, ants and bees—patent 3,125,069 to Bruce D. Fowler, Mount Vernon, Wash.

A cigarette package that gets smaller as the cigarettes are removed—patent 3,125,213 to Jerome V. Keating, Jackson Heights, N. Y.

A chemical means of increasing the fertilization of plant seeds that mature into fruit—patent 3,125,433 to Gustave K. Kohn, Berkeley, Calif., assigned to California Research Corporation, San Francisco.

• Science News Letter, 85:222 April 4, 1964

## ASTRONOMY

**Star Collisions Speed  
Further Explosions**

➤ **WHEN TWO STARS** collide, other stars in the group are more apt to have smash-ups. Colliding stars cause tremendous celestial explosions.

The discovery of objects 100 million times as heavy as the sun but concentrated in a small volume of space has focused attention on how stars collide and stellar systems collapse.

To study the collision problem, Drs. S. M. Ulam and W. E. Walden took advantage of the huge memory and extremely high speed of the computer at the Los Alamos Scientific Laboratory, New Mexico.

Their theoretical calculations showed that once a stellar collision has occurred, the next collapse will take place soon thereafter. Such periodic collisions could be the cause of novas, stars that suddenly blaze forth with millions of times their previous brilliance.

The U.S. scientists reported details of this accelerated process in *Nature*, 201:1202, 1964.

• Science News Letter, 85:222 April 4, 1964