

## INVENTION

# Current U.S. Patents

**"White wheat," a rice substitute made of parboiled wheat promises to be readily accepted by the famine-stricken millions in India and the Far East.**

► A METHOD of making "white wheat" from bulgur as a rice substitute for the starving millions in India and the Far East was granted a patent by the U.S. Patent Office.

A ton of the processed wheat product was readily accepted when it was tested in Hong Kong recently. Plans are now under way to send a ton or so each to various Far Eastern and Indian cities to check on its acceptance in these places.

At least two industrial firms have told officials at the U.S. Department of Agriculture and the Agency for International Development that they are interested in manufacturing the so-called white wheat.

Bulgur is essentially dry, parboiled wheat that is equivalent to rice. The main advantage of white wheat over bulgur for foreign export is its white color. Most bulgurs now available are dark brown or even red.

Because of its color, bulgur has not been accepted readily by the millions of rice-eating people in famine-stricken India and the Far East, who have a long tradition of eating white rice.

The white product is estimated to cost about one cent a pound more than bulgur and is said to be less gritty. The wheat processing method earned patent 3,228,771 for James W. Pence of El Cerrito, Calif., Michael J. Copley of Berkeley, Calif., and Robert E. Ferrel of Richmond, Calif.

The scientists assigned rights to this patent to the U.S. Government through the Department of Agriculture. The original development was accomplished at the Department of Agriculture laboratories in Albany, Calif. Engineers are now working out ways in which the process can be adapted for large-scale use.

## Teflon Heat Exchange

Heat exchangers having small-diameter tubes made of Teflon, the chemically inert compound used to coat non-stick pots and pans, have been developed by two Du Pont Company researchers, Peter F. Brown and Martval J. Hartig of Wilmington, Del.

The scientists assigned rights to patent 3,228,456 for a method and apparatus "employing hollow polyfluorinated plastic filaments for heat exchange" to the Du Pont Company. Heat exchangers are used to heat or cool liquids or gases by passing either of these through the tubes while the other at a different temperature is circulated outside the tubes.

Since the Teflon tubes are only about one-quarter of an inch in diameter, a large number can be packed into a small area,

providing greater heat transfer. The fluoro-carbon tubing is now commercially available.

## Orienting Satellites

A way of stabilizing satellites so that they will always spin with their axis pointed toward the sun earned patent 3,228,628 for Dr. Talbot A. Chubb of the U.S. Naval Research Laboratory.

His apparatus for controlling the orientation of a space vehicle is self-adjusting and contained within the satellite. The new system includes a method of sensing the relationship between the earth's magnetic field and the satellite's spin-axis to the sun, then applying the necessary corrections to keep the vehicle spinning with its axis pointed directly toward the sun.

Satellites now in orbit are kept spinning in the desired orientation by commands from the ground. Future satellites are expected to be using Dr. Chubb's method. He assigned rights to the Government.

## Optical Maser

An optical maser, or laser, that uses calcium fluoride with small amounts of the rare element samarium to produce a very intense, visible red light was granted patent 3,229,221. Peter P. Sorokin of Chappaqua, N.Y., and Mirek J. Stevenson of Briarcliff Manor, N.Y., assigned patent rights to International Business Machines, New York.

• Science News Letter, 89:68 January 29, 1966

## TECHNOLOGY

### Finger Ring Is Doorbell For Blind-Deaf Person

► MORE THAN 50 blind and deaf men and women living alone in small apartments in London can now know immediately when a caller comes to their doors.

They wear a new device, like a large finger ring, which tells them when the door bell is rung.

The ring, developed from an idea suggested by scientists at the General Post Office's research center, is available for test purposes through welfare offices of the Ministry of Health.

When the doorbell is pressed, its wires set up a magnetic field which triggers off a flow of current from the blind-deaf person's pocket battery and causes a vibration from the ring to alert him to a caller.

Though normally worn on the finger the device can also be used as a pendant with convenient contact to the skin.

• Science News Letter, 89:68 January 29, 1966

# Questions

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