

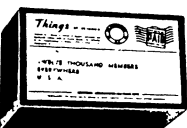
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INVENTION

Patents of the Week

A satellite communication system with little or no electronic equipment has been patented. A stereo-camera for surgeons and a mid-air warning system were also invented.

➤ A TROUBLE-SHOOTING satellite communication system designed for military and peaceful uses has been patented.

A cluster of balloon satellites whirling around the earth would be used to send and receive radio messages during military maneuvers, or take over in case the future broadcasting satellite network breaks down. Franz T. Geyling, Murray Hill, N. J., won patent No. 2,991,027 for the invention and assigned the rights to Bell Telephone Laboratories, Inc., New York.

A series of satellites in orbit, each orbit containing a group of satellites, would be located at altitudes up to several thousand miles, Mr. Geyling stated. Radio signals would be bounced off the balloon satellites as they passed overhead and picked up at a receiving station over the horizon.

The balloon satellite, made of Mylar plastic with a shiny metal coating, would be launched into orbit from a rocket. A trip switch would automatically inflate the balloon upon leaving the rocket.

The invention evolved from the work done by Bell Telephone Laboratories on the Echo project, Mr. Geyling stated. The 100-foot balloon satellite, Echo I, was launched on May 5, 1960, and is still orbiting around the earth.

The communication system is very inexpensive and highly reliable because the balloons have little or no electronic equipment, he reported. By finding orbits where the radiation damage to the device is small, the balloons could last for several years.

When a broadcasting or "electronic" satellite develops trouble in a particular region, that system could be quickly switched over to a balloon orbiting nearby.

A stereo-camera by which a surgeon can take accurate stereo photographs during a critical moment of surgical operation without disturbing the progress or continuity of his work was invented by Wilhelm Winzenburg, Dresden, Germany, who assigned rights of patent No. 2,990,765 to VEB Kamera-und Kinowerke Dresden. The three-dimensional photographs are valuable for medical students and for "later critical study by the surgeon himself," the patent stated.

The lightweight camera, which is strapped to the surgeon's head, is operated automatically and electrically by simply stepping on a switch. The invention supposedly eliminates the need for awkward movie or TV cameras that would hamper the performance of the surgeon during these critical times.

A warning system for preventing mid-air plane crashes was patented. Emory Lakatos, Santa Monica, Denny D. Pidhayny and Millard F. Gordon, Los Angeles, Calif., received patent No. 2,991,463 and awarded

the rights to Thompson Ramo Wooldridge, Inc., Cleveland, Ohio. Sound waves continuously given off by an airplane would trigger a warning signal telling a pilot whether to turn left or right if a collision is imminent. The system is "completely independent, requiring no ground equipment," the patent stated.

An anti-smog muffler that has a tube for bypassing the exhaust gases from the "cleansing system" until the system is warmed up was patented by William H. Claussen, Berkeley, Calif., who assigned rights of patent No. 2,991,160 to California Research Corporation, San Francisco. The bypass prevents water from condensing on a "catalytic converter" which would reduce the efficiency of the purifying system.

• Science News Letter, 80:62 July 22, 1961

NATURAL RESOURCES

Profit in Harvest Of Alaska Sea Lions

➤ AN EXPERIMENTAL HARVEST of Alaskan sea lions is seen paving the way for a promising new industry, the Department of the Interior reports.

Conducted to cut damage by sea lions to fishing gear and catches, the harvest yielded some 200 tons of high-protein ground meat, sold to fur farmers feeding mink. Demand from fur farms and fish hatcheries for additional meat reportedly is big.

There are an estimated 150,000 sea lions in Alaskan waters—enough to support commercial operations, if processing facilities can be improved. A commercial fishing company did the harvesting under contract with the Fish and Wildlife Service.

• Science News Letter, 80:62 July 22, 1961

Questions

ASTRONOMY—What is the latest value for the astronomical unit? p. 50.

EDUCATION—How much money was spent for basic research in the fiscal year ending June 30? p. 55.

Photographs: Cover, Chromalloy Corporation; p.

51, National Aeronautics and Space Administration; p. 53, Lockheed Missiles and Space Company; p. 55, Prof. Takao Inui; p. 64, Double "A" Brand.