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Dept. SS 2533 Eye Street Washington, D.C. 20037 INVENTION

# Current U. S. Patents

AN AIRCRAFT that will either loiter in the air like a family two-seater or streak across the sky at supersonic speeds received a patent for the Boeing Company.

The combination jet and old-style plane earned patent 3,215,369 from the U.S. Patent Office. Inventor Carroll E. Johnson of Fort Worth, Texas, assigned rights to the Boeing Company.

To fly at supersonic speeds the plane is equipped with conventional turbojets and swept wings. For speeds as low as 80 or 90 knots, the wings move forward into a near perpendicular position to the fuselage, like the present F-111 variable-sweep fighter plane. The exhaust of the jet engine is used to turn large fans behind the wings. Kept in wells in the fuselage during fast flight, the fans swivel out for slow speeds.

Uniqueness of the design, claims the inventor, stems from the combination wing and propulsion system which work together for optimal performance at both supersonic and subsonic speeds.

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Its primary utility would probably be in short range military attack since the plane can take off and land within a short 500 feet

#### **Musical Instrument**

That "chu'zzzz" note is not a fly in the ear; it is a new jazz sound. Assigned patent 3,215,020 is an accessory device for cymbals invented by Ralph C. Kester Jr. of South Bend, Ind.

In operation the device extends the simple clang of a cymbal into a variety of new sounds, claims its inventor. He said jazz bands throughout the country have placed orders with H. E. Products, Inc. of Mishawaka, Ind., exclusive producer of the instrument trademarked as Ching-Ring.

A ring with double disks spaced at intervals along the circumference, the accessory fits over (either above or directly on top of) a cymbal and is held in place by a center strap.

#### **Light Beams**

Vibrating diaphragms and reflected light beams have been joined by the National Aeronautics and Space Administration into a new communications system. The system allows for more complex messages than with Morse Code and more secrecy than radio waves.

To send the message, a man speaks into a triple surfaced reflector, which is fitted on one side with a flexible diaphragm. Voice modulation moves the diaphragm back and forth.

Far away in the distance, the ship or airplane receiving the signal sends out a light beam which bounces off the reflector and returns as distorted wave lengths. A second diaphragm at the receiving end transforms light signals back into sound.

The system, invented by Numa E. Thomas and assigned to the U.S. Government through NASA, received patent 3,215,842.

#### Other Interesting Patents

A technique for using the earth's magnetic field to determine a satellite's attitude and to find the right combination of factors for a thrust into a new orbit was patented for Theodore Wyatt, Charles J. Swet and John Dassoulas of Silver Spring, Md. They assigned rights to patent 3,215,365 to the U.S. Government through the Secretary of the Navy.

A portable, lightweight, insect trap, powered by battery and containing a disposable insect bag, received patent 3,214,861 for Paul E. Arther of Littleton, Colo.

Color separations in the reproduction of color photographs are judged for quality as they are produced, thereby cutting expense in patent 3,215,030, invented by Joseph G. Jordan of Stamford, Conn., and assigned to Time, Inc., of New York.

• Science News Letter, 88:334 November 20, 1965