

## INVENTION

# Patents of the Week

**A new type V-shaped wing that allows quicker takeoffs, ascents and descents, and will help supersonic aircraft attain speeds three times the speed of sound has been patented.**

► A NEW TYPE of delta or V-shaped wing that will help supersonic civilian and military aircraft attain speeds three times the speed of sound has been invented. It will also allow quicker takeoffs, and ascents and descents.

Patent 3,087,692 was awarded by the U.S. Patent Office to John G. Lowry, Hornsbyville, Va., who assigned rights to the National Aeronautics and Space Administration.

Mr. Lowry's invention is a large forward delta wing section. The wing area can be adjusted by outboard wing panels at the rear tips of the wing.

For rapid takeoffs, climbs and descents the outboard panels are pointed outward and perpendicular to the direction of flight, thus exposing the largest possible amount of wing surface.

The adjustable outboard panel allows shorter landing and takeoff distances, so that the use of small airports in fairly densely populated areas is made possible for supersonic craft.

Once the desired altitude is reached, the wing is adjusted to the standard delta wing position, which has a minimum amount of drag.

## Omnidirectional Manipulator

A material handling apparatus that allows a lift truck operator to move a heavy load precisely to where he wishes has a boom that can be extended. A motor connected to the lift truck rotates the boom.

The inventors, Paul Karnow, Glenside, Pa., and Abraham Schwartz, Philadelphia, assigned rights to patent 3,087,630 to the Navy.

Their invention provides for a single control wheel that the lift-truck operator controls. The manipulator is particularly applicable to rapid loading of modern aircraft, permitting the operator to watch positioning in such hard-to-see areas as the bomb bay.

## Continuous Process Method

A way to manufacture continuously articles like electron tubes, which call for heat treating, has been invented, using a new kind of seal in the manufacturing parts.

The seal has a dual action: it softens at a predetermined high temperature and hardens at a predetermined low temperature.

William J. Helwig, Kearny, N.J., assigned rights on his patent 3,087,289 to the Radio Corporation of America.

## Other Patents

Other patents awarded were:

An apparatus for bending glass sheets so that they will be more shock resistant,

which earned patent 3,087,317 for Frank J. Carson and Herbert A. Leflet Jr., Toledo, Ohio, who assigned rights to the Libbey-Owens-Ford Glass Company, Toledo.

A simulated "breakable" golf club that allows an angry golfer to break his club without really doing so, which earned patent 3,087,728 for Ashley Pond III, Taos, N. Mex.

A snow shoe for the two front wheels of a car to clear a path through the snow, for which Joseph A. McEvoy, Yonkers, N. Y., was awarded patent 3,087,266.

A maze with a mechanical memory, whereby a mechanical body "learns by experience" to thread the maze. Robert J. Curran, Elmhurst, Ill., was assigned patent 3,087,732 for this invention.

A personnel parachute pack composed of a combination seat ejection system and personnel pack to be supported on the airplane seat, which earned patent 3,087,696 to Oscar W. Sepp Jr., Merrick, N. Y. He assigned rights to M. Steinthal & Co., Inc., New York.

A railroad-mounted vehicle for self-powered operation on railroad tracks that is especially designed to carry trucks and other vehicles. The front and rear wheels of the vehicle being carried fit into "pockets" formed by two sets of wheels on the railroad tracks. Alfred H. Scheldrup, Carmel, Calif., won patent 3,086,483 for his invention.

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## SPACE

# Telstar II Launched

► ANOTHER TELSTAR, a communications satellite five pounds heavier than its forerunner, was successfully orbited May 7.

The new satellite, redesigned by Bell System's scientists from the "mistakes" of Telstar I, was shot into space with a powerful three-stage Delta rocket from Cape Canaveral by the National Aeronautics and Space Administration.

The 175-pound sphere, 34 and a half inches in diameter, will continue experiments in world communications, and send down to earth reports about radiations it encounters in space.

Telstar II's orbit is higher than that of Telstar I—6,560 miles away at apogee, when it is farthest from earth. This higher orbit means that the new satellite will spend less time in high radiation areas than Telstar I, reducing the chances of radiation damage. As it swings down to its perigee, or closest to earth, of 575 miles, it passes through and reports on regions of space that Telstar I did not reach.

## GEOPHYSICS

# "Sun" Never Sets On Cleveland

► THE "SUNNIEST" spot in the world is not in California, Florida or even the Sahara. It can be found, rather, in a northern Ohio city, where three extra "suns" have been created.

Scientists at the National Aeronautics and Space Administration's Lewis Research Center, Cleveland, have been putting together copies of the sun for the past three years.

The results of their effort do not look anything like the real sun, however. They are complex arrangements of lenses and mirrors, the largest of which lights up an area only 30 inches wide. And they get nowhere near the 10,000-degree temperature of the sun's surface.

What is important, the scientists say, is that these "solar simulators" produce near-perfect copies of the sun's radiation profile in space. The devices are helping scientists study what effects atomic particles from the sun would have on various man-made objects sent above the earth's protective blanket of atmosphere.

The largest of the Lewis suns works by burning a carbon electrode at 400 amperes. The radiation is directed into the test zone of a space chamber. Here a variety of materials are being watched to see whether they weaken.

John L. Pollack, who directed construction of the suns, is designing still another sun with an environment chamber 100 feet wide and nearly 125 feet high. Among its chores will be the testing of nuclear rocket components.

Some day Mr. Pollack hopes to build a sun big enough to irradiate tank areas up to 500 square feet with man-made Ohioan "sunshine."

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