

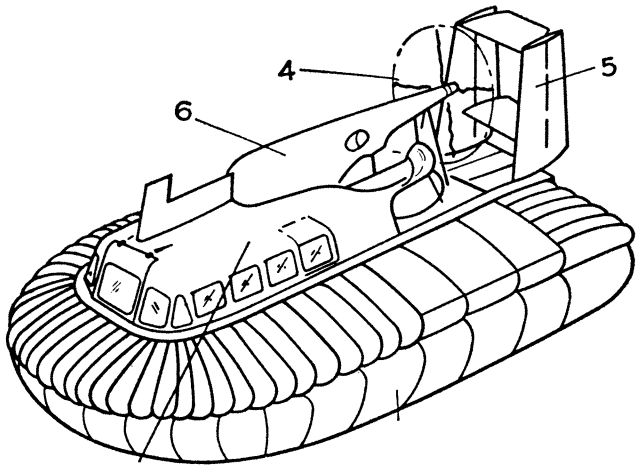
# current patents

## TRANSPORTATION

### Inflatable skirts for hovercraft

An inflatable skirt that allows hovercraft a large area of supporting air cushion when they operate, but needs only a small storage area, has been patented by Derek J. Hardy and Lavis A. H. Riddle of the Isle of Wight, England, and assigned to Westland Aircraft Limited.

The invention provides a skirt, held up by inflatable members, that extends laterally from the rigid base of



the craft's body and increases the area of the trapped air cushion on which it hovers. With the retractable skirt, hovercraft can be designed with rigid bases small enough to be carried as lifeboats on the deck of larger vessels and yet have air cushions large enough for efficient riding when they operate.

Patent 3,373,839.

## MICROELECTRONICS

### Economical base for computer chips

A silver-palladium alloy for use in microscopic printed circuits works better at a tenth the cost of the commonly used gold-palladium pastes, according to IBM Corp.

The substance won a patent last week for IBM chemist Lewis F. Miller. Components made with the new material are used in IBM's System/360 computers.

The microcircuits are built up on a ceramic base, on which a conducting paste is sprayed in patterns called lands. The conductive lands correspond to wires in an ordinary electronic device. The lands are usually about 10-thousandths of an inch wide.

Once the lands have been laid down, tiny resistors, chip transistors and other components are attached.

Silver has been considered for conductive paste before, but it has the bad habit of dissolving in molten solder, with which components are attached, and also of forming paths for current to leak away in humid or hot conditions.

The new silver-palladium paste doesn't have those drawbacks, according to the inventor.

Patent 3,374,110.

## AGRICULTURE

### Pickles hardened by enzyme inhibitor

Two-thirds of the cucumbers grown in this country are put in brine at harvest and packed by pickle factories throughout the year. A distressing number of them turn soft and have to be thrown out, at a cost of an estimated \$1 million a year.

Culprit in the softening are enzymes, presumed to be present in molds on cucumber flowers that inevitably get into the brining process. The enzymes break down the long chain of molecular pectic substances that act as cementing agents for cells of plant tissue.

Three Agriculture Department chemists have discovered that the leaves and stalks of a forage crop, sericea, can inhibit the pectin-destroying enzymes in the brining process. The method of preparing the inhibitor won a patent for T. A. Bell, John L. Etchells and W. W. G. Smart Jr., of Raleigh, N.C., who assigned the patent on a royalty-free basis to the Agriculture Department.

The experimenters found that sericea has the inhibitor only during a 10-week period of the year, and that ordinary harvesting, in which the leaves or stems are bruised, causes it to lose its potency.

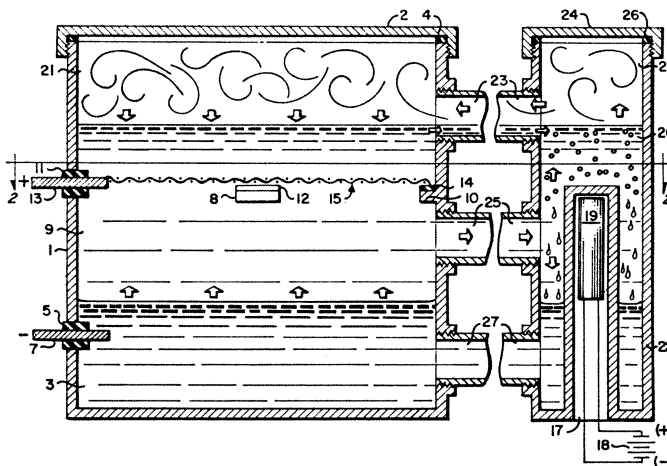
Patent 3,374,099.

## ENERGY

### Low-power battery works when heated

A novel battery that produces electricity when one of its electrodes is heated was patented last week by Herbert E. Lawson of Aerojet-General Corp. The battery can draw its heat from the sun.

The battery uses molten bismuth, gaseous iodine, and an electrolyte made up of zinc, lithium and potassium chlorides. In operation, the iodine dissolves in the elec-



trolyte, taking away an electron from one pole of the battery as it does. It migrates down to the bismuth and forms bismuth iodide; the bismuth gives up an electron to do this.

The bismuth iodide drifts to another container, where it is heated, breaking down to iodine and bismuth, and starting the cycle again.

Patent 3,374,120.

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