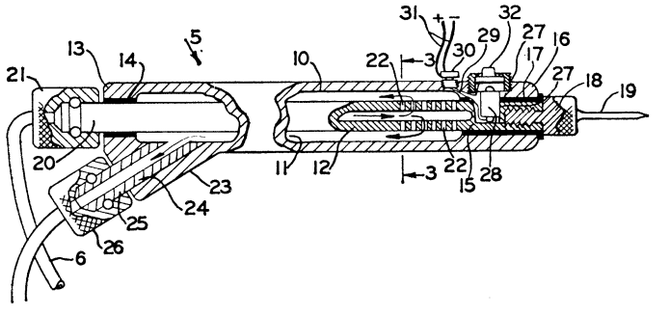
Current Patents

CRYOGENICS

Surgical Probe Freezes Tissue

A probe that can be used for surgery at temperatures as low as 200 degrees below zero C. was one of the 1,236 patents granted by the U.S. Patent Office last week.

The cryosurgical probe was developed cooperatively with doctors at several hospitals and is expected to be in use for freezing and removing diseased tissue within six months. It is the invention of Drs. John G. Daunt, now at Stevens Institute of Technology, Hoboken, N.J.,



and Stephen F. Malaker, president of Malaker Corporation, High Bridge, N.J., the firm producing the device.

The probe is light-weight and easy to handle. It can be cooled to much lower temperatures than current probes, making it possible to treat such diseases as Parkinson's or Menier's.

The probe consists of a hollow tube of insulating material, such as glass or tetrafluoroethylene plastic, within which is enclosed a metal tube. The probe tip, formed of highly conducting copper or other metal, is attached to the end of the inner tube through which the liquid refrigerant passes.

Most, if not all, of the refrigerant vaporizes as it cools the probe tip, passing through holes in the inner tube and back to the cryogenic machine for recooling and condensation. **Patent 3,351,063**

FABRICS

Crease Resistance for Cotton

A two-step process to give cotton fabrics crease resistance whether they are wet or dry has been patented by four researchers of the Department of Agriculture. Key to the method is the use of an alcoholic solution of anhydrous ammonia and epichlorohydrin, but only after it has aged.

In the first step, the cotton fabric is treated with water containing from 10 to 20 percent by weight of the products resulting when the alcohol solution has aged at least three months at room temperature. The wet cellulose is then heated for from 3 to 10 minutes at a temperature of about 100 degrees C.

In the second step, the fabric is treated with sodium hydroxide at a concentration of 5 to 10 percent in water, then heat-cured for from 5 to 10 minutes at the same temperature.

If a fresh solution of ammonia and epichlorohydrin is used, only wet crease resistance is obtained. John B. McKelvey, Ruth R. Benerito and Ralph J. Berni of New Orleans and Beverly G. Burgis of Clearwater, Fla., assigned rights to the Government through the Secretary of Agriculture. **Patent 3,351,420**

SEALED SYSTEMS

Synthetic Breathable Atmosphere

The problem of providing a suitable atmosphere for humans and other animals in such closed systems as submarines, space vehicles and bomb shelters has become more and more pressing in recent years.

An apparatus for producing oxygen and nitrogen in the proportions to which man is accustomed on earth has been devised by Thomas I. Taylor of Leonia, N.J., who assigned his patent rights to Isomet Corporation, Palisades Park, N.J.

His method provides for the decomposition of nitrous oxide, at a temperature of about 500 degrees C., in the presence of a copper-magnesia catalyst to release nitrogen and oxygen in the same proportion they occur on earth, 78 percent and 21 percent. The catalyst is imbedded in a fibrous, heat-resistant material for support.

The heat formed in the decomposition process can be used to supply part of that required for maintaining the temperature required for the catalytic reaction.

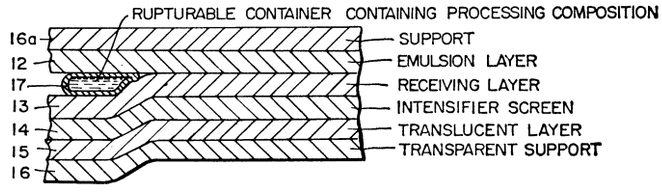
Patent 3,351,562

PHOTOGRAPHY

Amplifier for X-ray Plates

The inventor of the Polaroid camera that processes instant pictures, Dr. Edwin H. Land, president of Polaroid Corporation, was awarded a patent for a method of intensifying photographs produced by ionizing radiation, such as X-rays. The intensifier allows less of the dangerous radiation to produce an effective result.

The image produced, called a radiograph, can be viewed either as a transparency or as a reflection print.



The intensifier screen for radiographs is usually a separate element, not an integral part of the image as in Dr. Land's process.

The patent, assigned to Polaroid Corporation, Cambridge, Mass., covers the many steps necessary to make radiographs with a built-in amplifying screen.

Patent 3,351,466