

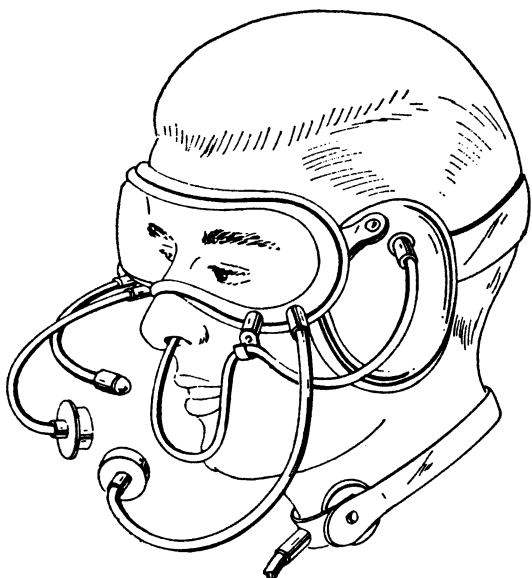
current patents

COMMUNICATIONS

Automatic speech recognition

A method for recognizing speech and converting the information it contains into coded binary information that can be either recorded or fed directly into a computer has been developed by three scientists at the Navy Electronics Laboratory, San Diego, Calif.

Instead of trying to narrow the frequency spectrum of speech by filters, as in the Vocoder system, the Navy scientists filter out all of the frequencies above about five cycles. Their speech analyzer depends upon measuring lip and face movements, and air velocity through the mouth and nose.



The movements of the lips, for instance, are sensed by transducers, which produce a waveform that can be reliably identified by a decimal numbering system. This, combined with air velocity between the lips or in the nostrils, or with vibration of the throat, is sufficiently similar for different speakers and background conditions to allow positive identification of the numbers zero through nine using only four channels.

William A. Hillix and Michael N. Fry of San Diego and David C. Milne of Stanford assigned rights to their patent to the U.S. Navy.

Patent 3,383,466

HYDRAULICS

Slipperier torpedoes

A device for reducing drag on torpedoes has been patented by William F. Madison of Arcadia, Calif. The system depends on an ablative polymer material that reduces drag when it coats the surface of the torpedo shell.

This material is stored in an annular chamber around the nose of the torpedo. When the torpedo is in motion through the water, seawater is sucked into the chamber.

The water flows over a cake of polymer and washes some of it out the other end of the chamber where the flow then distributes the drag-reducing material over the surface of the torpedo nose.

The patent was assigned to the U.S. Navy.

Patent 3,382,831

514/science news/vol. 93/1 june 1968

GAS DYNAMICS

Fast source of underwater buoyancy

Hydrogen gas is useful underwater for such functions as salvaging sunken ships and blowing submarine ballast tanks.

A method of producing large amounts of hydrogen from seawater quickly, using a paste of lithium hydride, won a patent for W. T. Barrett and Charles L. Scheer of Foote Mineral Co. The paste is prepared with a water-soluble, organic filler that allows reaction between the lithium hydride and water to take place evenly.

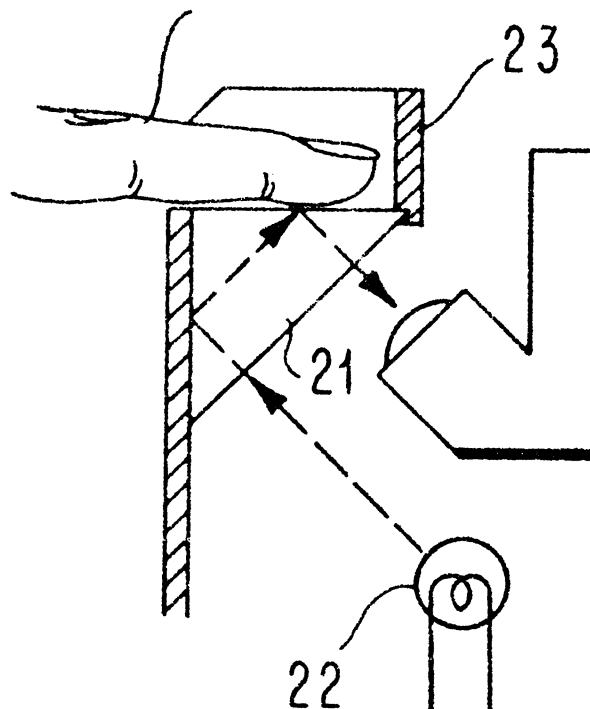
Patent 3,372,996.

SECURITY

Identification card uses fingerprints

An identification system that compares the card-carrier's fingerprint with data on the card itself has been patented by two engineers at IBM Corp.

Standard fingerprint identification, based on loops, whorls and arches, isn't adaptable to quick computer scanning (SN: 5/25, p. 494), but it is possible for a scanner to view a finger, locate a number of fingerprint ridge characteristics, and put out a series of electric pulses corresponding to that pattern of characteristics.



In the invention patented by Claus H. Claassen and Louis D. Green, an identification card contains a magnetic tape record of the pulse pattern produced by the card-holder's fingerprint. When he is to be identified, the system compares the pattern stored on the card with the pulse train produced from scanning his finger. If the two patterns are the same, the identification is made.

The system has the advantage that a number of identification stations can be built without requiring a large memory of fingerprint data at each station, since the information is all recorded on the card itself.

Patent 3,383,657