

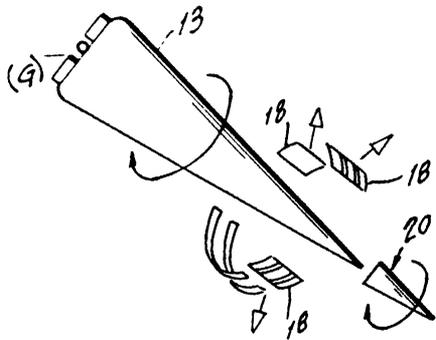
# current patents

## ORDNANCE

### Advance probe to trigger missile

Although missiles are constantly being made capable of greater and greater devastation, it is still vitally important to control precisely the altitude at which they go off. An unusual system in which the missile sends its own sounding probe ahead of it has now been patented by Edwin Decker, an engineer at Sperry Rand's Ford Instrument Co. division in Long Island City, N.Y.

Inertial fuzing systems, Decker says, are limited by the accuracy of trajectory predictability; radar systems



are subject to jamming; and barometric fuzes lose a lot of their accuracy at high reentry velocities.

In Decker's system, the missile warhead carries with it a detachable probe that is released just prior to reentry. This point can be determined with great accuracy, Decker says, because the missile will not yet have become subject to atmospheric disturbances. The probe, though unpowered, is aerodynamically smoother than the missile itself, and moves ahead of it. When it hits, it automatically sends back to the oncoming missile a radio signal, which triggers a timing device to detonate the warhead at the desired altitude. The point, according to Decker, is that the impact of the probe provides an absolute altitude reference point for the missile fuze. Such advance probes, he says, might also be useful to decoy antimissiles.

Patent 3,385,214

## SURGERY

### Guarded cutting instrument

An instrument that provides safety in air-powered devices for cutting tissue and sculpturing bone has been developed by Dr. Robert M. Hall of Santa Barbara, Calif.

It uses a guard on attachments of various lengths to protect and extend rotary drills, saws, burrs and cutters. To protect soft brain tissue, the spoon-shaped guard is fitted to the stationary shaft that supports the cutter blade.

This blunt section precedes the cutter, pushing delicate tissue down and away. The instrument is expected to be used in neurosurgery, cardiovascular, orthopedic or other procedures where underlying tissue must be protected.

Patent 3,384,085

## BIOCHEMISTRY

### Method for estimating interferon

An antiviral agent known as interferon, which may be identified by its ability to inhibit viral growth, is produced by the interaction of certain viruses and living cells (SN: 8/19/67, p. 173).

A less tedious method of determining the amount of interferon present in the blood stream has been developed by Norman Boyne Finter of Macclesfield, England, who assigned rights to Imperial Chemical Industries, Ltd., London.

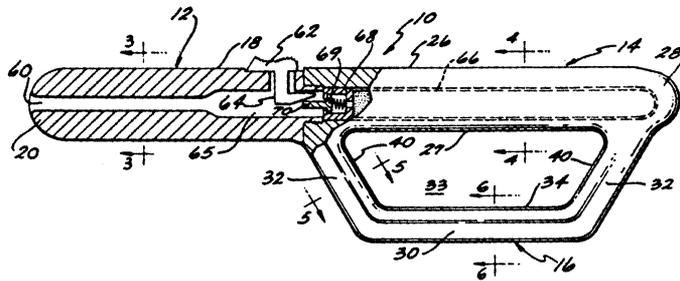
When calf kidney cells are grown in a tissue culture infected with the Sendai strain of influenza virus, the surfaces of the cells are so altered that the red blood cells are adsorbed. The hemoglobin contained within the red cells is liberated by washing with distilled water, then measured by the amount of ultraviolet light absorbed by the solution, to give a measure of interferon present.

Patent 3,385,757

## WEAPONRY

### Updating the billy

The spring of 1965 saw much of the violence connected with the free-speech protests at the University of California's Berkeley campus. At the same time, William R. Black of Outers Laboratories in Onalaska, Wis., designed the "Gunstick," an up-dated version of the po-



liceman's billy club, complete with handguard and provision for a tear gas cartridge.

Three years later, the device has just been patented, sales are tremendous, says the company, and "many police departments are using it 100 percent."

The Gunstick is designed "to be useful in confined quarters, such as the interior of a car," as well as "to permit the user to simultaneously write with a pen." A compartment can be built into the handle to allow the stick to fire repeated shots of gas, pepper or aerosols such as Mace. In addition, it "can be effectively used for jabbing and punching as well as for clubbing." The handguard is designed to hold the stick in ready position, while still leaving the hand free for other things.

"Another object," the patent notes "is to provide a billy club which has no sharp edges or corners which can cut or seriously injure a person struck with the club."

Patent 3,385,601

15 june 1968/vol. 93/science news/583