

scientists, particularly Dr. H. L. Jones of Oklahoma A. & M., are studying the possibility of identifying and tracking tornadoes by these electrical discharges.

Their equipment tells them the direction from which strong lightning strokes are coming. By using three or more stations, it may be possible to pinpoint the storm's location. Three sferics stations in Texas and Louisiana will be operated by the Weather Bureau this spring, and the U. S. Air Force will have a similar network in Oklahoma.

When whole-state or half-state tornado warning advisories are issued by the Weather Bureau, no particular action is called for, except an extra close following of radio reports and an occasional glance at clouds to the west and south if the sky becomes threatening.

When a person actually sees a tornado approaching, however, swift action is called

for.

The safest place to be during a "twister" is in a cave, storm cellar or other underground excavation that has an air outlet. If time does not permit this, lie flat in the nearest depression such as a ditch or ravine in the open country. Always try to move at right angles to the tornado's path.

In a city, seek inside shelter, preferably along the inside walls on the lower floors of a steel-reinforced building. It is wise to stay away from windows.

At home in a frame house, the southwest corner of the lowest floor, the basement if possible, offers the most safety.

People living in brick or stone houses should find other shelter, such as a storm cellar or the southwest corner of a frame house.

If time permits, turn off the gas and electricity.

Science News Letter, March 12, 1955

MEDICINE

"Jet" Shot In Arm

► THE MILITARY has even gone automatic on its "shots" in the arm. Pistol-shaped jets for injecting typhoid and other vaccines have been developed at the Army Medical Service Graduate School, Washington, D. C.

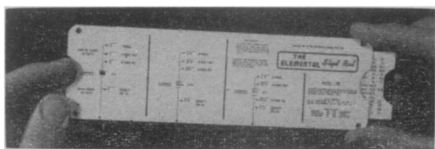
The new device has been tried on military inductees at an Army reception center with good results, Dr. Joel Warren of Walter Reed Army Medical Center, Washington, and Frank A. Zihel, Arthur W. Kish and Louis A. Zihel of Cleveland, report to the *Journal of the American Medical Association* (Feb. 19).

The new jets are called automatic jet injection syringes. They are designed for speedy vaccination of large numbers of persons. In the most recent study 1,685 persons were vaccinated daily in groups of 117 to 252. Those trained to use the new automatic jet syringes were able easily to keep pace with highly trained corpsmen using preloaded hypodermic needles and syringes.

While not entirely painless, inductees said the jet injection did not hurt as much as a needle injection given at the same time in the other arm.

The needle-free automatic injector shoots

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a tiny jet of vaccine right through the skin under about 250 pounds of pressure in about one second.

The device is run by a motor-driven hydraulic pump. The injector unit is built like an automatic pistol with two triggers. The lower trigger reloads and cocks the piston, and the upper trigger "fires."

The present design is not considered a final one ready for commercial production. The units now available are the property of the armed services and are for use solely for research and development.

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MEDICINE

Disease Virus Raised In Embryonic Fishes

► A NEW way of propagating disease-causing viruses has been discovered through use of the embryos of an aquarium fish that bears its young alive.

Following success in culturing through eight generations of the eastern equine encephalomyelitis or EEE virus, it is now hoped that viviparous fishes will be used in the study of the puzzling animal virus causing foot and mouth disease or aftosa.

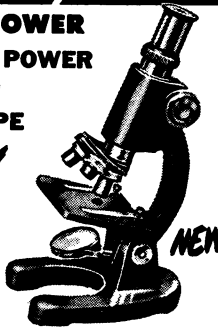
Reported to the New York Academy of Sciences by Dr. Murray Sanders and Manuel G. Soret of the University of Miami, South Miami, Fla., the living embryos are removed by Cesarean operation upon the common mosquito-eating fish, *Gambusia*. The virus grows in the embryo fish as they are reared in simple tissue culture fluid.

The American Museum of Natural History's Lerner Marine Laboratory at Bimini, in the Bahamas, where the fish are found, was the scene of the development that may now be used for the successful propagation of other human viruses.

Science News Letter, March 12, 1955

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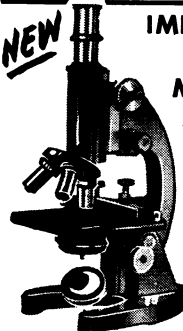
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