

ENGINEERING

Air Position Indicator

Gives continuous readings of latitude and longitude as the B-29 executes its mission to Tokio. Is first device to give such readings.

► ABOUT the size of a quart milk bottle and mounted on the instrument panel of a B-29 Superfortress, the new air position indicator gives continuous readings of latitude and longitude as the heavy bomber executes its mission to Tokio. This is the first device to give such readings in the history of navigation on the sea or in the air.

Developed by the Eclipse-Pioneer division of Bendix Aviation Corporation, with the cooperation of the Air Technical Service Command at Wright Field and the Navy Department, the device eliminates the need for the navigator to work for hours with charts, basic navigational reference books, star-sighting sextants, and other aids to navigation to calculate the position of his airplane in flight.

The navigator of a B-29 can pinpoint his position on the map and keep the plane on the skyroad to Tokio or any other enemy target, by referring to two needles on a small instrument panel dial of the air position indicator marked off in degrees of longitude and latitude. This same dial also gives him a continuous

record of nautical miles flown and indicates the correct compass heading of the plane.

The API, as the device is known, is also being installed on other heavy bombers and on carrier-based Navy planes. In addition to the help it has given in blasting Japan, it has played an important role in the air-war over Europe.

The API computes the position of the plane in terms of latitude and longitude from physical data, obtained from the measurement of air speed and compass direction, called a "fix" by navigators. It compensates automatically for the earth's curvature, which causes convergence of longitude meridians between the equator and the north and south poles. It is constructed with a system of friction drives, cylinders and disks which delicately integrate all information needed.

With this equipment, the pilot or navigator merely sets his starting latitude and longitude and the proper magnetic variation. Then at any time in flight when he desires to know his air position, he merely reads the dial.

Science News Letter, February 24, 1945

MEDICINE

Five Signs of Death

Severe headaches, dizziness, motor or neurologic disturbances, nosebleeds, and retinal hemorrhages may be signs foretelling death from apoplexy.

► DEATH from apoplexy can be predicted from five signs or symptoms, Dr. R. D. Taylor and Dr. Irvine H. Page, of the Lilly Laboratory for Clinical Research at Indianapolis City Hospital, report, (*Journal, American Medical Association*, Feb. 17).

If any four of these five signs appear in a person with high blood pressure of the type termed essential hypertension, it may be assumed that the patient will die of apoplexy within eight-tenths of a year to five years or, on the average, within 2.1 years.

The five signs are: severe headaches

at the back of the head or the nape or scruff of the neck; vertigo (dizziness) or fainting spells; motor or sensory neurologic disturbances, such as memory defects, loss of ability to speak, and numbness and tingling; nosebleeds; and retinal hemorrhages without papilledema or exudates which the physician can determine from examining the eyes.

These five signs were observed consistently in 19 patients who died of apoplexy, or cerebral hemorrhage as it is also called. They were absent or negligible in 21 other high blood pressure patients studied who died of other causes



ROCKET GUNNER—Garbed in asbestos and wearing a gas mask, this Navy man is charged with the duty of firing the rockets from a landing craft. He relaxes against the flag bag until the call to action. Official U. S. Navy photograph.

than apoplexy.

If these symptoms prove useful in predicting apoplexy, the way may be open for a search for methods to prevent it, the Indianapolis doctors point out. Such a method of predicting fatal apoplexy also will "offer assurance and comfort" to those with high blood pressure who probably will not die of apoplexy.

Science News Letter, February 24, 1945

AGRICULTURE

Stored Corn in Midwest In Danger of Spoilage

► DURING last autumn and early winter, the U. S. Weather Bureau reminds, it was persistently wet and chilly in the Corn Belt. Immense quantities of corn finally had to be picked and cribbed in unsatisfactory condition, with moisture content too high for long storage.

As long as cold weather lasts, spoilage will not be great, but with warmer weather due soon it is feared that a great deal of corn will be ruined unless it is converted into meat as rapidly as possible.

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