



**PILOT'S ANXIETY CHECKED**—When jet pilots get anxious, as they sometimes do, they are likely to breathe harder than usual. That can make them dizzy and bring on an accident. The Air Force School of Aviation Medicine at Randolph Field, Texas, is studying "hyperventilation," as it is called. Here Dr. Robert T. Clark Jr. (left) shows Capt. Truman Parker of Flying Training Air Force headquarters how an instructor can measure the breathing of a student pilot (right) with a compact device developed at the school.

## GEOGRAPHY

## Top of World Rotates

Find evidence indicating that the Arctic ice mass is rotating clockwise, making a full circle in five or ten years. The pack is thinner than once thought.

► ENEMY GROUND forces, fighting on the Arctic ice pack, could find that their battleground has rotated in such a manner that they were facing in opposite directions.

There is evidence to indicate that the huge ice mass sitting on top of the world rotates in a clockwise direction, making a full circle in five or ten years.

A well-known Arctic authority told SCIENCE SERVICE that if a weather station were established on the ice pack on the North American side, it is conceivable that in five years time, it would end up on the Siberian side.

The Arctic ice pack is made up of thin ribs of pressure ice which at times are very loose, while at other times they become a thick mass of crushed ice.

Recent investigations have shown that the Arctic ice pack is much thinner than previously thought. Original estimates were that the pack was upwards of 200 feet thick. It is now known that the ice mass is generally only four to six feet thick. There

are places where it has been found to be from six to 15 feet thick.

Just who owns the ice pack is one of the peacetime 64-dollar questions.

Some nations, such as Canada and Denmark, hold to the segment method of ownership. That is, the nations facing the Arctic cut it up like a pie. A nation facing the mass would draw a wedge-shaped sector from its frontier to the North Pole. All the area within the wedge would then belong to that nation.

This would leave the United States with only that territory facing Alaska. This nation does not accept the segment division, but rather, looks on the Arctic region in the same manner as it looks on jurisdiction of the high seas.

The Russians, on the other hand, have extended their claims much farther out than the limits set for jurisdiction of the high seas.

At present, there is no international agreement on ownership of Arctic regions.

Any attempt at setting up weather stations on the Arctic ice pack, which is actually a regional barrier between this continent and Asia, would have to take into account the rotation of the pack, as well as the fact that it is continually shifting.

Winds, tides and currents cause the Arctic ice pack to move. At one point, it may be very near the North American side, and a shift would cause it to drift very near to the Siberian side.

The problem of manning the Arctic ice pack has not faced American strategists to date because of the body's reputation for loosening up at times and then becoming tightly packed.

Most weather stations and temporary bases have been established on more permanent masses of ice.

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## MEDICINE

## Skewers, Weights Help Stove-in Chests Breathe

► PATIENTS WITH badly "stove-in" chests as a result of being crushed by the steering wheel in automobile accidents can be helped to breathe by a skewer and weight technique reported in the *Journal of the American Medical Association* (Oct. 23).

With a local anesthetic to stop pain, the skewers, stainless steel pins nine inches long, are pushed through the chest muscles but superficial to the ribs. The ends of the skewers on each side of the chest are attached to metal fingers, or "spreaders." These are fastened to weights on an overhead traction frame.

The weight and skewer arrangement pulls the soft part of the chest up so that it will move normally in breathing.

Good results with this new technique in three out of five patients are reported by Drs. Theodore R. Hudson, Robert T. McElvenny and Jerome R. Head of Northwestern University Medical School and Wesley Memorial Hospital, Chicago.

Two of the five patients died of other serious accident injuries, but the skewer and weight arrangement had succeeded in helping their breathing until they died.

In "stove-in" chests from steering wheel injuries, the doctors explain, the normal movement of diaphragm and chest is disrupted. The injury-softened chest areas sink in with each indrawn breath instead of expanding, and move outward instead of inward with each breath exhaled. Coughing is impaired and patients cannot get rid of secretions which then flood the lungs.

"A vicious circle is set up as desperately ill patients struggle for increasing amounts of air only to find the situation made worse by their own efforts," the doctors state.

For minor injuries and as first aid, adhesive tape strapping is satisfactory. But it will not help in the more serious chest injuries, which now cause one-fifth to one-fourth of automobile accident deaths and which, the Chicago doctors say, are likely to increase.

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