

## SURGERY

# Operation Relieves Pain

In new surgery for tic douloureux, facial nerve is not cut so numbness of face is avoided but severe pain is relieved by cutting sheath of nerve root.

► PATIENTS WITH the excruciatingly painful condition known as trigeminal neuralgia, or tic douloureux, may soon be getting relief through a new kind of operation.

In this condition, merely stroking the face or hair on the affected side may bring on a paroxysm of intense pain. Cause of the condition is unknown, but it is known that the pain may come in one or more of the branches of the fifth cranial nerve. This nerve has its roots in the brain somewhat forward of the ear and runs to the skin of the face, to the tongue and teeth, with branches to eye and jaw regions.

Injections of alcohol into the nerve abolish the pain temporarily. When the effects of these injections wear off, patients have hitherto had an operation in which the nerve is cut. While this stops the pain per-

manently, it also leaves the patient with one side of the face, tongue and the eye on that side numb.

The eye must be protected from dust or flying particles by goggles or a side piece on the eyeglasses, because the patient cannot feel when anything gets in his eye. Ulcers on the eye's cornea may result unless the eye is protected. The patient may also bite his cheek without knowing it, and pieces of food may be lost between the teeth and cheek on the affected side.

The new operation avoids these discomforts and dangers because the nerve is not cut. Instead, the sheath of the nerve root and ganglion is cut and the brain's covering membrane is freed up from the ganglion and root.

This decompressing operation was devised by Dr. P. Taarnhoj of Copenhagen, Denmark. He performed it successfully in 10 patients, with relief of pain and no other loss of sensation. Dr. Gosta Norlen of Stockholm, Sweden, who has also used the operation successfully in 10 patients, brought word of it to Dr. J. Grafton Love during a visit to this neurosurgeon at the Mayo Clinic, Rochester, Minn.

Shortly after, on June 12 of this year, Dr. Love had an opportunity to perform it. Results were equally good and he plans to use this treatment on more patients. Dr. Love's case was reported at a Staff Meeting of the Mayo Clinic. Surgeons will find Dr. Taarnhoj's report in the *Journal of Neurosurgery* (May).

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## ENGINEERING

## "Human Gophers" Boring in Mont Blanc

► A CREW of human gophers expect to step up boring operations to a 30-foot-a-day clip by working overtime on the giant tunnel now blueprinted and partly built through France's Mont Blanc. The tunnel, when completed, will be the longest in the world for cars, trucks and buses.

Situated on the French-Italian border, Mont Blanc's big hole will be about seven and a half miles long. The Queensway tunnel, ducking under the Mersey River between Liverpool and Birkenhead, England, at present holds the record length for vehicular traffic. Figures show it is just under two miles long.

Already under construction at both the French and Italian ends, the Mont Blanc tunnel will link France, Switzerland and Italy by an overland highway shorter and

more convenient to travel than present roads. It will save motorists 187.5 miles between Paris and Rome.

The vast project will cost a total of \$20,000,000, to be paid for in part by users. The rest of the cost will be split between the governments of France, Italy and Switzerland. Motorists should be whisking through the subterranean passage in about three years, engineers estimate.

When completed, the 150-year-old engineering dream will connect Chamonix, France, with Courmayeur, Italy. It will be 39 feet wide and 32½ feet high. Eight giant fans will circulate fresh air through the tunnel. Two sidewalks will run along the roadway for the convenience of maintenance and repair crews.

Already workmen have chiseled nearly 4,000 feet through the granite-hard Mont Blanc on the Italian side. Road crews figure they can chip out 30 feet a day by working overtime.

Although completely underground, the tunnel nevertheless will rise to 3,000 or 4,000 feet above sea level as it pierces the mountain. Because of its high elevation, it has picked up the nickname "skyline tunnel."

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## AERONAUTICS

## Safer Bail-out Aided By Ejector Cockpit

► SAFER "BAIL-OUT" from jet planes traveling at near the speed of sound is promised with an ejector cockpit for the pilot which can be expelled at high speed from the plane in emergencies by a simple release device. The entire cockpit, including the pilot, is ejected as a unit.

For simplicity, the bail-out equipment is called a cockpit capsule. It houses the pilot in flight. If found necessary to abandon the plane while traveling at supersonic speed, he touches off a rocket charge which expels the entire capsule, with pilot inside, clear of the craft.

Three fins immediately unfold at the rear end to stabilize the capsule and a small parachute pops out to slow its forward speed. When a safe speed is reached, a main parachute opens which lowers the capsule at a gentle rate of descent to the surface of the earth.

This cockpit capsule is a development by Douglas Aircraft Company in cooperation with the U. S. Navy Bureau of Aeronautics. Preliminary tests are now being made. These already include driving the capsule by rocket propulsion down a two-mile aeroballistic track at a naval test station at the speed of sound, close to 760 miles per hour.

The entire cockpit capsule is sealed and pressurized to protect the pilot against fatal atmospheric conditions prevailing at altitudes above 50,000 feet. If it lands on water in a descent, it floats. Wave motion pumps fresh air into it. The capsule contains survival equipment and supplies similar to those provided on life rafts.

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**WRIST RADIO** — Patterned after Dick Tracy's famous communication aid, this radio is only 1½ inches long by 2 inches wide by ¾ inch thick. A loudspeaker the size of a quarter may be worn on the coat lapel. The radio will pick up stations 100 miles away under good conditions. Developed merely as a curiosity, the radio is not available to the public. It is made possible by use of transistors and tiny bearing-aid batteries.