

Patents of the Week

A newly patented automobile seat invented by a leading industrial designer allows the driver to inflate the seat as hard or as soft as he wishes—By Elizabeth Hall

► AN INFLATABLE auto seat that can be made as hard or soft as the driver likes has been invented by a leading industrial designer.

Raymond Fernand Loewy, consulting designer to many U.S. and foreign corporations in the fields of transportation, package, retail and specialized building design, received U.S. Patent 3,128,125 for the new seat, which may help to prevent back fatigue on long trips.

Mr. Loewy foresees the day when a motorist will be able to adjust the softness or hardness of the seat cushion and back by pressing a button on the dashboard. The powerplant will supply the necessary air pressure.

By adjusting the air pressure in the tubular network embedded in foam rubber seat and back, the person who likes to lean against something hard, yet sit on something soft, will be able to do so. The inflatable seats can also be used on buses and airplanes and even on chairs at home.

The invention has not yet been used in commercial vehicles, Mr. Loewy told SCIENCE SERVICE. He plans to experiment with it by installing it in his own car first, using a softer foam rubber than that used in present cars.

Surgical Turbine

A new high-speed surgical drill powered by a tiny gas turbine engine cuts through bone like a knife cuts through butter. The six-ounce device is the size of a large fountain pen and is for use by dentists and surgeons operating on the heart and brain.

Two tiny turbine fans inside the aluminum and stainless steel device turn between 85,000 and 100,000 revolutions per minute, driving a shaft that spins a special carbide burr on the end.

The microscopic teeth on the burr provide a sharp, rapid cut. No heat is generated because there is such a small amount of friction. No cooling liquid is needed.

Unlike electric surgical tools, this gas-powered instrument can be used in the operating room with no danger of a spark igniting ether and causing an explosion. The device has successfully been used in Pittsburgh to remove brittle, calcified tissue from the aorta of the heart, without damaging the surrounding soft tissue.

The surgical turbine, believed the first commercially successful one of its kind, was conceived by an oral surgeon, Dr. Robert M. Hall of Pittsburgh, who had the Aro Corporation of Bryan, Ohio, design it. Patent 3,128,079 was awarded to Morton S. De Groff, an engineer with the Aro Corporation, which currently manufactures the device known as the Hall Surgical Drill.

Other Significant Patents

An electric target for instructing the

blind in the art of fencing—patent 3,128,097 to Rosario S. La Rocca, Revere, Mass.

A stall for drying the body after a shower, eliminating the need in hotels to supply towels—patent 3,128,161 to Marie-Antoinette Hudon, New York City.

A spherical safety razor, having the advantage of no sharp edges and conforming better to the shaver's face—patent 3,127,676 to Grady L. Johnson, Decatur, Georgia.

A method of making a low-fat frozen dessert that tastes as good as high-calorie ice cream and does not thaw out as quickly—patent 3,128,193 to Luther D. Hilker, Evanston, Ill.; assigned to National Dairy Products Corporation, New York City.

A biological detection system that continuously and automatically samples air or water, detects biological warfare agents, determines their resistance to antibiotics and sounds an alarm—patent 3,128,239 to Robert Z. Page, Springfield, Va.

A blinker light for the rear window of an automobile—patent 3,128,448 to Murray Shumer, Brooklyn, N. Y., and Jerry Cohen, Westbury, N. Y.

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Nature Note

Tiger Salamander

► THE TIGER SALAMANDER which sometimes grows a foot long, gets its name from the yellow splotches or stripes which cover its body, rather than from any claim to bravery.

Normally a shy creature, hiding in damp spots in the woods and still ponds, the tiger salamander is easier to find in the spring when it makes its annual trek to a deep pond to breed.

Arriving at the pond, the males go through an elaborate courtship dance, swimming around each other, and depositing their sperm on the pond bottom where the female will pick it up to fertilize the eggs. She will later lay them in a jelly-like sac underwater.

This salamander, *Ambystoma tigrinum*, ranges over most of the U.S. In the eastern salamanders, the gilled larvae after a few weeks or months in water, metamorphose into lunged, air-breathing adults. In lakes in Colorado, Wyoming and Mexico, however, they reproduce in the gilled stage. This failure to metamorphose probably is due to a low iodine content in the water, and can be fatal in an area where the ponds dry up in late summer.

Naturalists considered these axolotl, as they are called, a separate unique group until around 1865 when some were taken to the Paris zoo. They promptly reproduced, and to everyone's amazement the young developed into ordinary tiger salamanders.

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