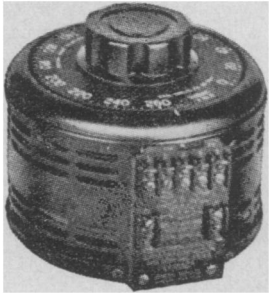


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INVENTION

Current U. S. Patents

A newly patented shock absorber that would permit soft lunar landings has a landing pad made of soft metal which will crush upon impact—By Patricia McBroom

➤ A SPIDER-LIKE shock absorber for soft landings on the moon received a patent from the U.S. Patent Office. The invention has been selected for use on the first exploratory unmanned lunar mission. Also applicable for manned missions, the assembly is one of several designs contemplated for the Apollo lunar flight.

Earlier shock absorbers were developed with unyielding metal. If the spacecraft were to slide at all, its landing gear could dig into the soft lunar surface and topple the vehicle. However, the new pad, made of crushable metal, will skid over dusty ground and crumple upon impact.

Resembling a spider without a head, the shock absorber has a center bowl of stiffened sheet metal and at least four legs. Its feet are hollow and ribbed to give collapsible strength.

Josef F. Blumrich of the National Aeronautics and Space Administration's Huntsville, Ala., complex invented the shock absorbers which can also be used on earth. He assigned rights to the Government through NASA on his patent 3,208,707.

Artificial Heart

The artificial heart most likely to be pumping within a human chest in the near future earned patent 3,208,448 for inventor Kenneth E. Woodward of McLean, Va. Mr. Woodward, a mechanical engineer, developed the heart at the U.S. Army's Harry Diamond Laboratories.

Two separate pumps were included in the patent, the most advanced of which kept a calf alive for 24 hours. This pump

consisted of a lucite shell about the shape of the calf's heart, but a little heavier.

It made use of a new principle called fluid amplification, recently developed by scientists.

Mr. Woodward told SCIENCE SERVICE that the new principle offers a more accurate duplication of the human heart's pumping function. No mechanically moving parts are necessary.

The second heart pump was developed for the Walter Reed Army Hospital and is a plastic block that pumps from outside the body. In a laboratory simulation test lasting two and a half years, researchers found that the device would work under conditions more extreme than those found in a surgical operation.

The pump also tested out in actual surgery with animals. It weighs about five and three-fourths pounds and pulses like a real heart, Mr. Woodward said.

Other Interesting Patents

A sinking float-operated irrigation gate earned patent 3,208,225 for Allan S. Humphreys of Boise, Idaho, who assigned rights to the U.S. Government through the Secretary of Agriculture. When filled with water, a float on top of the gate operates to keep it closed. As water in the ditch empties, so does water in the float, and the gate opens.

A piano course with lettered gloves and corresponding teaching manual earned patent 3,208,327 for Dayton Allen of White Plains, N.Y. The novice can practice with chords printed on his hands until they become imprinted on his memory.

Patent 3,209,317 was awarded to the Esso Production Research Company of Houston, Texas, for a system of processing and interpreting seismic signals in oil exploration.

A fuel element for a fast reactor eliminates the need for external cooling. Robert J. Hennig and Duane T. Aase of Richland, Wash., assigned rights to patent 3,208,916 to the Atomic Energy Commission. The invention comprises a mass of ceramic fuel, penetrated by tubes passing coolant at very high temperatures and pressures.

• Science News Letter, 88:254 October 16, 1965

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• Science News Letter, 88:254 October 16, 1965

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