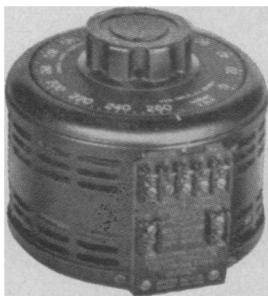


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INVENTION

Current U. S. Patents

A dome design utilizing the principle of "truncability" permits the building of domes of different sizes and heights without changing the construction material—By Ann Ewing

➤ THE DESIGN used to build what was the largest dome in the world until this year has been granted a patent.

R. Buckminster Fuller of Carbondale, Ill., earned patent 3,203,144 for the basic mathematical model from which hundreds of buildings have been constructed around the world.

The principle covered is "truncability," which means that the buildings can have domes of different sizes and heights without changing the materials from which they are constructed.

The invention is particularly useful for making lightweight domes of paperboard or plastic materials that have thin inner and outer facing sheets. The diamond-shaped sheets are fastened to and separated by a core of such strong, yet light, material as expanded polystyrene.

The largest known dome built by Mr. Fuller's method is the one in Baton Rouge, La., used by the Union Tank Car Company to maintain and repair railroad tanker trucks. It has a diameter of 384 feet and rises to 120 feet at its apex.

The Houston Astrodome is built on a different geodesic principle. It has a diameter of 710 feet and rises 208 feet above the playing field.

With Mr. Fuller's mathematical model, big computers can be used to calculate the best design for a dome of any desired height or diameter.

Spacecraft of Changing Shape

A space vehicle whose shape can be varied during reentry into the earth's atmosphere so that it can be maneuvered like an airplane earned patent 3,203,650.

Charles H. Christenson of Burbank, Calif., assigned rights to the patent to Lockheed Aircraft Corporation in Burbank.

During launch the vehicle looks much like the rockets now in use, the wings remaining folded.

When returning through the denser parts

of earth's atmosphere the wings open, allowing the pilot to control the craft. The wings also conceal a wheel for landing.

Other Patents of Interest

An engineer from Georgia Tech was awarded a patent for a method of controlling the air taken into the combustion chamber of a spark-ignited internal combustion engine. Robert L. Allen of Atlanta, Ga., assigned rights to patent 3,203,409 to Georgia Tech Research Institute, Atlanta.

A way of removing the turbulent air that flows right next to the surface of aircraft wings and fuselages earned patent 3,203,648 for Aram Vanesian, Rolling Hills, Calif., who assigned rights to Northrop Corporation, Beverly Hills, Calif.

A device that will warn pilots of small, privately owned aircraft when their planes are in danger of collision, particularly useful when visibility is good, was granted patent 3,203,305. Avarad F. Fairbanks of Canoga Park, Calif., assigned rights to Thompson Ramo Woolridge Inc., Canoga Park.

You may call it cotton candy, but the U.S. Patent Office defines the machine that makes it as one that "spins molten sugar into fine filaments to be gathered on paper cones which serve as handles for fluffy masses of such sugar fibers." John Bowe and David Frohlich, both of Salisbury, Mass., were granted patent 3,203,365 for their machine to make cotton candy.

• Science News Letter, 88:190 September 18, 1965

Do You Know?

Heat is used to thin viscous oil underground and thus allow it to flow more readily toward wells and to the surface.

Approximately 47,000 persons in the United States will die of lung cancer this year, most because of cigarette smoking.

Most color blindness victims not only cannot see color but perceive objects very indistinctly, are distressed by bright lights, and usually suffer from nystagmus, an involuntary rapid movement of the eyes.

The tiny khapra beetle, an elusive pest of stored grain, can survive for years without food.

Medical reports indicate that blondes and redheads may be more susceptible to poison ivy than brunettes.

• Science News Letter, 88:190 September 18, 1965

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