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## INVENTION

# Patents of the Week

An automatic linofilm machine that operates with a computer and which may someday take the place of the linotype machine, earned a patent—By Elizabeth Hall

➤ A **COMPLEX** photocomposing system that with a computer may someday replace the linotype machine received patent 3,106,880 from the U.S. Patent Office.

Commercially known as the linofilm system, about 100 machines are now in operation in the United States. The machine "sets" everything from chemical carbon rings to mathematical equations to advertising copy. It has 80 different type faces of varying sizes.

The linofilm machine at the Government Printing Office operates without the aid of human hands. The first unit of the system, covered in patent 2,847,919, is a keyboard unit that produces a perforated tape. At the GPO, this tape is fed into an input-output converter that converts it into a magnetic tape for computer processing.

The magnetic tape is fed into a computer, which decides on the line justification (system of spacing so that the right margin is even) and programs it accordingly. After returning to the converter to be put on linofilm tape, the computer program is then fed into the second unit of the linofilm machine, the photographic unit, where light is projected through the negative character image to produce the lines set up by the computer.

The finished product may be either a positive readable proof or a positive film. If the end result is the proof, it is pasted up for use in the offset printing process. The film would be used to make a photo-engraving for use in a letterpress.

Because of its great versatility, the machine will produce advertising copy, scientific texts or equations, all without a single slug of metal type being set as in the linotype machine.

The machine was invented by Louis Rossetto, Kings Point, N. Y., Gino F. Squassoni, Lynbrook, N. Y., and Wolfgang O. Grube, Bergenfield, N. J. Patent rights were assigned to Mergenthaler Linotype Company, Brooklyn, N. Y.

## Erecting Domes

A California inventor has devised an improved method for erecting geodesic domes or cylindrical tanks by inflating large pneumatic bags in the desired shape of the building.

The bags provide the necessary support for the building materials and lift the dome gradually as work is completed from top to bottom. The bags can support a dome weight of 39,000 pounds and an additional 60,000 pounds in the case of a typical dome 148 feet in diameter at the base. This procedure enables all the workmen to stand on the ground level while constructing the dome or tank.

The pneumatic bag is made of a flexible

fabric, such as plastic or rubber-coated nylon, that is impervious to air and has a high strength to weight ratio. After the dome is completed (only 22 hours and 38 workmen to complete the dome described above), the bag is deflated and withdrawn. Patent 3,106,772 was awarded to Gordon B. Holcombe of Millbrae.

## Other Significant Patents

Other patents included:

A portable, automatic electric greenhouse for use in homes, offices or other locations for which Gerard H. Risacher, Mansfield, Ohio, received patent 3,106,801. The base is made of a molded foam heat-insulating material, and the thermostat is located above the heating control and under the planting trays in order to maintain a standard temperature at all times. Rights to the patent were assigned to Westinghouse Electric Corporation, East Pittsburgh, Pa.

Three educational models of the spinal cord, the cerebrum and the midbrain for teaching the components and diseases associated with those parts of the human anatomy. Robert Douglas Collins of Philadelphia was awarded three patents, 3,106,785 through 3,106,787, for these three-dimensional models that can be disassembled.

A golf shirt with a concealed elastic sheath fitting over one elbow to warn the golfer that he is bending his elbow while swinging and therefore slicing the ball. Jay H. Raab of Elkins Park, Pa., assigned rights to patent 3,106,718 to M. H. Raab-Meyerhoff Co. of Philadelphia.

An aircraft device that simulates terrain information as radar does, and is utilized in training aircraft personnel to use radar. Edward E. Gray of Mountain View, Calif., and Keith E. McFarland of Palo Alto, Calif., assigned rights to patent 3,100,238 to General Precision, Inc., of Binghamton, N. Y.

• Science News Letter, 84:286 Nov. 2, 1963

## Do You Know?

A tiny amount of excess *zinc* in the soil may prevent plants from getting enough iron.

The great mountain *ranges*, the highest parts of the earth's crust, are supported by roots of crustal rocks that project downward into the mantle.

Less than 20% of the *bauxite*, the commercial aluminum ore, used in the U. S. annually is obtained in this country.

• Science News Letter, 84:286 Nov. 2, 1963