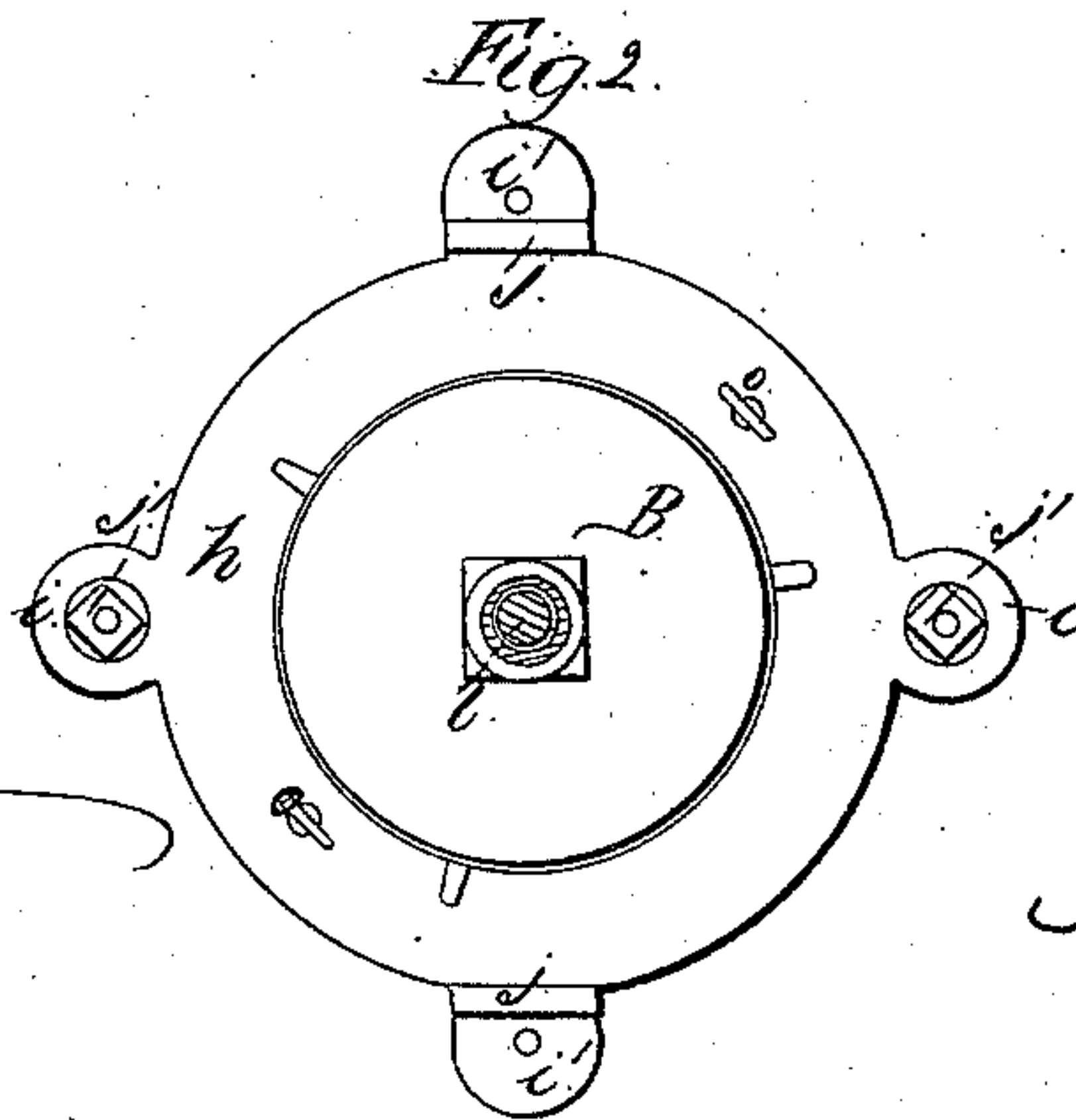
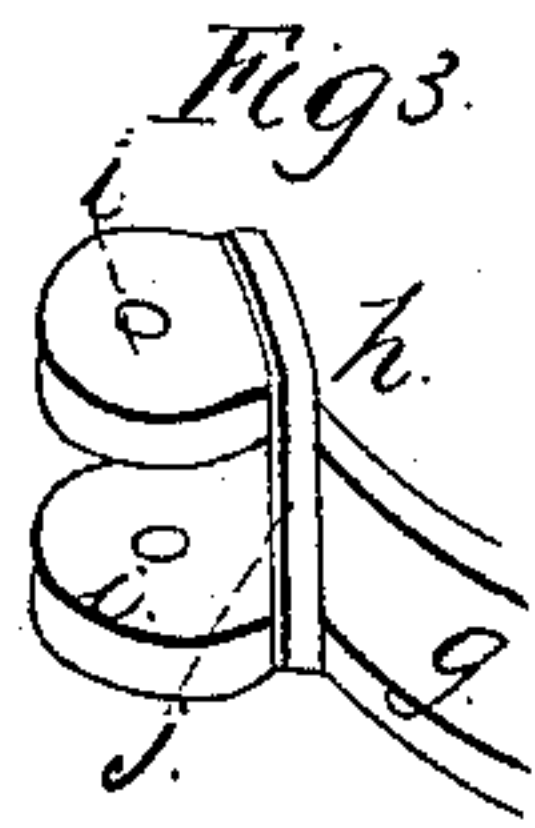
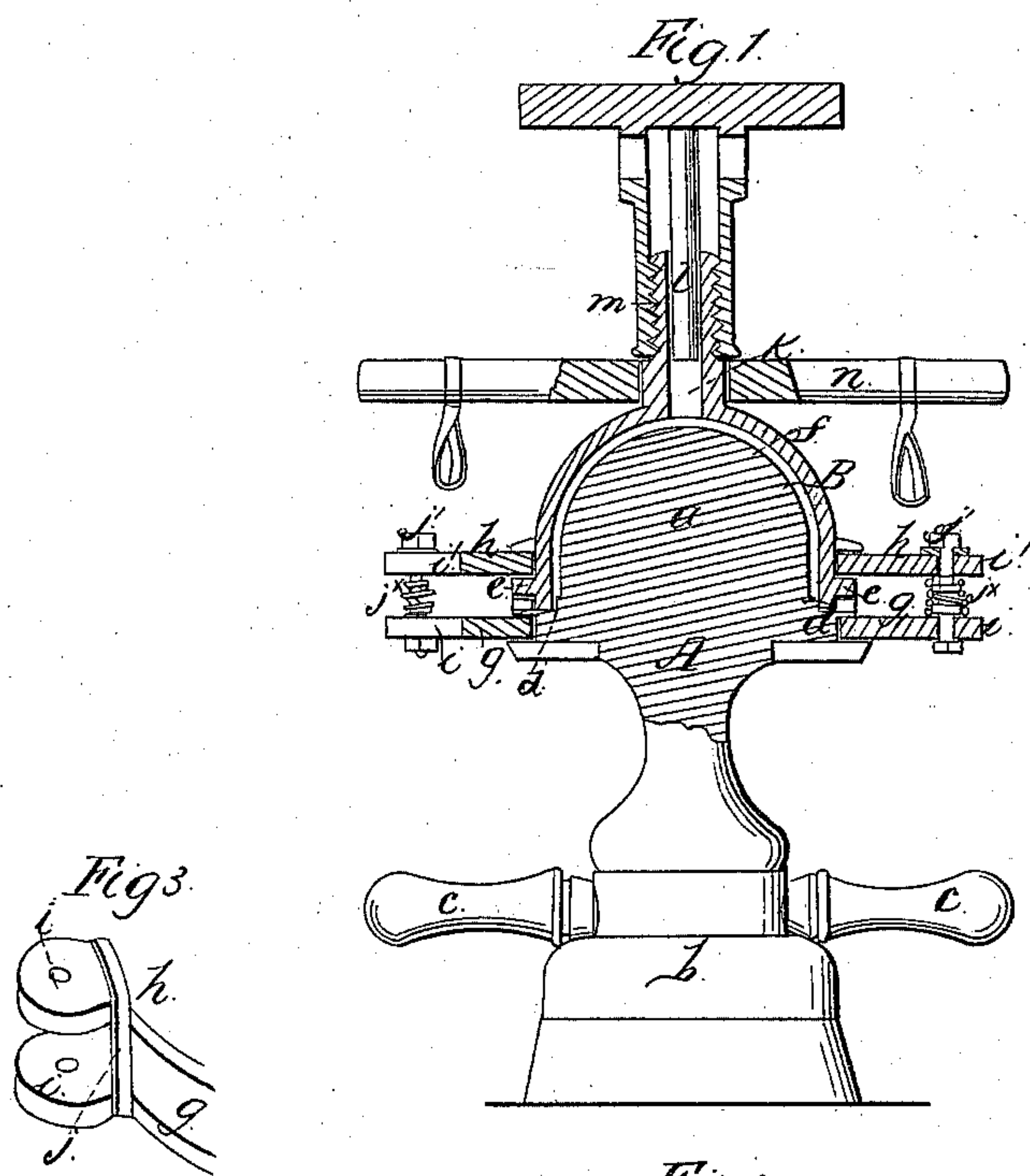


J. R. Agnew,
Making Geographical Globes.
N^o 43379. Patented July 5, 1864.



Witnesses:
J. W. Coombs
G. W. Reed

Inventor
J. R. Agnew
per Munroe & Co.
attorneys

UNITED STATES PATENT OFFICE.

J. R. AGNEW, OF LANCASTER, PENNSYLVANIA.

IMPROVEMENT IN MOLDS FOR MAKING SCHOOL-GLOBES.

Specification forming part of Letters Patent No. 43,379, dated July 5, 1864.

To all whom it may concern :

Be it known that I, JOHN R. AGNEW, of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Mold for Making Hemispheres; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical central section of my invention. Fig. 2 is a horizontal section of the same. Fig. 3 is a partial perspective view of a modification of the same.

Similar letters of reference indicate corresponding parts in all the figures.

The object of this invention is a mold particularly intended for the manufacture of school-globes out of paper-pulp or other suitable plastic material or materials.

The invention consists in a mold composed of two parts, one convex and the other concave, which are fitted together by means of flanges, which are perforated, if necessary to let the water escape, and are held together by movable rings and adjustable spring-fastenings, in combination with a channel leading to the interior of the concave mold and with a plunger or follower, in such a manner that by the action of said follower the material from which the globes or hemispheres are to be made can be compressed to any desired degree until the spring-fastenings give way and allow the two parts of the mold to separate.

To enable others skilled in the art to make and use my invention, I will proceed to describe it.

The convex part A of my mold is turned out of a piece of wood or any other suitable material, and its top forms a hemispherical protuberance, *a*, corresponding in size to the interior of the hemispheres to be produced. Said convex part of the mold is provided with a foot, *b*, so that it will readily stand in an upright position, and two handles, *c*, serve for turning the two parts of the mold on the upper and under surfaces of the hemisphere molded, for the purpose of detaching them from the material and rendering its surface smooth. The convex part of the mold is provided with a grooved flange, *d*, which is intended to receive the bottom edge of the con-

cave mold B. This part of the mold is also turned out of wood, or made out of any other suitable material, and it is provided with a flange, *e*, near to its bottom edge, which closes down tight upon flange *d* of the convex part. The concave part is turned out to correspond in size to the outside of the hemisphere to be produced, and if it is adjusted over the convex part of the mold a narrow space, *f*, is left equal to the desired thickness of the globes to be made. The flanges *d* and *e* may be provided with small notches or perforations to let out the moisture that may be contained in the material from which the globes or hemispheres are to be made.

The two parts of the mold are held together by means of movable rings *g h*, one of which is attached to the convex and the other to the concave part of the mold, said rings being provided with lugs or ears *i i* and connected by spring-fastenings *j j**. These spring fastenings may either be made of simple springs of india-rubber or other suitable material, catching over the ears *i i*, as shown in Fig. 3; or they may be made of spring *j**, adjustable by means of screw-bolts *j'*, so that the power with which the rings *g h* are compressed can be regulated at pleasure.

The material from which the hemispheres are to be made is introduced into the space *f* between the two parts of the mold through a channel, *k*, leading down through the center of the concave part of the mold. This channel is provided with a follower, *l*, which may either be forced down by a screw, *m*, as shown in Fig. 1 of the drawings, or by means of a lever and springs, the power of which may be graduated according to the pressure required. The upper end of the screw *m* forms a foot, on which the same, either alone or with the concave part of the mold, will stand when not used, and a lever passing transversely through the shank of the screw serves to turn the same up or down. The upper end of the concave part of the mold may be made square, as shown in Fig. 2, to receive the hand-lever *n*, which is used in separating the two parts of the mold from the material and to render the surfaces smooth. The movable rings *g h* are held together by pins *o*, which prevent the same from turning around spontaneously.

By means of this mold hemispheres of paper-

pulp, either alone or mixed with other materials—such as sawdust, or any other plastic material—may be introduced into the mold, and by suitable application of pressure formed into a hemisphere. The pressure to which the material is exposed is graduated by the spring-fastenings *j j**, when the follower is depressed by the screw *m*; but when a spring-lever is used for the purpose of depressing said follower the pressure to which the material in the mold is exposed depends upon the power of springs acting on said lever.

It is obvious that this mold can be made of any desirable size, and by its aid school-globes can be produced in the most expeditious manner, and by connecting a number of molds and their plungers together in such a manner that the same can be operated simultaneously the work can be still further facilitated.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the two parts A B of the mold with stationary flanges *d e* and movable flanges *g h*, constructed and operating substantially as and for the purpose specified.

2. The plunger *l*, in combination with the screw *m*, or its equivalent, and with the two parts A B of the mold, constructed and operating substantially as and for the purpose set forth.

3. The spring-fastenings *j j**, in combination with the plunger *l*, screw *m*, and convex and concave mold A B, constructed and operating in the manner and for the purpose substantially as herein shown and described.

JOHN R. AGNEW.

Witnesses:

D. W. PATTERSON,

J. C. VAN CAMP.