

(No Model.)

J. M. SPRINGER.
Molder's Flask.

No. 232,084.

Patented Sept. 7, 1880.

Fig. 1.

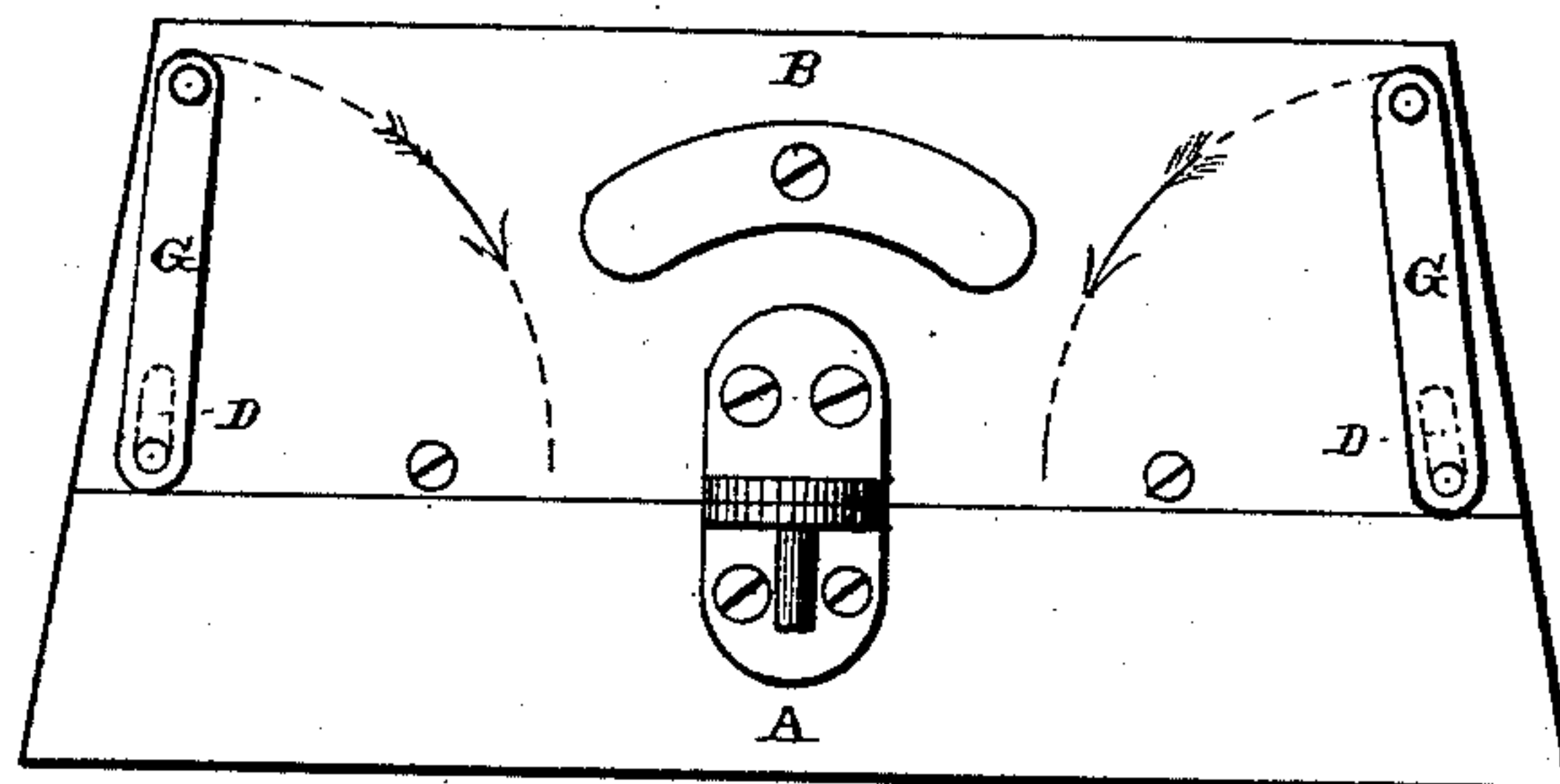


Fig. 2.

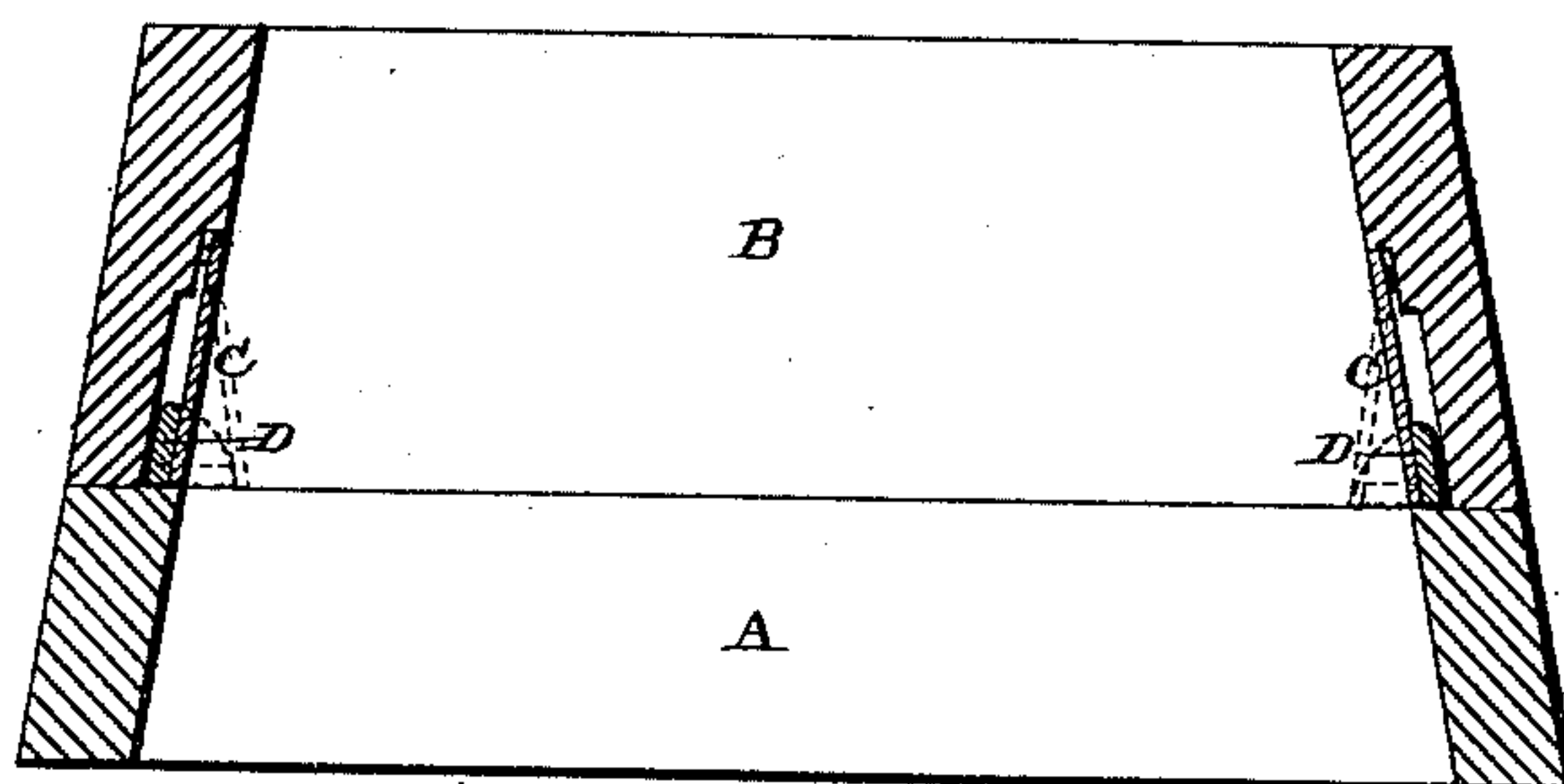
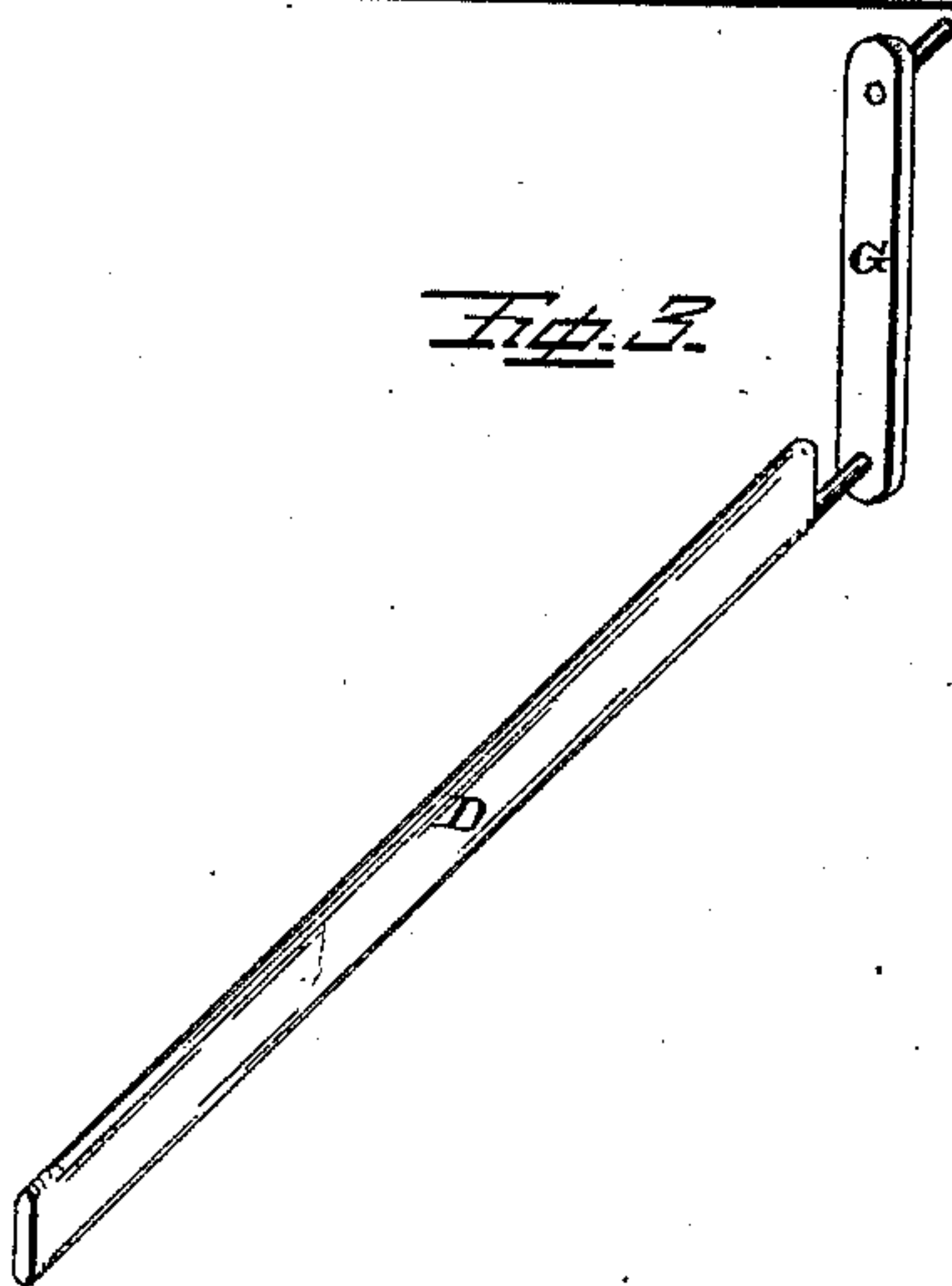


Fig. 3.



Witnesses:

Wm. W. Mortimer,
C. H. Isham.

Inventor:
J. M. Springer,
per
F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH M. SPRINGER, OF LOGANSFORT, INDIANA, ASSIGNOR OF ONE-THIRD
OF HIS RIGHT TO J. HANKEY, OF SAME PLACE.

MOLDER'S FLASK.

SPECIFICATION forming part of Letters Patent No. 232,084, dated September 7, 1880.

Application filed July 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. SPRINGER, of Logansport, in the county of Cass and State of Indiana, have invented certain new and useful Improvements in Molders' Flasks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in molders' flasks; and it consists in attaching to the inner opposite sides of the cope two metallic plates which extend from the center of the cope down to its lower edges, and which plates can be forced inward toward the center of the cope by suitable devices, so as to change the inside of the cope from a straight line, and, by catching under the lower part of the sand that is packed in the cope, prevent the sand from dropping out when the cope is removed from the drag for the purpose of taking the pattern out and returning the cope to position preparatory to making the casting.

It still further consists in a pivoted cam which has its bearings in the lower edge of the cope, and which has a crank or handle attached to one end, outside of the cope, whereby the plate or cam can be turned from a vertical to nearly a horizontal position, whereby the movable plate which is attached to the side of the cope can be forced inward at its lower edge toward the center of the cope.

The object of my invention is to provide an attachment for copes, whereby the sand which has been rammed in around the upper half of the pattern will be prevented from dropping out of the cope when the cope is being taken off of the top of the drag for the purpose of removing the pattern, and then putting the cope back in position again, whereby mold after mold can be formed by the same flask without the necessity of having a separate flask for each mold.

Figure 1 is an end view of a flask embodying my invention. Fig. 2 is a vertical cross-section of the same, taken through the center; and Fig. 3 is a perspective of one of the cams and its operating-crank.

A represents the drag, and B the cope, which are made tapering from top to bottom, so that after the mold has been formed these two parts can be taken off, leaving the sand standing firmly in position. Loosely attached to the two opposite inner sides of the cope are the flat plates C, which extend from one end of the cope to the other, and from at or near its center down to its lower edges. These plates are loosely attached at their upper edges, so that they can be moved inward toward the center of the cope, as shown by dotted lines in Fig. 2. In the inner sides of the cope, back of these plates C, are made suitable longitudinal recesses, and in which recesses are placed the cams D, which have their bearings in the ends of the cope. One end of each of these cams projects through one end of the cope, and to this projecting end is attached a handle or crank, G, by means of which the cam can be turned from a vertical to a horizontal position, or nearly so, for the purpose of forcing the plates C, at their lower edges, inward toward the center of the cope. These cams D are pivoted at their lower edges, so that when turned down for the purpose of forcing the plate C inward they close the space back of these plates C in such a manner as to prevent the sand that is rammed in the cope around the pattern from getting back of the plates C, and thus interfering with their movements. The cope and drag are attached together by means of the usual eye and pin, or by any other suitable device which will prevent any movement after one has been placed upon the other.

The operation of my invention is as follows: One half of the pattern is laid upon a flat board, and then the drag is laid upon the board over the half-pattern, so that the smallest part of the drag will be turned downward, and the drag is then filled with sand and rammed, in the usual manner. The drag is then turned over, the parting dressed, the other half of the pattern placed in position, and then the cope is placed upon the top of the drag, ready to be filled with sand, in the usual manner. Before the sand is poured in and rammed the plates C are turned inward toward the center of the cope, so as to occupy the position shown in dotted lines in Fig. 2, and thus make the cope

smallest at its lower edge. After the sand has been rammed in the cope the cope is removed from the drag, the pattern taken out, and the cope is then returned to position. The plates C
5 serve as a support for the sand in the cope at its lower edges and prevent the sand, when the cope is being removed, from dropping out. After the cope has been placed back in position again upon the drag the cams D are turned outward
10 into a vertical position, and the plates C, being free to move, no longer catch under the sand so as to support it. As the mold is made tapering from top to bottom the entire flask can be removed from the sand after the mold
15 has been formed, leaving the sand stand hard and perfect in position, and in this way but a single flask is needed to form mold after mold, instead of having a separate and distinct flask for each separate mold.

20 By having the plates C attached to the inside of the cope, should it be desired to move the top part of the mold at any time after the flask has been removed it is only necessary to place the flask over the sand again and then
25 force the plate C inward, so that it will catch

under the upper part of the mold, when the upper part can be taken off and replaced at will.

Instead of two plates being used, as here shown, one plate may be used, if so desired; but in that case it will be found desirable to
30 give it a greater play or movement than is done where two stops are used. This one plate will support the whole of one side of the mold, and the sand being rammed sufficiently solid will need no support upon the other side.

35 Having thus described my invention, I claim—

The combination, in a molder's flask, of a plate or plates, C, and a suitable operating mechanism for forcing the plate or plates in-
40 ward toward the center of the cope, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of July, 1880.

JOSEPH M. SPRINGER.

Witnesses:

RUFUS MAGEE,

DYER B. McCONNELL.