

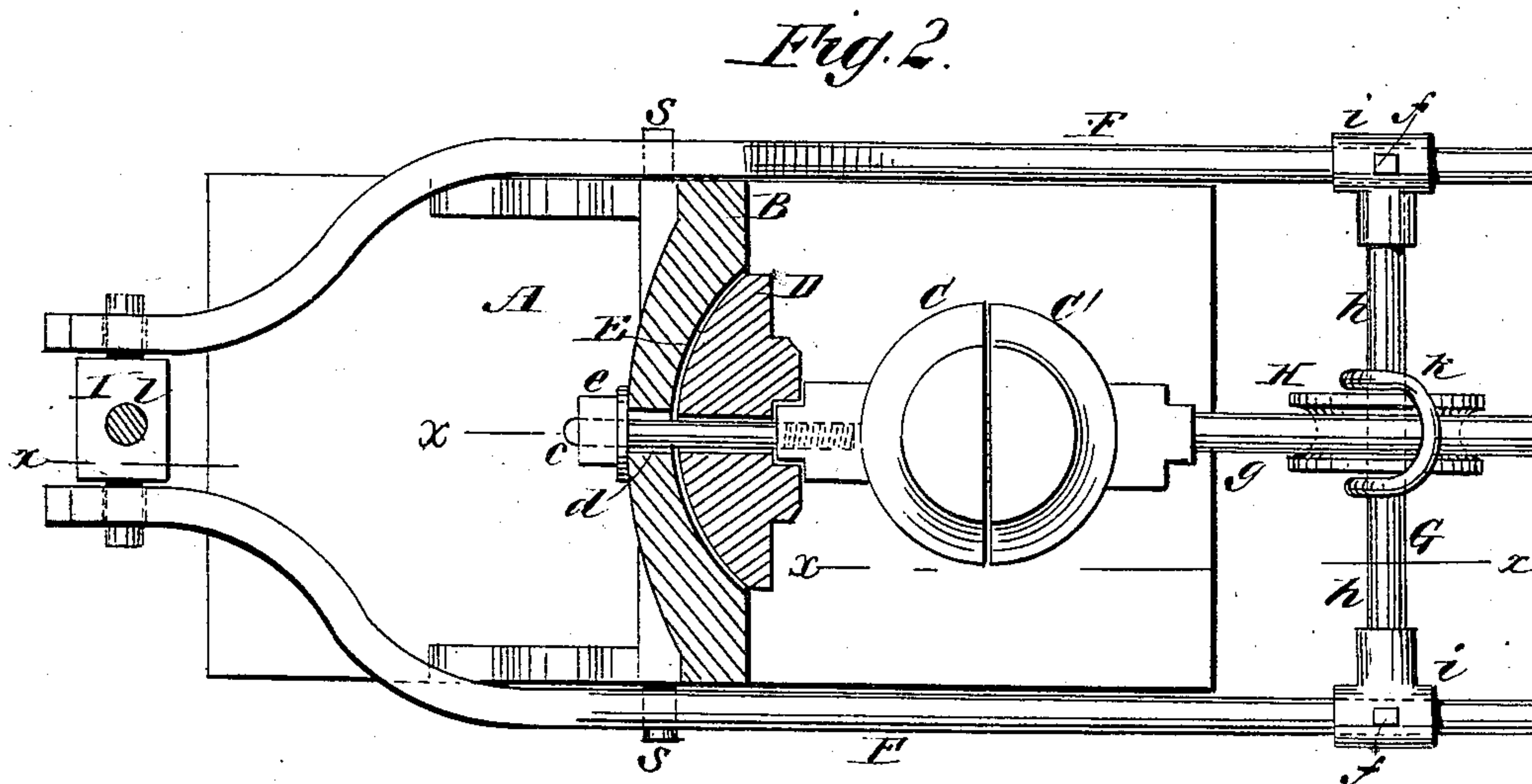
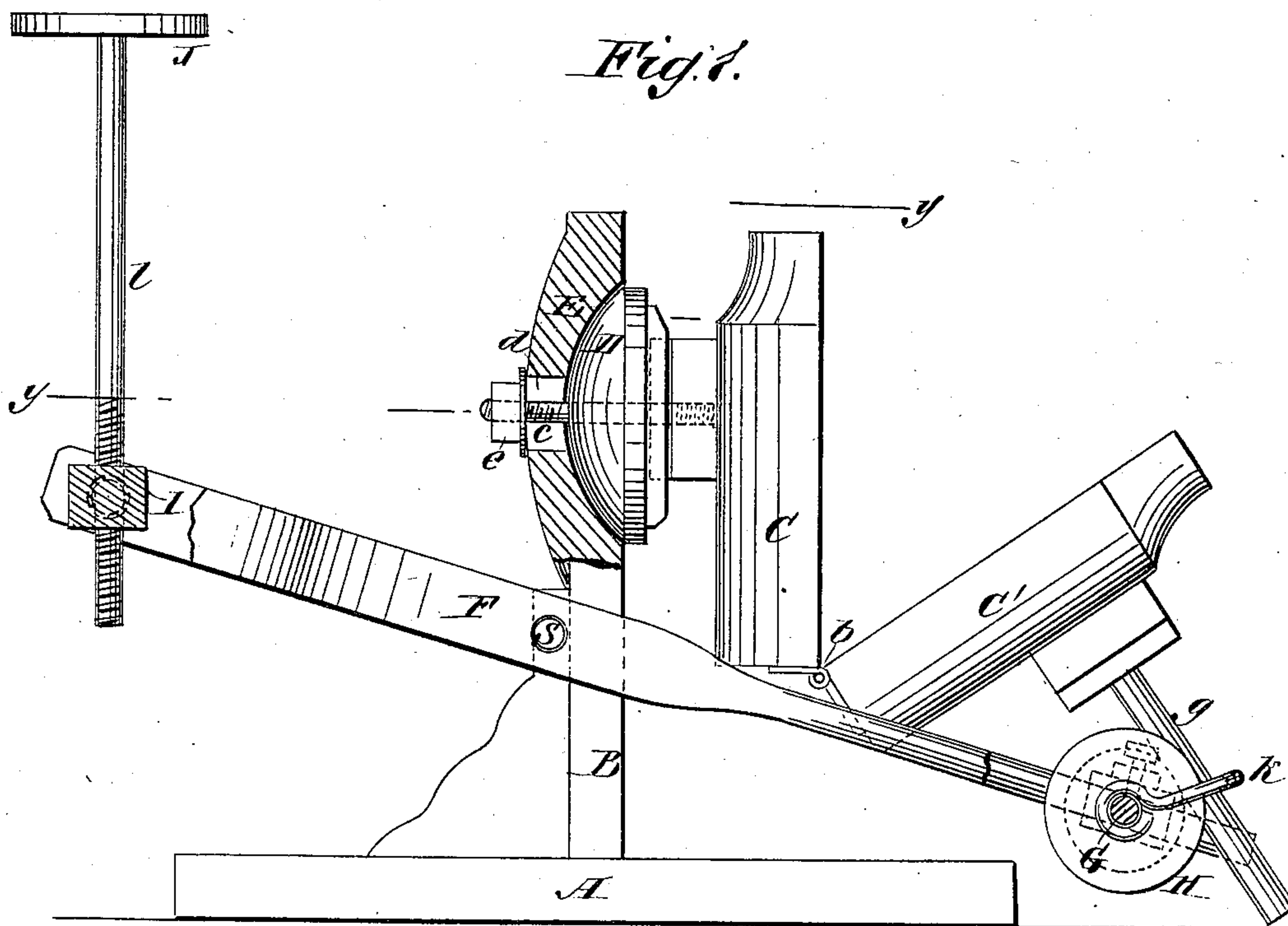
(No Model.)

N. GRANGER.

### FRAME AND TREADLE FOR GLASS MOLDS.

No. 254,637.

Patented Mar. 7, 1882.



WITNESSES :

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# UNITED STATES PATENT OFFICE.

NILES GRANGER, OF SARATOGA SPRINGS, NEW YORK.

## FRAME AND TREADLE FOR GLASS-MOLDS.

SPECIFICATION forming part of Letters Patent No. 254,637, dated March 7, 1882.

Application filed January 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, NILES GRANGER, of Saratoga Springs, Saratoga county, New York, have invented a new and useful Improvement in Frames and Treadles for Glass-Molds, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 represents a partly sectional side elevation, on the irregular line *xx* in Fig. 2, of a frame with attached bottle-mold and treadle-motion applied in accordance with the invention, showing the mold open; and Fig. 2 is a partly sectional plan of the same on the irregular line *yy* in Fig. 1, representing the mold as closed.

This invention relates to frames for holding and closing molds for making bottles and other articles of glass.

The invention consists in a ball-and-socket support for the mold, whereby it may be adjusted and held in an upright position; in a novel construction and arrangement of the treadle for closing and holding the opening and closing section of the mold; in means for adapting the frame to different-sized molds and for evenly closing the opening section of the mold, and in a novel attachment of the foot-rest of the treadle, whereby the same is made adjustable and has an easy motion secured for it.

In the drawings, A B represent the bed and upright of the frame, which may be of cast-iron.

C C' is a vertically-divided bottle-mold, the two halves of which are connected together at their lower ends by a hinge, *b*, as usual. The mouth end of the mold, which corresponds with the neck of the bottle, is of course upright when the mold is closed. The mold-section C has cast on its back, or otherwise suitably attached to it, a ball or part ball, D, which is free to work or be adjusted within a socket, E, in the upright B of the frame, and is secured to said upright by a screw-stem, *c*, arranged to pass through a slot, *d*, in the upright, and fastened by a nut, *e*; or any other suitable means of securing and adjusting the mold-section C by its ball-and-socket joint D E may be

used. Such universal adjustment of the mold provides for setting it in a true upright position, which, as well understood by the trade, is very important in making good or perfect work. This mode of adjustment dispenses with the wedges or movement of the frame or treadle for setting the mold in its required position. The opening and closing section C' of the mold opens by its own weight when pressure is removed from the treadle which closes and controls it. This treadle is made up in part of two side arms, F F, which rock on bearings S attached to the upright B, and which have combined with them near their one end a cross-head, G. This cross-head, which is instrumental in closing the mold and in letting the opening section C' down easy, when opening the mold under check by the treadle, is adjustable on and along the arms F F, and secured thereon by set-screws *ff*, to provide for working large and small molds. Arranged loosely upon said cross-head G is a grooved wheel or roller, H, within the groove in the periphery of which the stem *g* of the opening section C' of the mold rests to provide for lifting and closing said section. By means of the roller H friction is reduced, and by said roller being loose in every direction upon the cross-head—that is, both around and along it—crowding of the mold to one side is avoided, which crowding makes the mold shut unevenly and leaves a seam in the molded bottle or other glass article. A keeper, *k*, on the cross-head keeps the stem *g* in close range with the grooved roller.

It is preferred to construct the cross-head G of a piece of gas-pipe, *h*, with two T-shaped elbows, *i i*, at its ends. This makes a light, durable, and cheap cross-head. The side arms, F F, of the treadle nearly meet at their opposite ends to those on which the cross-head is arranged, and have pivoted between them a foot-rest-supporting block or nut, I, through which the stem *l* of the foot-rest J screws and is adjustable. This provides for an easy rocking motion of the foot-rest, and for raising and lowering it to suit the tread of the workman, and the whole treadle motion is such as not to interfere with the convenience or duties of the operator.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

1. The divided mold, hinged at its base to provide for the opening and closing of it, and  
5 having one of its sections supported in its rear by a ball-and-socket joint, in combination with means for holding it when adjusted by said joint, whereby provision is made for adjusting  
10 or setting the mold in an upright position, substantially as specified.

2. The combination, with the opening and closing hinged section C' of the mold, having a projection or stem, *g*, on its back, and the  
15 side arms, F F, of the treadle, of the cross-head G, made adjustable along said arms, for closing and holding the mold, and whereby provision is made for working different-sized molds, essentially as described.

3. The cross-head G, constructed of a pipe,

*h*, and hollow T-shaped elbows *i i* at its ends, 20 in combination with attached means for securing said cross-heads in place, substantially as specified.

4. The combination, with the opening and closing hinged mold-section C' and its stem 25 *g*, of the cross-head G of the treadle, and the loose grooved wheel or roller H on said cross-head, for operation on the stem *g*, essentially as described.

5. The combination, with the side arms, F F, 30 of the treadle, of the pivoted and rocking nut or foot-rest block I, the foot-rest J, and the stem *l* of said rest, adjustable within and through said nut, substantially as specified.

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Witnesses:

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