

No. 730,398.

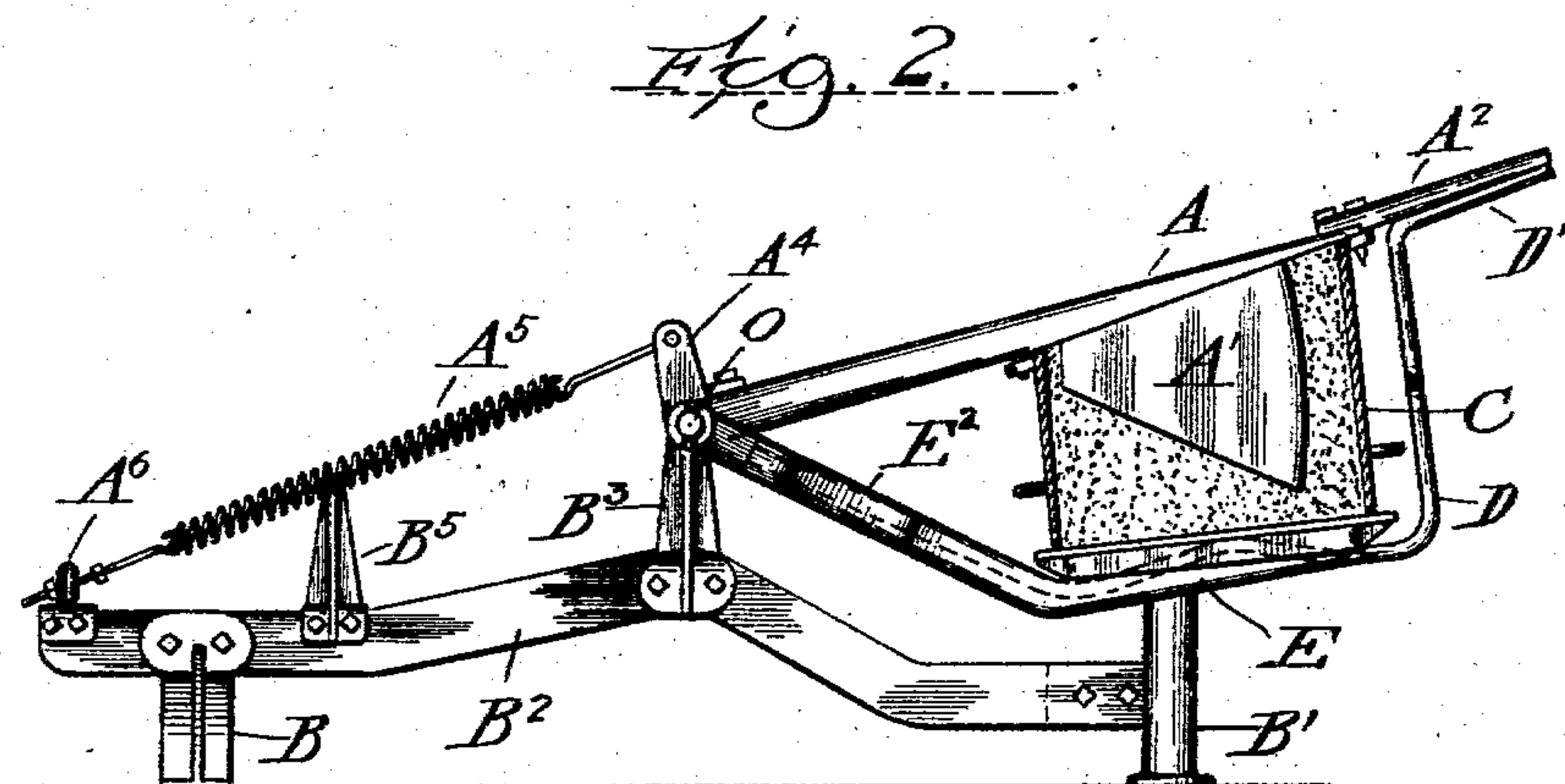
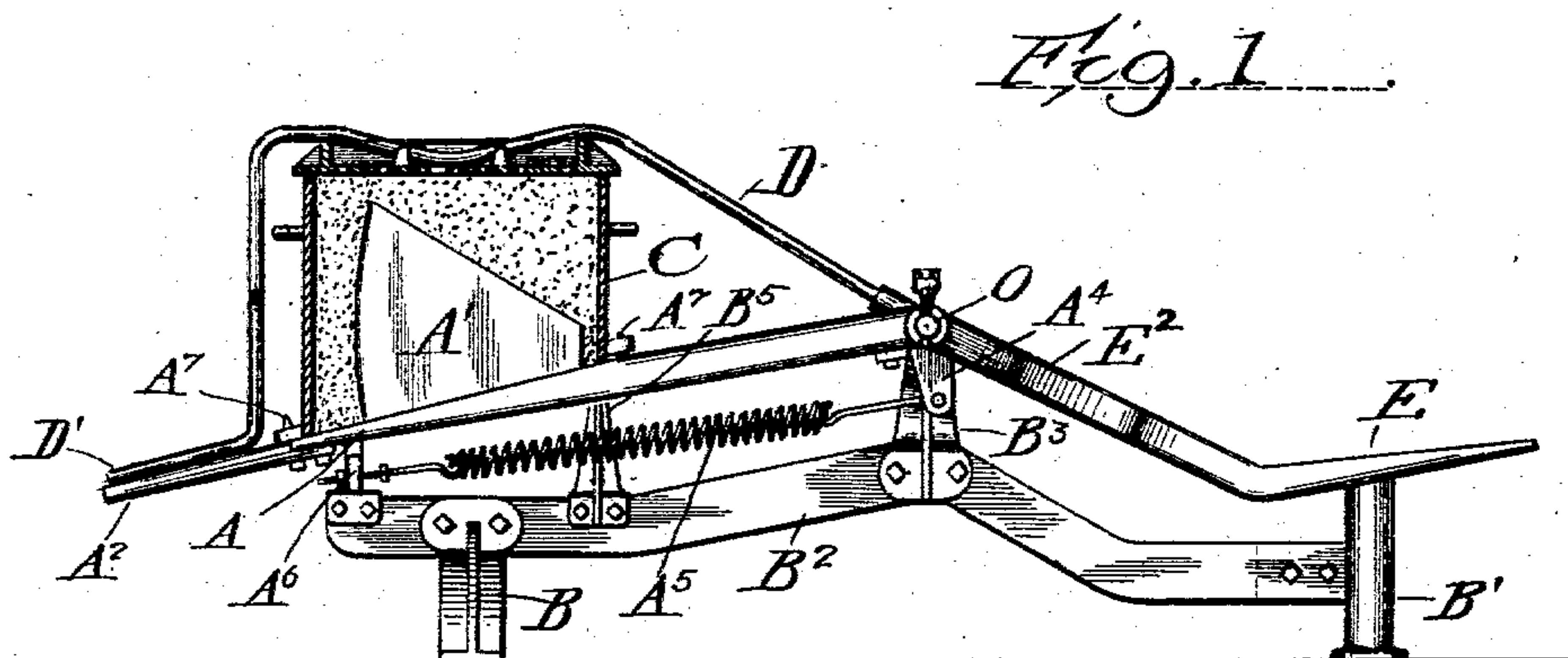
PATENTED JUNE 9, 1903.

J. W. PRIDMORE.
MOLDING MACHINE.

APPLICATION FILED SEPT. 25, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

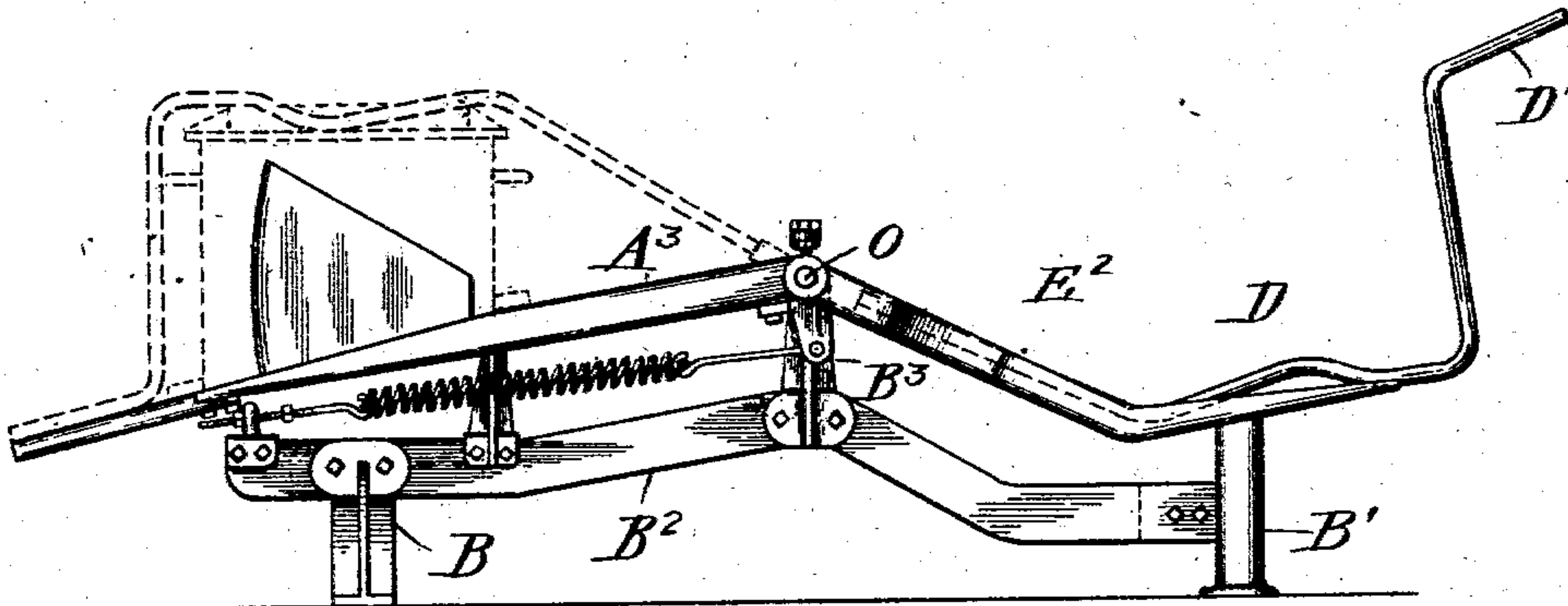
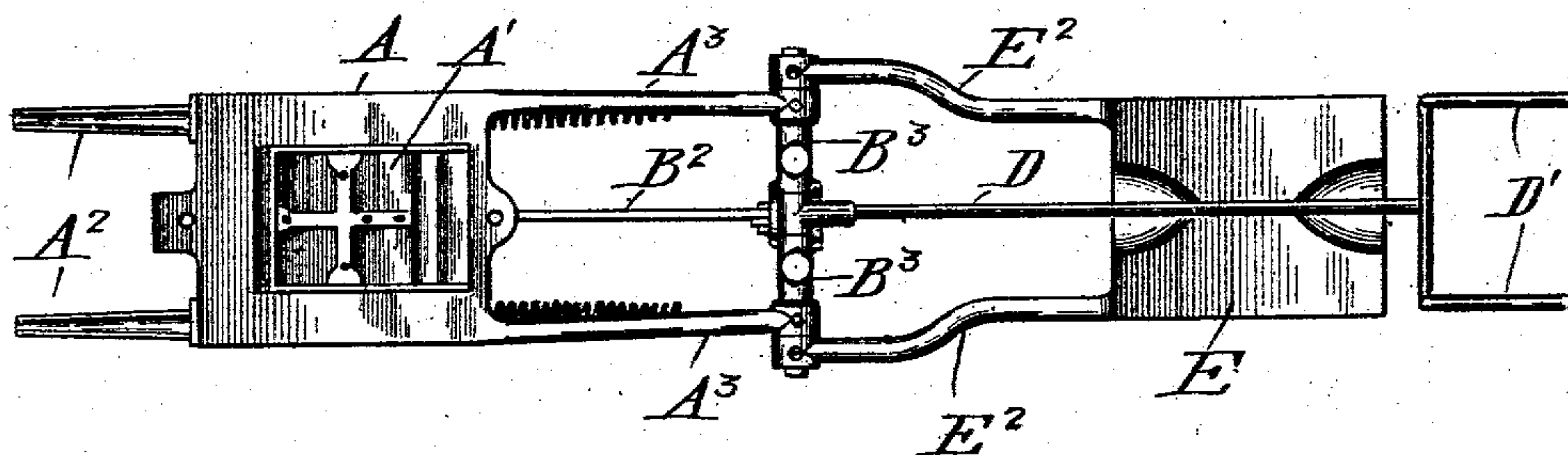


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. PRIDMORE, OF CHICAGO, ILLINOIS, ASSIGNOR TO INTERNATIONAL HARVESTER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 730,398, dated June 9, 1903.

Application filed September 25, 1902. Serial No. 124,788. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. PRIDMORE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Molding-Machines; 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 appertains to make and use the same.

My invention relates to molding-machines, and pertains more particularly to machines of the rock-over type for forming sand molds for casting metals, and has for its object to provide a machine of this type having a supporting-frame of such a character that it can be modified or changed in part to accommodate molds of different sizes or contours and to provide a plate designed to support the mold during the operation of withdrawing the pattern therefrom so connected with the frame that its surface transversely and longitudinally will be maintained in a definite relation with the axis on which the pattern-plate is rocked and so, also, that the surface of the pattern-plate transversely and longitudinally shall have the same definite relation to its own axis, so that when the flask carrying the mold with the pattern in it is clamped down on the pattern-plate and the plate is rocked over onto the supporting-plate the surfaces of said two plates will have the same relation to the axis that they had before the pattern-plate was rocked over, the object of this arrangement being to prevent the pattern from injuring or destroying the mold when the pattern-plate is rocked back again to withdraw the pattern.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a partial sectional view showing the pattern in position in the mold. Fig. 2 is a view of the same parts, showing the pattern and mold inverted upon the secondary frame in position to have the pattern withdrawn. Fig. 3 shows a machine with the pattern-frame returned to its initial position, the flask and holding-clamp being shown in dotted lines. Fig. 4 is a plan view of the parts shown in Fig. 3.

In molding-machines of the rock-over type

the pattern is withdrawn from the mold, which has been inverted and placed upon a support and which must be substantially parallel with the axis of the frame upon which the pattern is mounted. Where the patterns are very deep, it is important that the mold be placed upon a surface which has the same relation to the axis of the frame that the pattern-plate has to the same axis in order that the pattern may be readily withdrawn without destroying or damaging the mold.

Referring to the drawings, A indicates a pattern-plate fitted with a pattern A', which plate is provided with ears or arms A³, which are connected to a pivot-pin O in order to permit the plate to be rocked about the pivot-pin O as an axis, as is common in machines of this type. The pattern-plate is provided with the usual pins A⁷, which are adapted to engage perforated lugs on a flask C in order to hold said flask properly in position on the plate. It is obvious, of course, that the steady-pins A⁷ may be located upon the flask and the pattern-plate provided with corresponding holes. The pattern-plate is provided at its forward end with handles A², adapted to be grasped by the workman in the operation of reversing the plate.

Projecting at right angles from the bearings by which the pattern-plate is mounted upon the pivot-pin O are two brackets A⁴, to which are connected coil-springs A⁵, which are anchored at their opposite ends to lugs A⁶ upon the machine-frame. The purpose of said springs is to facilitate the initial movement of the pattern-plate in both directions about the pivot-pin O.

Journaled upon the pivot-pin O by means of projecting ears or arms E² is a secondary plate E, which is adapted to receive the flask when the pattern-frame carrying the same is reversed. Likewise pivoted to the pin O is a suitably-bent clamping-bar D, which is adapted to extend over the top of the flask and securely clamp the same upon the pattern-plate, while the portions of the bifurcated handle D' rest upon the corresponding sections of the handle A² of the pattern-plate, as clearly indicated in Fig. 1.

The mechanism as above described is mounted upon a machine-frame comprising

standards or legs B B' and a single longitudinal bar B², preferably of wrought metal and shaped to accommodate the particular conditions of the work. Centrally disposed
 5 upon the bar B² is the bracket B³, which is provided with laterally-projecting hubs, which constitute the bearings for the pivot-pin O, while a bracket B⁵, disposed upon the forward part of the machine, affords a support for the
 10 pattern-plate when the latter is in its initial position.

Machines of this general type have heretofore been provided with a supporting-frame formed of a single casting, and consequently
 15 when molds of different sizes or contours are to be mounted it is necessary to provide a new framework for each style or size of mold. In the machine as above described it is to be noted that the supporting-frame is so constructed that the longitudinal bar B² may be
 20 removed and another bar substituted therefor, the latter having the particular form—viz., length and contour—required to accommodate the mold to be mounted.

In operating the machine the pattern-plate is disposed in the position illustrated in Fig. 1, after which the flask is placed over the pattern with the ears registering with the pins on the pattern-plate. The flask is then filled
 30 with green sand and properly tamped, the bottom plate placed in position, and the clamp D brought up over the bottom, after which the handles A² and D' are grasped by the operator and the pattern-plate and flask reversed—that is, rotated upon the pivot-pin
 35 O—until the bottom of the flask rests upon the auxiliary plate E, in which position the pattern is in condition to be withdrawn from the mold. It is essential in using deep patterns
 40 that the flask containing the mold be placed, when the pattern is to be withdrawn, upon a surface which shall have transversely and longitudinally the same relation to the axis of the pattern-plate which the latter plate
 45 has to said axis in order that the pattern may be withdrawn without injuring the mold. I have accomplished this result by attaching the plate E to the pivot-pin O and supporting its outer end on a part of the machine-
 50 frame, so that said plate E is always maintained in the necessary relation to the axis of said pin O.

In order to adapt the machine to molds of different sizes and contours, the bar B², pat-

tern-plate A, and auxiliary plate E may be 55 removed and another bar substituted for bar B², the latter having the particular length, height, or contour necessary to accommodate the particular piece of work to be undertaken, after which the other parts are reas- 60 sembled as before.

Having thus described my invention, what I claim, and desire to secure, is—

1. In a rock-over molding-machine, the combination of a supporting-frame having a 65 transverse pivot-pin, a pattern-plate pivoted on said pin, and a second plate for supporting the mold during the withdrawal of the pattern, also pivoted to said pin, whereby the necessary position of the second plate is main- 70 tained relative to the axis of said pivot-pin.

2. In a rock-over molding-machine, the combination of a supporting-frame having a transverse pivot-pin, a pattern-plate pivoted on said pin, a clamp pivoted to said pin and 75 adapted to hold the flask on the pattern-plate, and a second plate also pivoted to said pin and supported at its other end by the machine-frame, whereby said second plate is maintained in the necessary position relative 80 to the axis of the pivot-pin to facilitate the withdrawal of the pattern.

3. In a rock-over molding-machine, the combination of a supporting-frame, a pattern-plate pivoted to said frame, a second plate 85 also pivoted to said frame at the same axis of rotation, whereby said second plate is maintained in the necessary relation to the axis of rotation of the pattern-plate during the withdrawal of the pattern. 90

4. In a rock-over molding-machine, a supporting-frame therefor comprising standards and a longitudinal bar removably secured to said standards, whereby said bar may be re- 95 placed by another bar and the frame adapted to molds of various sizes and contours.

5. In a rock-over molding-machine, a supporting-frame comprising standards or legs, a longitudinal bar removably secured to said standards, and a bracket provided with jour- 100 nal-bearings attached to said bar.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. PRIDMORE.

Witnesses:

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