

No. 632,250.

Patented Sept. 5, 1899.

H. C. COOPER.

MOLDING MACHINE SAND DELIVERY MECHANISM.

(Application filed May 31, 1899.)

(No Model.)

Fig. 1.

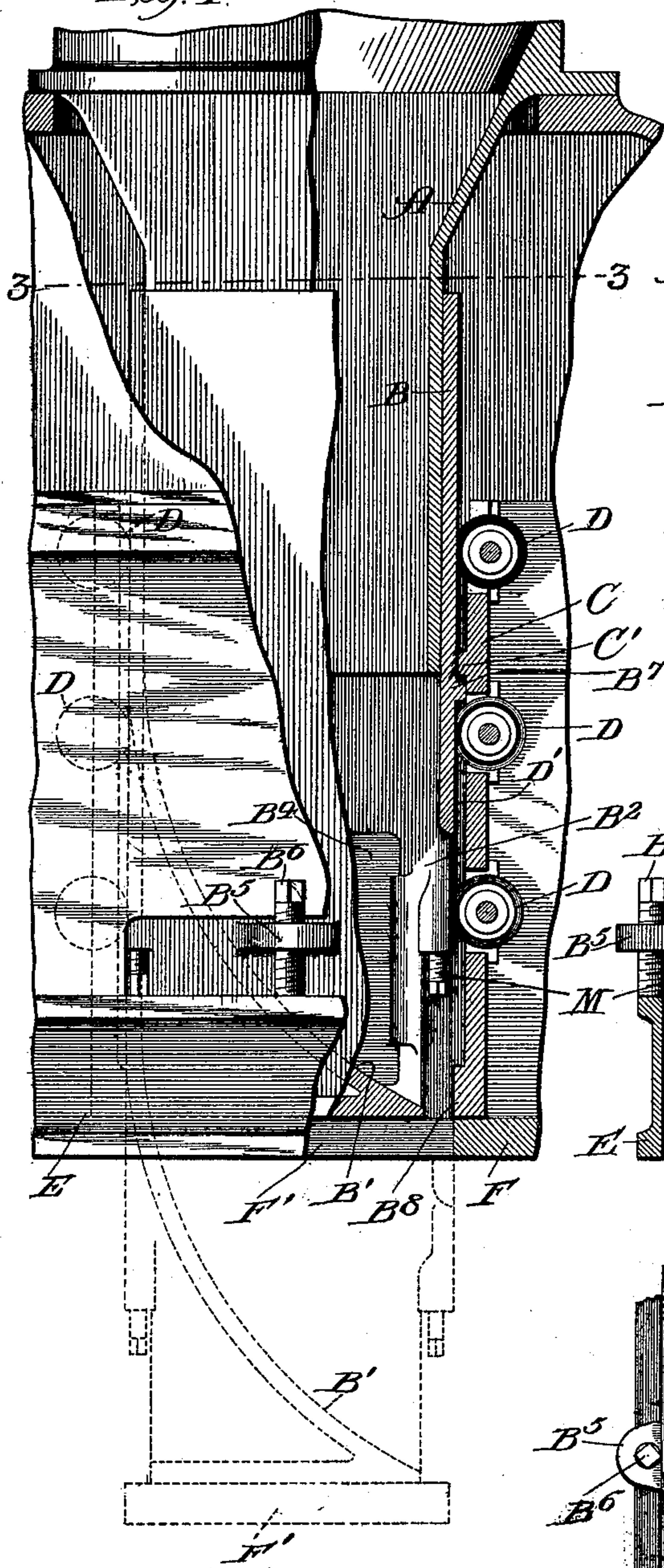


Fig. 2.

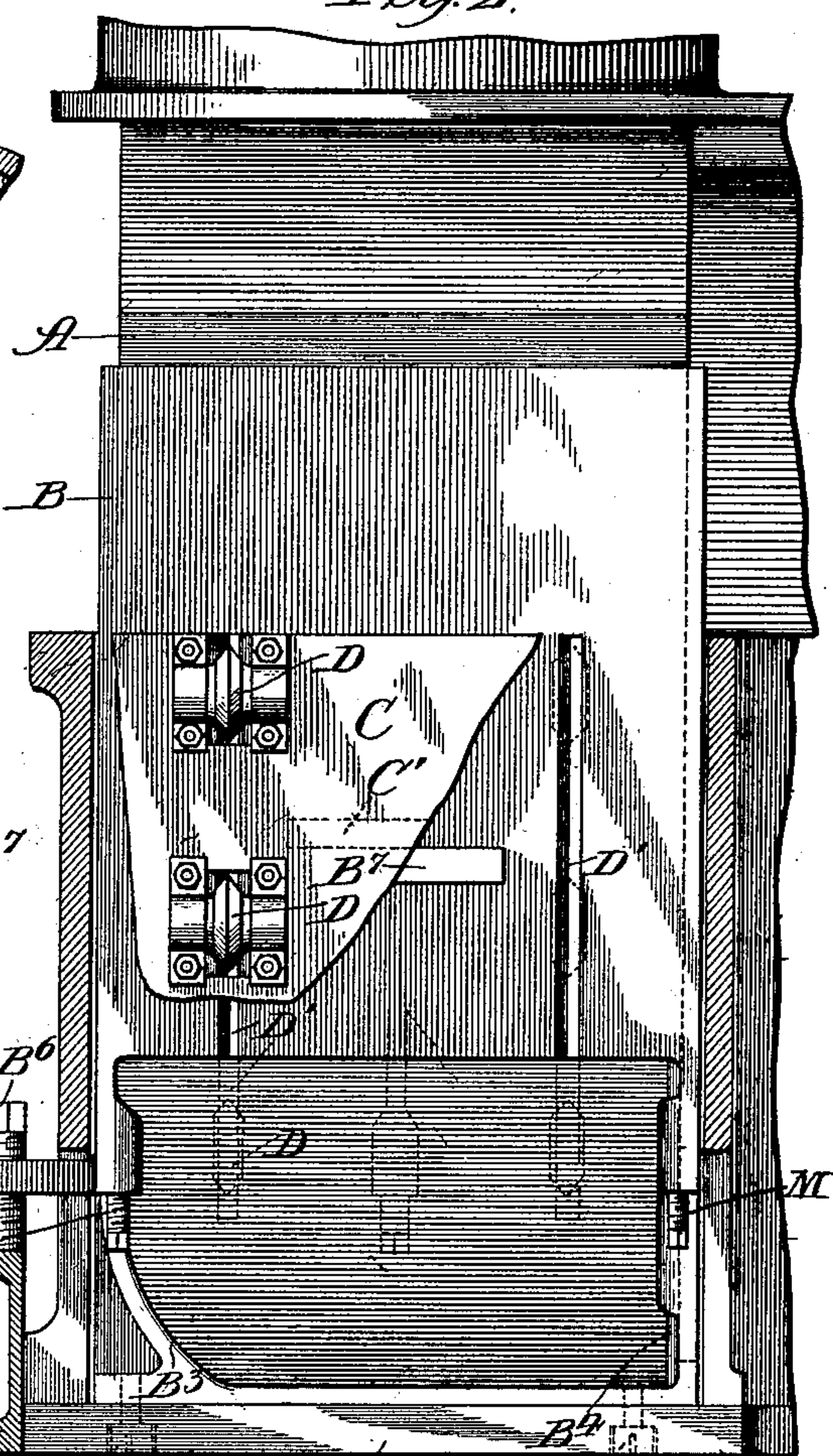
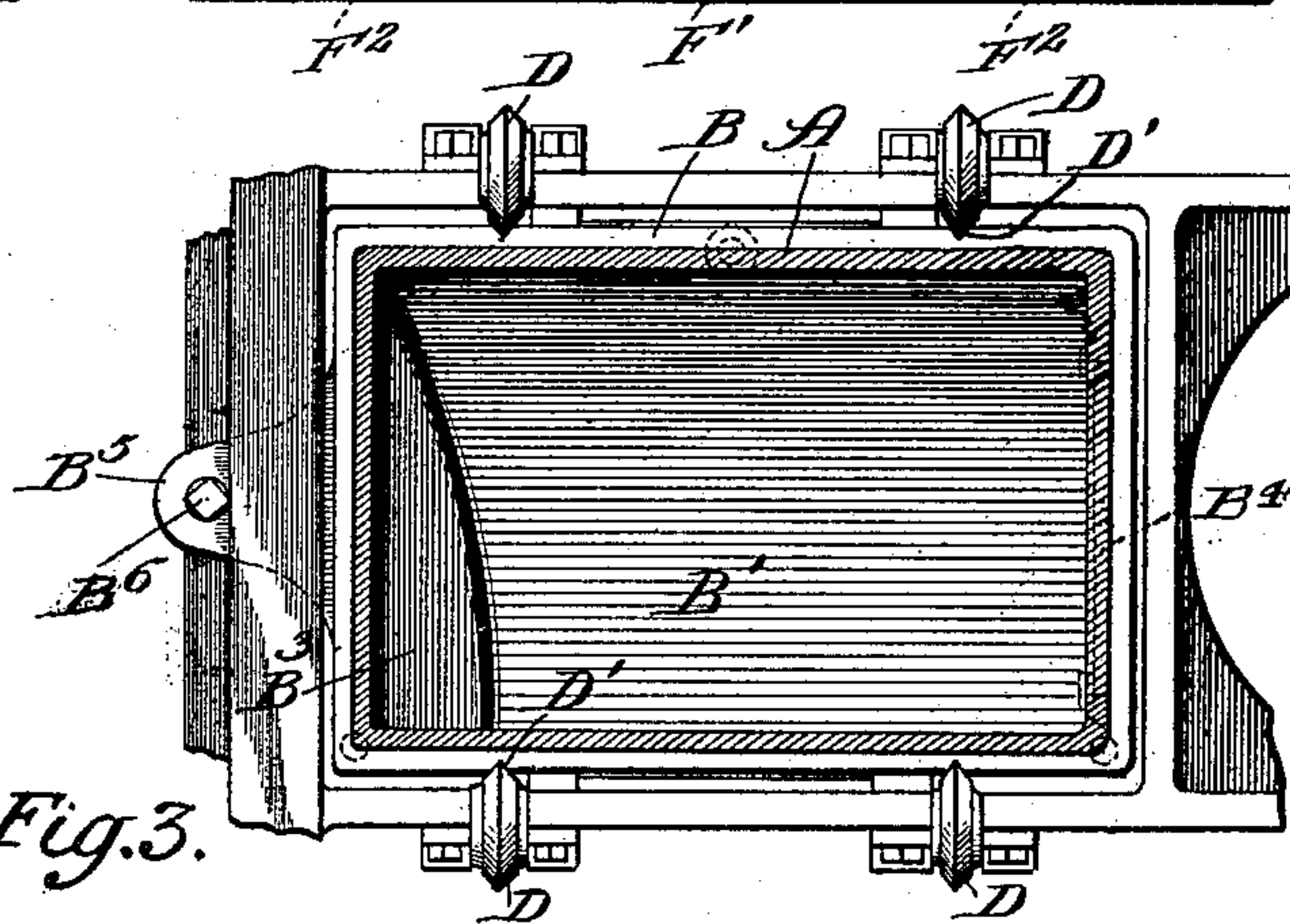


Fig. 3.



WITNESSES.

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MOLDING-MACHINE SAND-DELIVERY MECHANISM.

SPECIFICATION forming part of Letters Patent No. 632,250, dated September 5, 1899.

Application filed May 31, 1899. Serial No. 718,864. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. COOPER, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have
5 invented a certain new and useful Improvement in Molding-Machine Sand-Delivery Mechanism; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in
10 the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the production of what I will term a "sand-delivery box" for use more particularly in connection with the molding-machine shown and described in my concurrently-pending application filed
15 June 8, 1899, Serial No. 719,817. In my said application I have shown and described a stationary sand-reservoir and sand-chute leading downward therefrom, a pressure-plate and movable pattern mechanism below, which
20 when moved upwardly compresses the sand between the pattern mechanism and the pressure-plate.

This invention relates particularly to the means whereby the sand is delivered from the stationary reservoir above the flask to a
30 point below the pressure-plate and the opening in the pressure-plate through which the sand has been delivered is subsequently closed, so it can apply the pressure to the sand in the flask.

35 The invention consists in a combination of devices and appliances hereinafter described and claimed.

In the drawings, Figure 1 is a vertical section through my sand-delivery box with parts
40 in elevation. Fig. 2 is a view, partly in section, at right angles to Fig. 1. Fig. 3 is a horizontal section on line 3 3 of Fig. 1.

In carrying out the invention, A represents the stationary sand-delivery chute leading
45 from any suitable reservoir above. Surrounding this chute and telescoping therewith is a sand-delivery box B. Journaled in any suitable stationary part—as, for instance, C—are antifriction beveled rollers D, traveling in
50 suitable grooves or guides D' in the side of the box B. The bottom of the box is curved, as at B', and adjacent to the lower end of this

curve and in the side of the box is an opening B², through which the sand is delivered. In addition to the curved portion B' the end of
55 the box is curved transversely, as shown at B³. In the side of the box opposite to this latter curve is a door B⁴ in the form of a removable slide, so that an opening may be provided at this point when desired. E represents the false flask, and extending from the
60 side of the box B are lugs B⁵, carrying vertically-adjustable stops B⁶, which rest upon the false flask, the sand-box being thereby held up in its upper position. Adjustable
65 screws M are also provided, by which the box is held in its upper position when a flask is used which is capable of passing through the opening in the pressure-plate, and the screws M perform the same function as the screws B⁶.
70 On the bottom of the box is engaged a plate F', removably held in place by the screws F².

In the present application I have not considered it necessary to show either the sand-reservoir above the sand-chute nor the mechanism for moving the false flask upward nor the pattern parts and the mechanism for moving them upward to compress the sand between the pressure-plate F and the pattern parts. Suffice to say that when the false
75 flask E is released from its normal position and drops down onto the flask proper of the machine the sand-delivery box B is released and drops down until the lug B⁷ strikes the lug B⁸ on the casing. This brings the upper
80 edge of the opening B² just below the pressure-plate F, as shown by dotted lines, Fig. 1. The sand can now be delivered either through the opening B² or, if desired, through both
85 this opening and the opening caused by the removal of the slide B⁴, the inclines B' B³ of the bottom directing the sand in the course desired. Now as the pattern parts and flask move upward the sand in the flask coming in contact with the plate F' on the sand-box will
90 move the sand-box up until the lug B⁷ comes in contact with the stop C' on the casing, when the upward movement of the sand-box will be arrested and the plate F' will fill the opening in the pressure-plate and the said plate F'
95 thereby constituting a part of the pressure-plate. Of course at the end of the pressure the false flask E will have been returned upward and caught by its engaging device and
100

will thus hold the sand-box in place until the false flask is again released.

What I claim is—

1. In a molding-machine the combination
5 with a pressure-plate and a sand-reservoir
above said pressure-plate of a movable sand-
delivery box or chute independent of the res-
ervoir but communicating therewith and
10 mechanism for holding said box or chute nor-
mally above the pressure-plate, said box
adapted to drop down and deliver the sand
below the pressure-plate, substantially as de-
scribed.

2. In a molding-machine the combination
15 with a pressure-plate and a sand-reservoir
above said pressure-plate of a movable sand-
delivery box or chute independent of the res-
ervoir but communicating therewith and
mechanism for holding said box or chute nor-
20 mally above the pressure-plate, said box
adapted to drop down through the pressure-
plate and deliver the sand under the pressure-
plate, substantially as described.

3. In a molding-machine the combination
25 with a pressure-plate and a sand-reservoir
above said pressure-plate said pressure-plate
provided with an opening, of a sand-delivery
box independent of the reservoir but commu-
nicating therewith and means for normally
30 holding it above the pressure-plate, said box
adapted to drop down through the opening in
the pressure-plate and deliver the sand and a
plate on the bottom of the box adapted to fill
said opening in the pressure-plate when the

box is carried up to its normal position, sub- 35
stantially as described.

4. In a molding-machine the combination
with a vertically-movable false flask and a
stationary sand-reservoir of a movable deliv- 40
ery-chute or box communicating with the res-
ervoir and independent of the false flask and
means whereby it is held in its upper posi-
tion by the false flask, substantially as de-
scribed.

5. In a molding-machine, the combination 45
with the pressure-plate and a sand-reservoir
above said pressure-plate, of a movable sand-
delivery box or chute independent of the res-
ervoir but communicating therewith, and
mechanism for holding said box or chute nor- 50
mally above the pressure-plate, said box
adapted to drop down and deliver the sand
below the pressure-plate and said box pro-
vided with an inclined bottom and an open-
ing adjacent to the incline, substantially as 55
described.

6. In a molding-machine a sand-delivery
chute or box having its bottom inclined in
two directions one at an angle to the other
and an opening in each side of the box oppo- 60
site the incline, substantially as described.

In testimony whereof I sign this specifica-
tion in the presence of two witnesses.

HARRY C. COOPER.

Witnesses:

GERTRUDE HEIDELBERGER,
LUTE S. ALTER.