

J. KIBURZ.
MOLDING MACHINE.
APPLICATION FILED JULY 13, 1908.

933,761.

Patented Sept. 14, 1909.

3 SHEETS—SHEET 1.

Fig. 1.

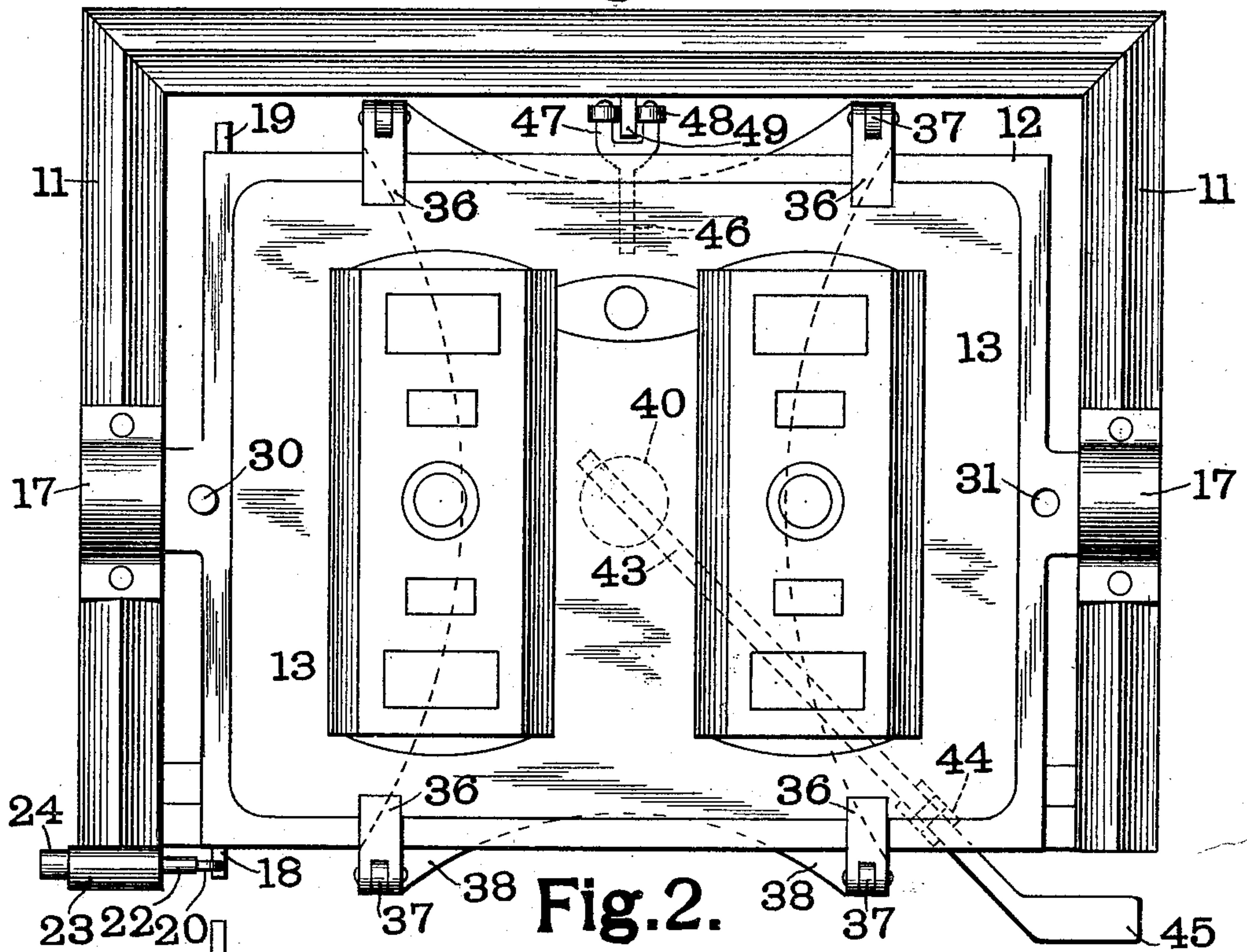
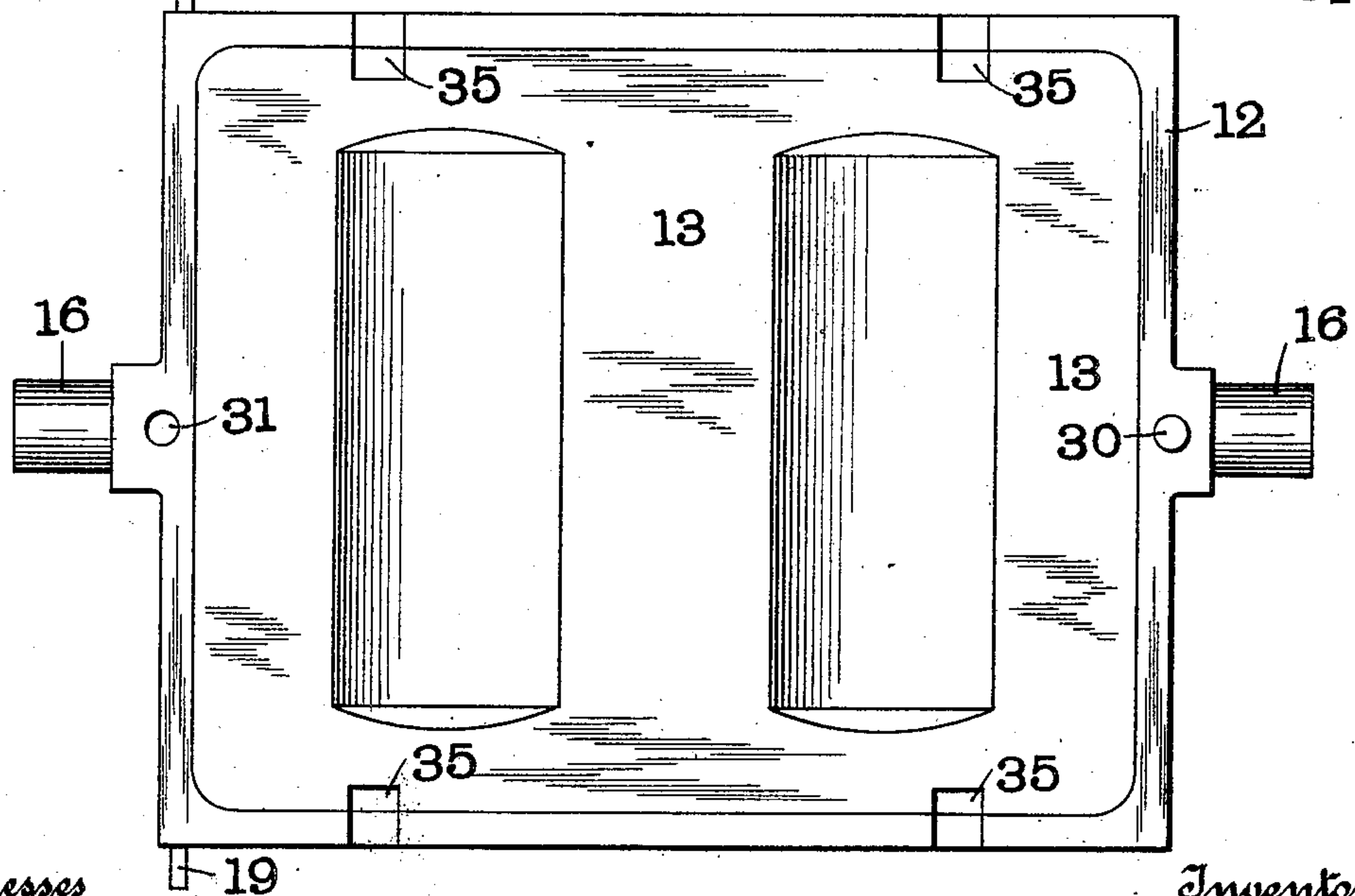


Fig. 2.



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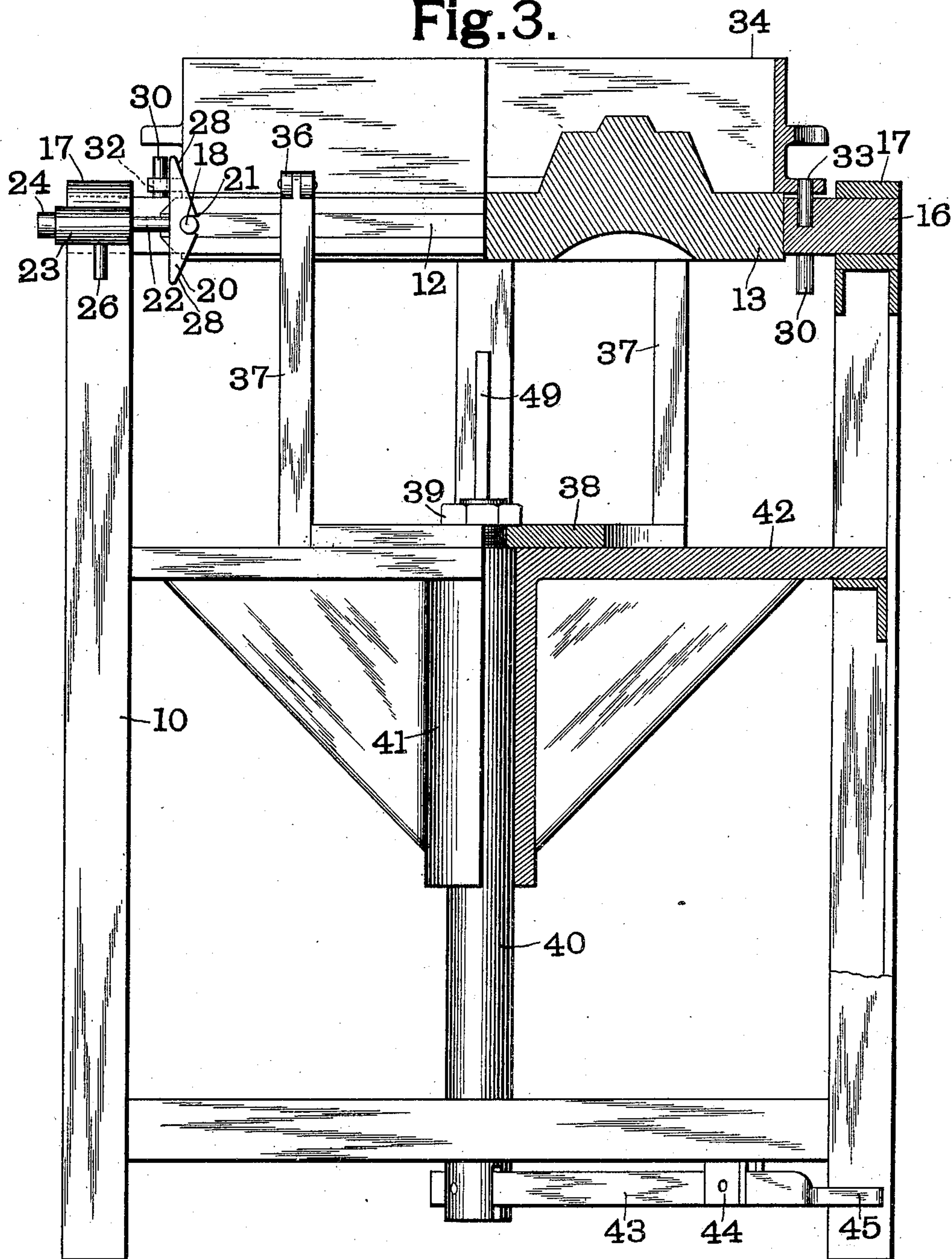
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3 SHEETS—SHEET 2.

Fig. 3.



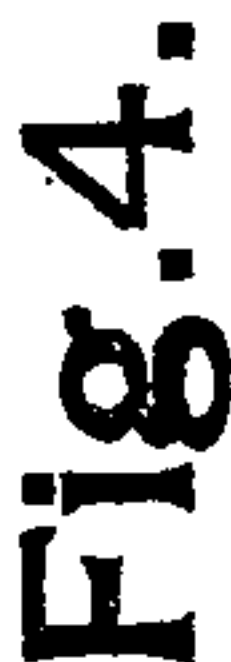
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3 SHEETS—SHEET 3.

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UNITED STATES PATENT OFFICE.

JOHN KIBURZ, OF ST. LOUIS, MISSOURI, ASSIGNOR TO JOHN KIBURZ PATTERN COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

MOLDING-MACHINE.

933,761.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed July 13, 1908. Serial No. 443,200.

To all whom it may concern:

Be it known that I, JOHN KIBURZ, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have
5 invented a certain new and useful Molding-Machine, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to molding machines such as are used in combination with the parts of a two part flask and the object
15 of my invention is to provide such a machine in which the pattern plate is provided on the opposite sides with the two parts of the pattern and made reversible so that first one and then the other part of the pattern
20 may be brought into coöperation with the parts of the flask to form the mold.

Another object of my invention is to provide means whereby the flask may be vertically raised out of engagement with the
25 mold so as to prevent injury to the mold when separating it from the pattern.

In the accompanying drawings which illustrate one form of machine made in accordance with my invention, Figure 1 is a
30 top plan view of the complete machine, Fig. 2 is a plan view of the pattern plate showing the opposite side from that shown in Fig. 1, Fig. 3 is partly a front elevation and partly a vertical central section, Fig. 4 is
35 an end view and Figs. 5 and 6 are enlarged sectional views showing details of construction.

Like marks of reference refer to similar parts in the several views of the drawings.

40 10 represents the frame of the machine which may be of any suitable form. The frame 10 is preferably beveled at its upper edges as shown at 11 so as to prevent an accumulation of the molding sand upon the
45 frame. The pattern plate consists of a frame 12 and a pattern board 13 removably secured in said frame by means of screws 14, as shown in Fig. 6. The edges of the frame 13 may be beveled as shown at 15 so
50 as to prevent the accumulation of sand thereon.

The frame 12 is provided with trunnions 16 which coöperate with bearings 17 secured to the frame 10 so that the pattern plate
55 may be rotated to bring either side thereof

into position to coöperate with the flask. In order to secure the pattern plate in position it is provided near one end with pins 18 and 19.

20 is a catch plate provided with an opening 21 adapted to engage with the pins 18 and 19. This plate is carried by a stem 22 which enters a housing 23 secured to the frame 10 of the machine. Secured in the housing 23 is a tube 24 containing a spring
60 25 against which the end of the stem 22 bears. The stem 22 is provided with a downwardly projecting finger piece 26 which passes through a slot 27 in the casing 23 and furnishes means whereby the plate
70 20 may be moved out of engagement with the pins 18 and 19 to allow the rotation of the pattern plate. The catch plate 20 is provided with beveled faces 28 so that when the pattern plate is swung into position the
75 pins 18 and 19 will automatically engage with the recesses 21.

The pattern plate is provided with pins 30 and holes 31, as best shown in Figs. 1 and 2. These pins and holes are adapted to en-
80 gage with holes and pins 32 and 33 respectively on the flask 34 so as to properly position the flask upon the pattern board. The pattern board is provided with recesses
85 35 as shown in Fig. 2, which recesses are adapted to receive the ends of fingers 36 pivotally mounted on uprights 37 carried by a plate 38. This plate 38 is secured by means of a nut 39 to a stem 40. The stem 40 extends through a guide sleeve 41 carried by a
90 cross-bar 42 forming part of the frame of the machine. Engaging with the lower end of the stem 40 is a lever 43 pivoted to a bracket 44 carried by the frame of the machine and ending in a treadle. It will thus
95 be seen that when the treadle 45 is depressed, the stem 40 will be raised, carrying with it the plate 38 and uprights 37, and as the flask 34 rests upon the fingers 36 it will be raised vertically out of engagement with
100 the pattern plate. The fingers 36 are pivoted so that they may be turned out of engagement with the pattern plate to allow the same to be rotated upon its trunnions. In order to prevent the rotation of the plate 38
105 it is provided with an arm 46 having a bifurcated end 47, as shown in Fig. 1, provided with rolls 48. These rolls 48 engage with opposite sides of a guide strip 49 carried by the frame of the machine.
110

The operation of my machine will be obvious from the above description. The flask 34 is first placed upon the side of the pattern plate which is uppermost and is rammed up in the usual manner, after which the treadle 45 is depressed so as to raise the flask out of engagement with the pattern plate. The catch plate 20 is now disengaged from the pin 18 by means of the finger piece 26 and the pattern plate is rotated so as to bring the pin 19 into engagement with the plate 20. The second half of the flask is now placed in position and rammed up in the same manner and disengaged from the pattern plate in the same way. If a different pattern is desired it is only necessary to withdraw the screws 14 and replace the pattern board 13 by a board bearing a different pattern. It will be obvious that both parts of the flask may thus be formed by the same machine and that as the pattern plate is reversed at each operation any sand adhering thereto will be dropped when it is on the bottom surface and consequently a clean surface will always be presented for the flask to rest upon.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a molding machine, the combination with a pattern plate, of a flask resting on said pattern plate, and a lifting device comprising fingers projecting between the pattern plate and the flask for vertically removing the latter from the former.

2. In a molding machine, the combination with a reversible pattern plate, of a flask, and a lifting device comprising pivotal fin-

gers projecting between the pattern plate and flask for vertically removing the latter from the former.

3. In a molding machine, the combination with a rotary reversible pattern plate, of a flask, and a lifting device comprising pivotal fingers projecting between said pattern plate and flask for vertically removing the latter from the former.

4. The combination with a pattern plate provided with recesses in its face, of a flask supported on said plate, and a lifting device comprising fingers projecting into said recesses between said pattern plate and flask for vertically removing the latter from the former.

5. In a molding machine, the combination with a rotary reversible pattern plate provided with recesses in its face, of a flask supported on said plate, and a lifting device comprising pivotal fingers projecting into said recesses between said plate and flask for vertically removing the latter from the former.

6. In a molding machine, the combination with a flask, of a pattern plate comprising a frame and a pattern board removably secured therein, said pattern board being adapted to support said flask.

In testimony whereof, I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

JNO. KIBURZ. [L. S.]

Witnesses:

W. A. ALEXANDER,
ELIZABETH BAILEY.