

No. 626,464.

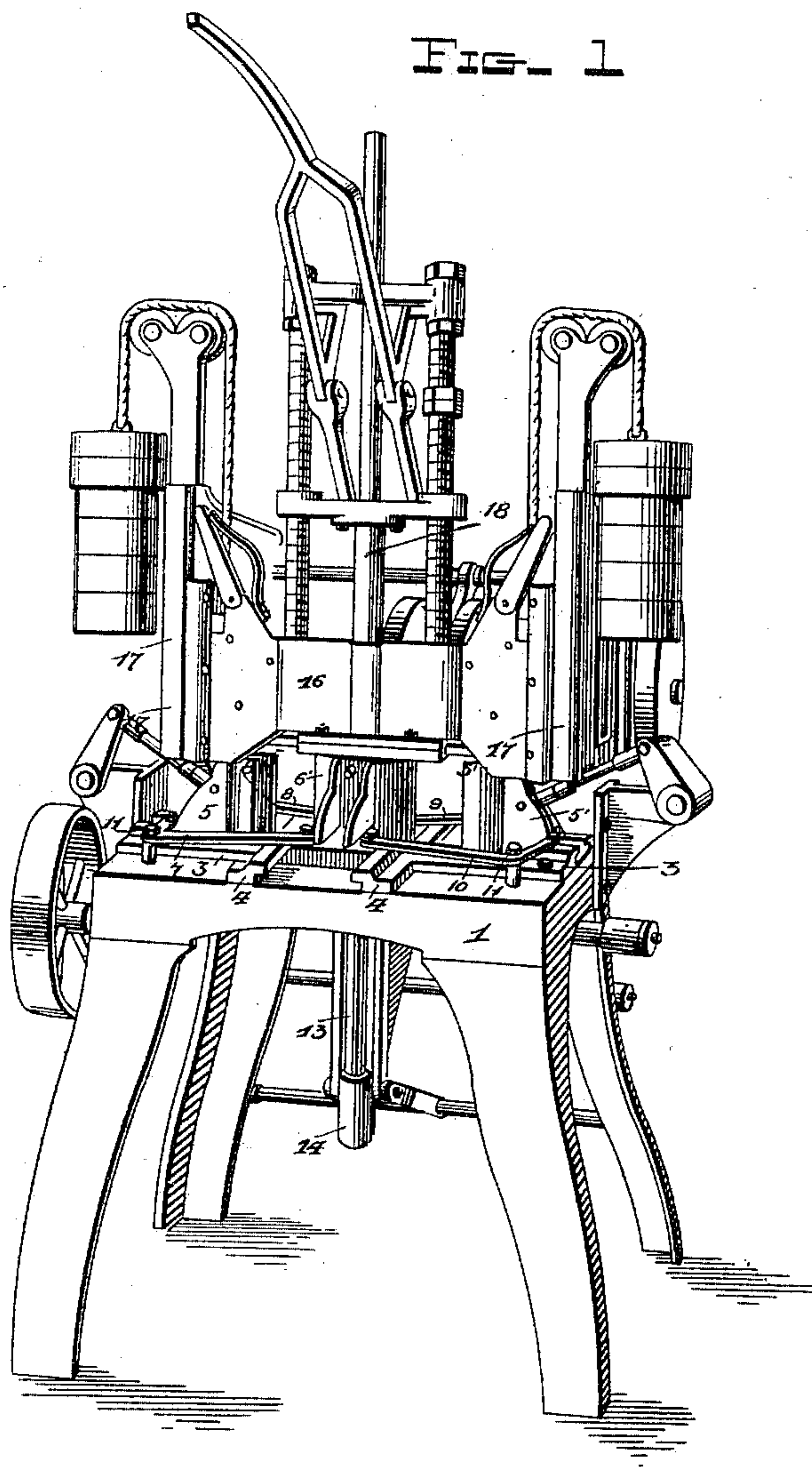
Patented June 6, 1899.

R. GOOD & R. GOOD, JR.
MACHINE FOR MAKING GLASS VESSELS.

(Application filed Sept. 15, 1898.)

(No Model.)

3 Sheets—Sheet 1.



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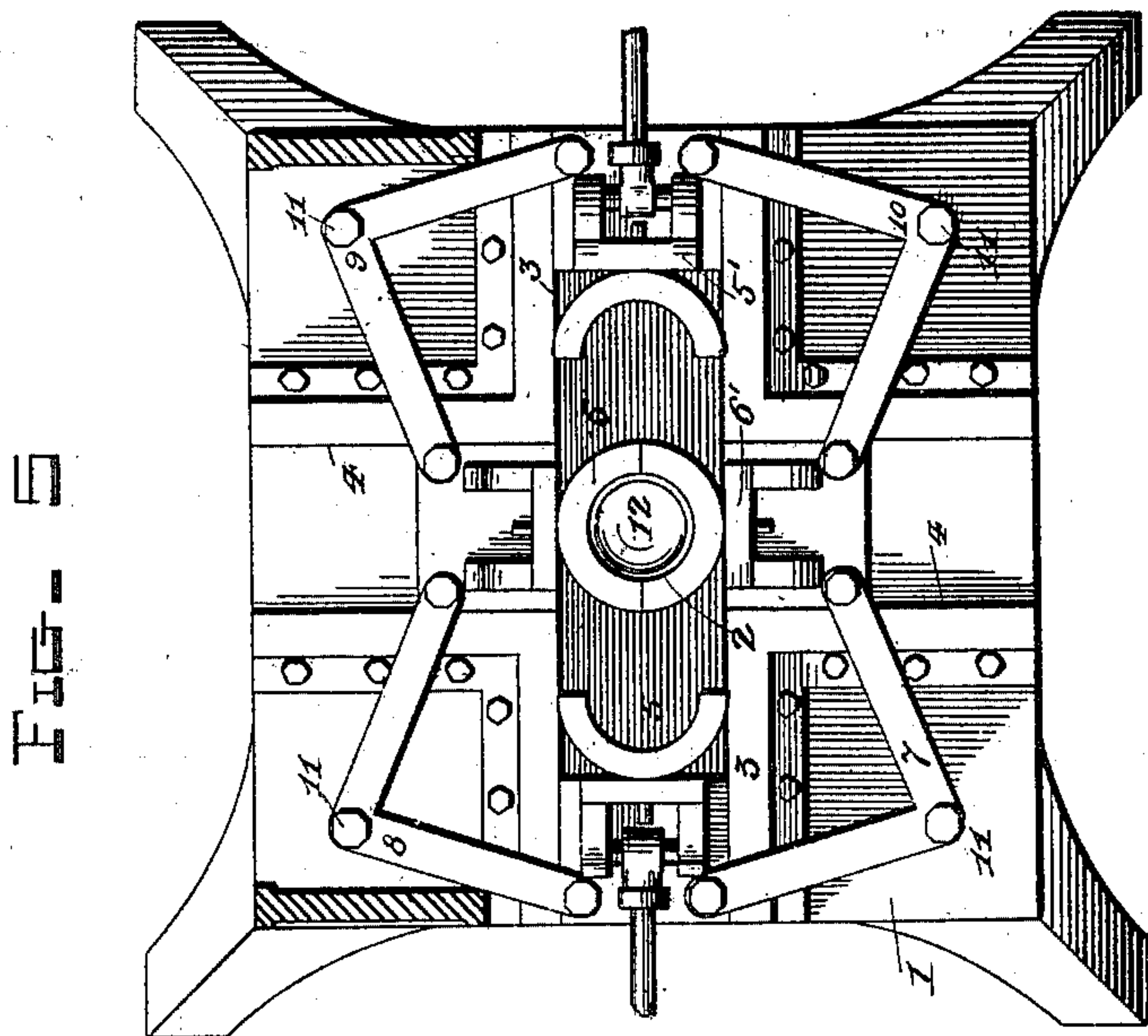
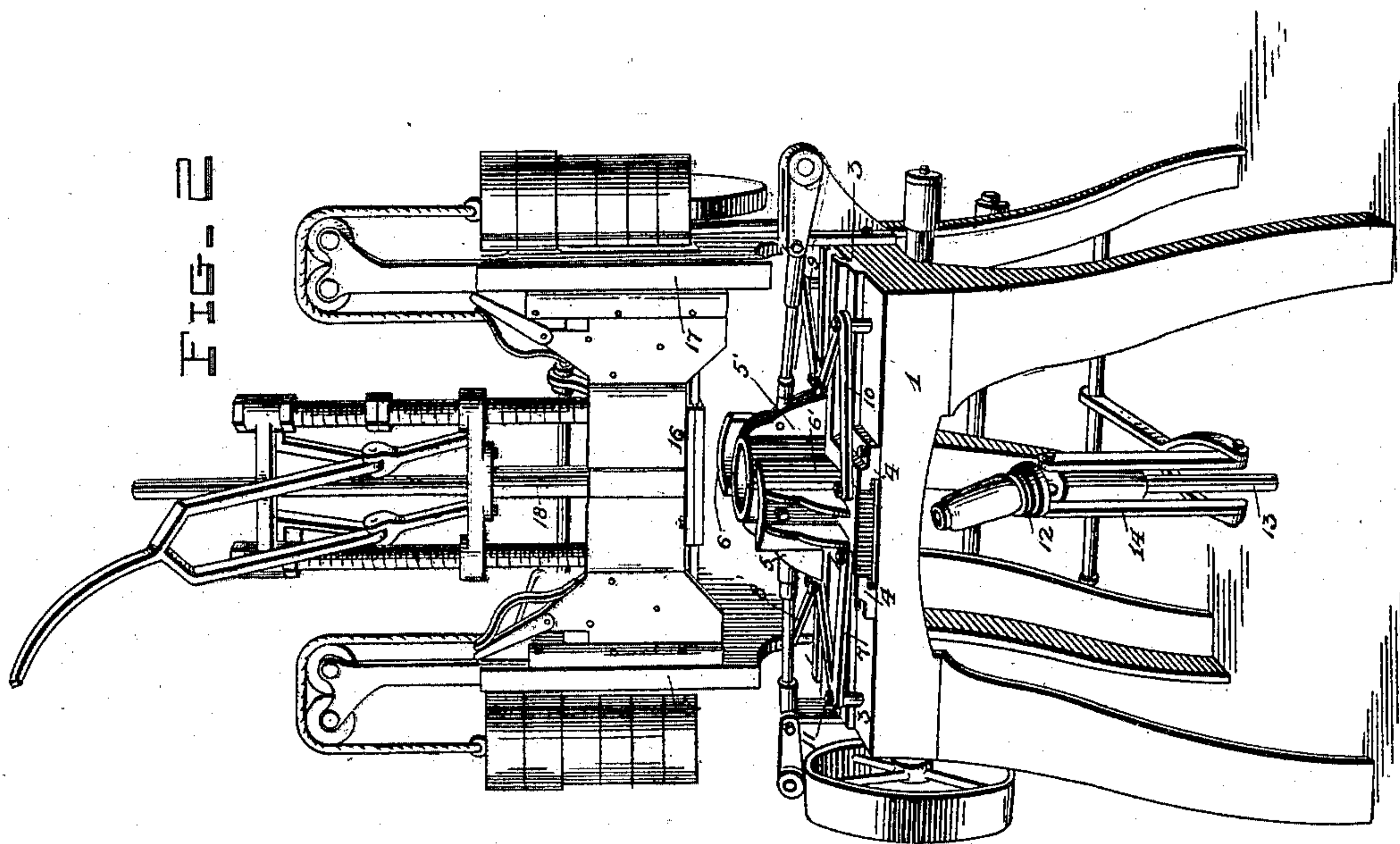
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3 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

ROBERT GOOD, OF POUGHKEEPSIE, NEW YORK, AND ROBERT GOOD, JR.,
OF VALVERDE, COLORADO.

MACHINE FOR MAKING GLASS VESSELS.

SPECIFICATION forming part of Letters Patent No. 626,464, dated June 6, 1899.

Application filed September 15, 1898. Serial No. 691,057. (No model.)

To all whom it may concern:

Be it known that we, ROBERT GOOD, residing at Poughkeepsie, in the county of Dutchess, State of New York, and ROBERT GOOD, Jr., residing at Valverde, in the county of Arapahoe and State of Colorado, citizens of the United States, have invented new and useful Improvements in Machines for Making Glass Vessels, of which the following is a specification.

Our invention relates to certain novel improvements in the machinery employed in the manufacture of glass vessels, and is more particularly designed as an improvement upon Letters Patent No. 585,469, granted to us June 29, 1897; and the object is to increase the capacity by improving the details of construction.

To this end the invention consists in the construction, combination, and arrangement of the several parts of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

The accompanying drawings show our invention in the best form now known to us; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of our invention as set forth in the claims at the end of this specification.

In the drawings the same reference characters indicate the same parts of the invention.

Figure 1 is a perspective view of our improved machine with the finishing-mold closed and the bottom up. Fig. 2 is a similar view with the finishing-mold open and the bottom section lowered. Fig. 3 is a side elevation. Fig. 4 is a transverse vertical section. Fig. 5 is a horizontal section.

1 denotes the table-bed supported on the usual legs, and it is formed with a central orifice 2 and with quadrilaterally-arranged rails 3 and 4, fixed to its upper face.

5 5' denote the parison-molds traveling on the alined rails 3 3, and 6 6' the finishing-molds traveling on the alined rails 4 4.

7, 8, 9, and 10 represent a series of bell-crank levers fulcrumed on the stud-bolts 11 11 11 11, the opposite ends of the lever 7 being in operative connection with the mold-

sections 5 and 6', the lever 8 correspondingly connected to the sections 5 and 6, the lever 9 similarly connected to the sections 6 and 5', and the lever 10 connecting the sections 5' and 6', the arrangement being such that as the levers are moved simultaneously in one direction they will cause the parison-mold sections to travel toward each other while the finishing-mold sections travel in the reverse direction or away from each other, and, vice versa, when said bell-crank levers are moved in the opposite direction to that above described the parison-mold sections recede and the finishing-mold sections travel toward each other. These movements may be attained by hand or by any suitable gearing power or leverage, one system of which is shown in the drawings; but we do not wish to limit ourselves to any particular means for accomplishing this object, as it is evident that various ways will readily suggest themselves for this purpose.

12 represents the bottom section of the mold, which is pivoted to the upper end of a vertical rod 13, reciprocating in a guide-bracket 14, fixed to the table. 15 represents a vertical arm fixed to said bracket and having its upper end projecting into the path of the free end of the bottom section to tilt it forward when the bottom section is lowered, so that the finished article may be readily removed, as shown in Fig. 4.

16 denotes the press-head, which has a vertical movement in the parallel standards 17 17, arising from the table, and it carries a vertical hollow plunger 18, which axially registers with the mold, and these parts may be reciprocated by power or by a hand-lever, as shown. However, we do not intend to restrict ourselves to a vertically-reciprocating press-head or any particular means for operating it, as we have found in practice that a horizontally-reciprocating head will take up less room and answer every purpose.

The operation is as follows: The parison-mold sections are brought together and the press-head removed, so that a suitable amount of hot glass may be introduced into the mold and the press-head (which also carries the neck-mold and follower-ring) brought into

position, and as the hollow plunger is forced downward a portion of the viscous glass is forced up into the neck-mold to form the neck of the vessel. The plunger is now raised a
 5 suitable distance and the parison-sections separated and the finishing-molds closed in around the partially-formed vessel and the bottom raised to register with them, and a current of air under pressure is forced through
 10 the hollow plunger, which causes the glass to conform to the mold. After the glass has set or congealed the finishing-molds and press-head are separated and the bottom section, on which the finished vessel rests, is lowered
 15 and tilted forward to facilitate its removal. As the bottom is lowered with the finished vessel the sections of the parison-mold are brought together to be ready for another charge of glass. Thus while a jar is being
 20 delivered the next charge is put in, and so the machine made to work continuously, no stop being necessary to remove the jar.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a machine for forming glass vessels, the combination with the supporting-table having the central orifice, the series of guide-rails arranged at right angles across the face of
 30 said table, the parison and the finishing mold sections adapted to travel in opposite directions on said guide-rails; of the bottom mold-section, and means for causing said bottom mold-section to travel through said central
 35 orifice in the table, to and from said finishing-mold sections, substantially as and for the purpose set forth.

2. In a machine for forming glass vessels, the supporting-table having the central orifice, the series of guide-rails arranged at right
 40 angles across the face thereof, the parison

and the finishing mold sections mounted on said rails, the bell-crank levers fulcrumed on said table in the form of a rectangle and operatively connected to said mold-sections, in
 45 combination with the reciprocating bottom mold-section, and means for conveying said bottom mold-section to and from said finishing-mold sections, substantially as and for the purpose set forth. 50

3. In a machine for forming glass vessels, the combination with a three-part finishing-mold comprising the two laterally and the bottom vertically reciprocating sections, of a two-part parison-mold arranged to reciprocate at right angles to the path of said finishing-mold sections, substantially as set forth. 55

4. In a machine for forming glass vessels, the supporting-table having the central orifice, the series of guide-rails mounted at right angles across the face thereof, the parison and the finishing mold sections mounted thereon, the bottom mold-section adapted to travel to and from the path of said parison and finishing mold sections, and means for
 65 simultaneously moving said parison and finishing mold sections in opposite directions, and a reciprocating press-head adapted to travel to and from said parison and finishing mold sections, substantially as set forth for
 70 the purpose described.

In testimony whereof we have hereunto set our hands in the presence of the subscribing witnesses.

ROBERT GOOD.

ROBERT GOOD, JR.

Witnesses to signature of Robert Good:

MARTIN HEERMANCE,

IRVING ELTING.

Witnesses to signature of Robert Good, Jr.:

THEO. HOLLAND,

P. FULLER.