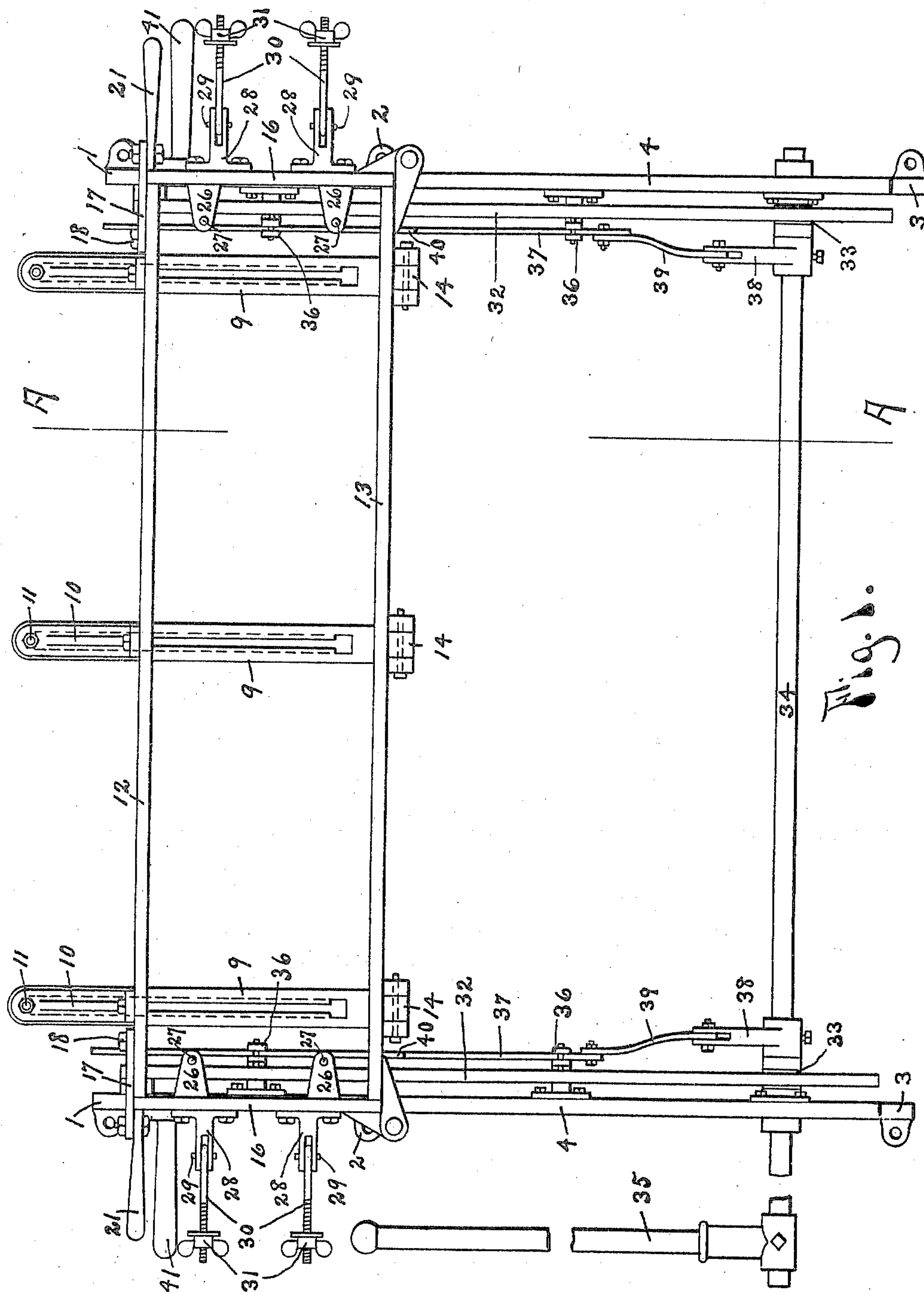


No. 817,413.

PATENTED APR. 10, 1906.

F. A. BORST.
SILL AND LINTEL MACHINE.
APPLICATION FILED DEC. 18, 1905.

2 SHEETS—SHEET 1.



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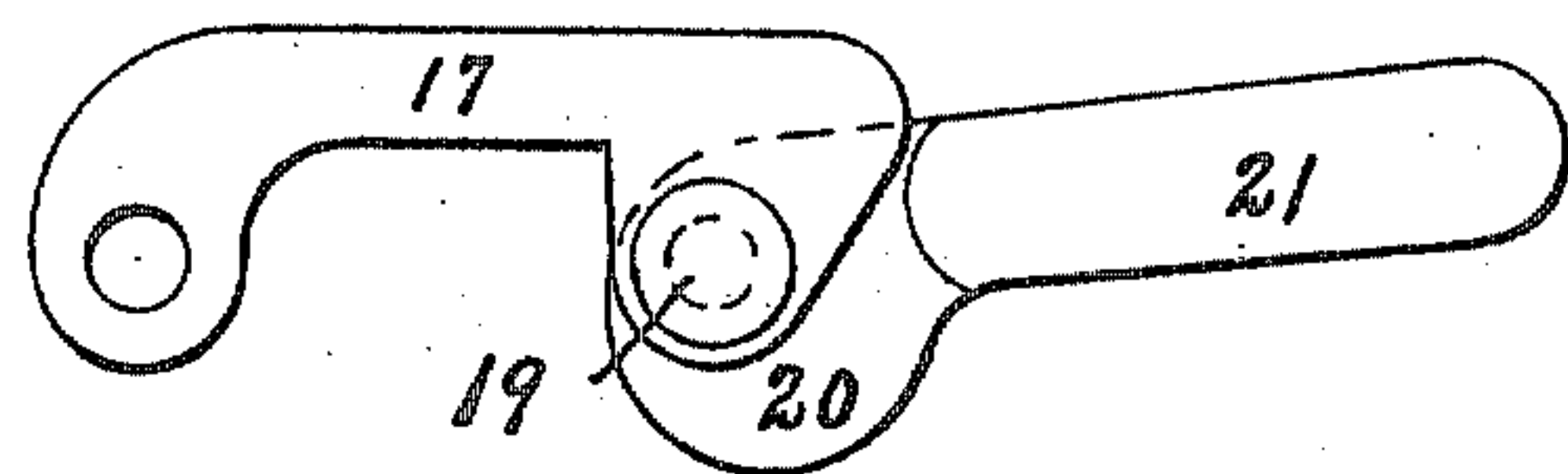
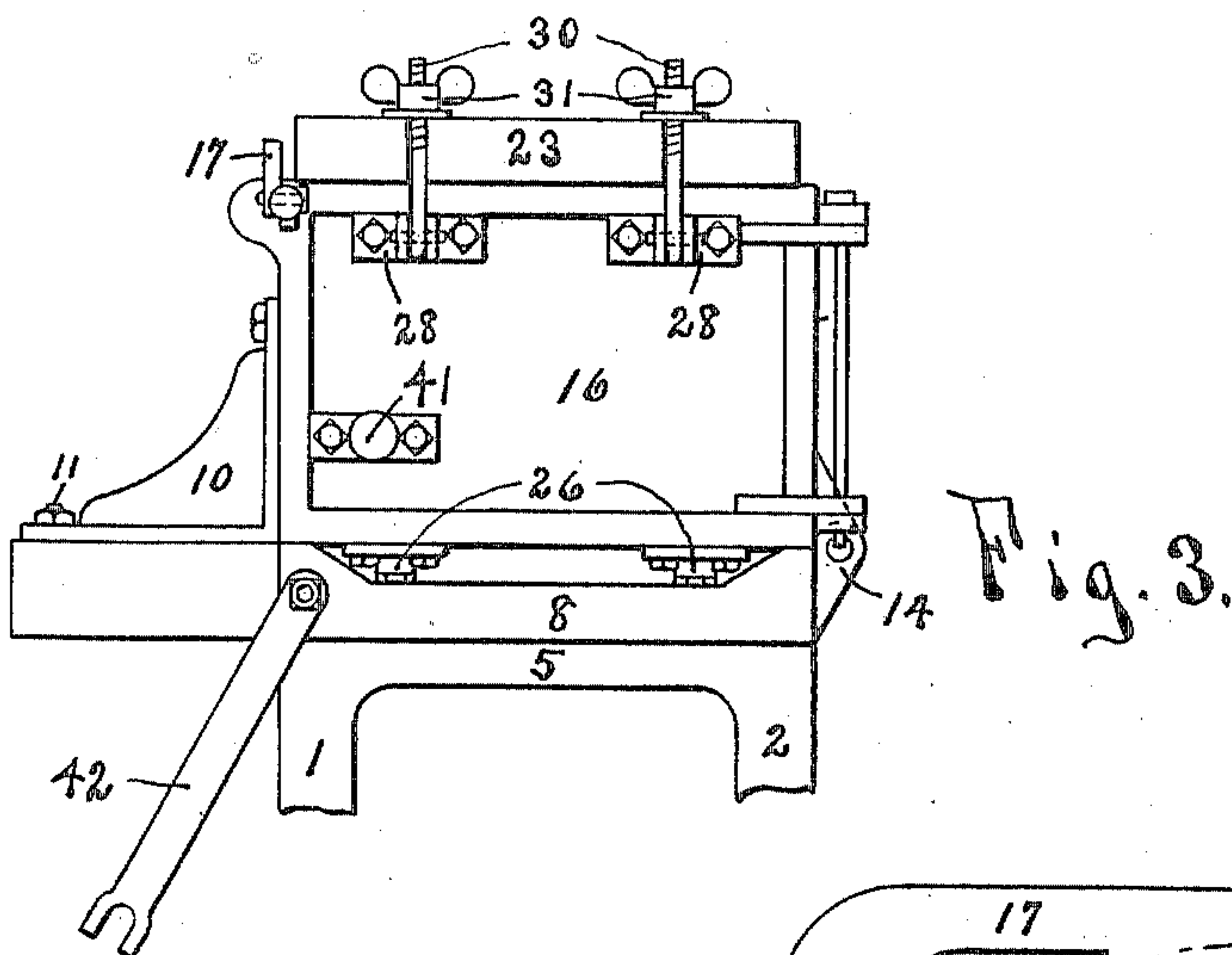
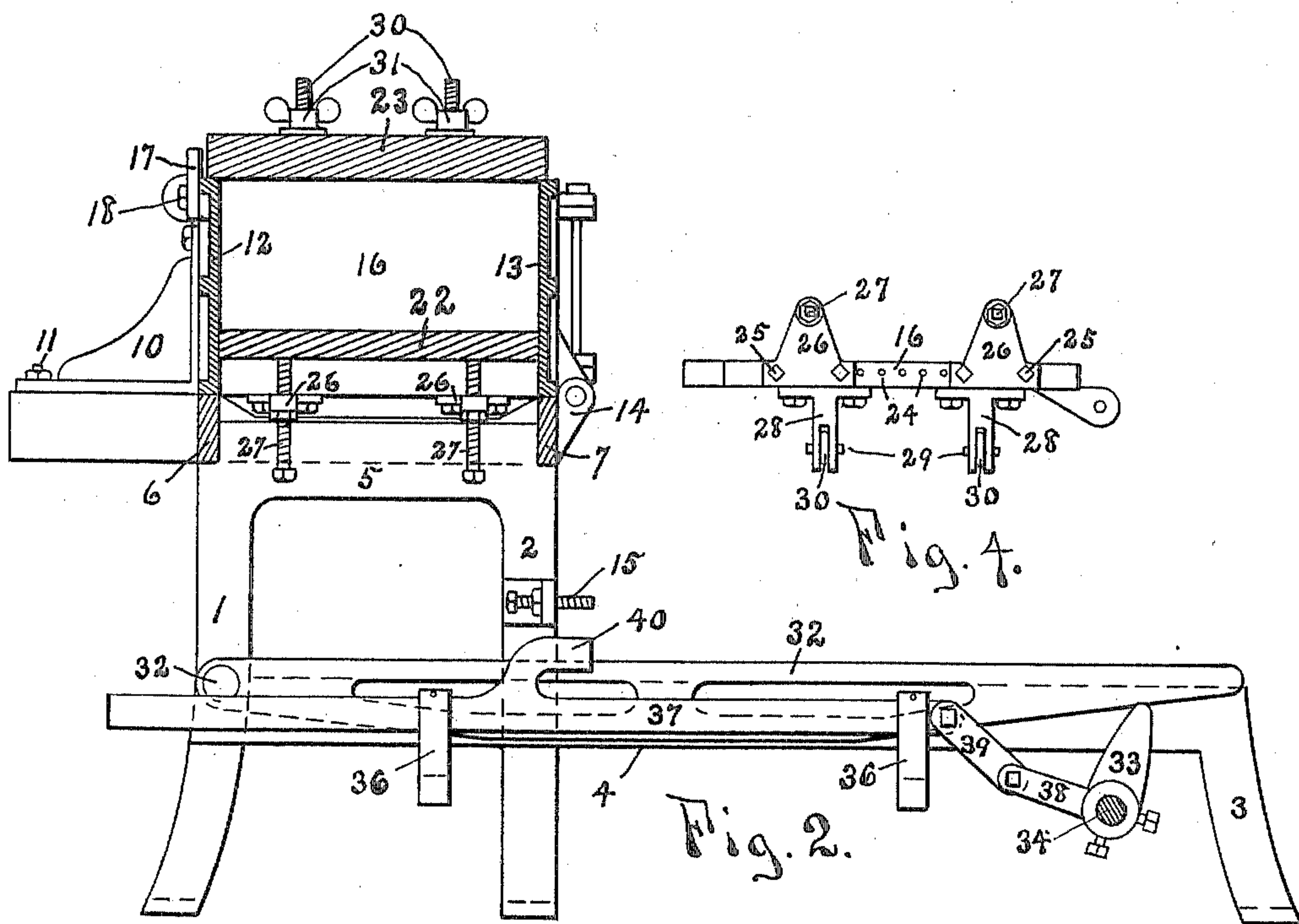


Fig. 5.

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UNITED STATES PATENT OFFICE.

FRANK A. BORST, OF SOUTH BEND, INDIANA, ASSIGNOR TO THE IDEAL CONCRETE MACHINERY COMPANY, OF SOUTH BEND, INDIANA, A CORPORATION OF INDIANA.

SILL AND LINTEL MACHINE.

No. 817,413.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed December 18, 1905. Serial No. 292,179.

To all whom it may concern:

Be it known that I, FRANK A. BORST, a citizen of the United States, and a resident of South Bend, in the county of St. Joseph and State of Indiana, have invented a new and Improved Sill and Lintel Machine, of which the following is a specification.

My invention relates to machines for molding blocks, copings, door and window sills, and lintels of cement, plaster-of-paris, concrete, or other plastic substances; and it consists in a hinged mold mounted on a frame, adjusting means being provided for determining the width and thickness of the article produced.

My invention also consists in means for receiving the molded block from the mold and moving it out, so it may be easily handled.

My invention further consists in the details set forth in the following description and claims and illustrated in the accompanying drawings, in which—

Figure 1 is a plan of the machine, the removable base-board and pallet being omitted for the sake of clearness. Fig. 2 is a cross-section on the line A A of Fig. 1. Fig. 3 is an end view of the mold. Figs. 4 and 5 are details.

Similar reference characters refer to like parts throughout the several views.

In the drawings the rear legs 1, the middle legs 2, and the short front legs 3 on each side are connected by the side frames 4. The legs 1 and 2 are also connected by the cross-bar 5 and the top, which is a rectangular frame having side bars 6 and 7, end bars 8, an intermediate cross-bars 9. The bars 9 have longitudinal slots which are enlarged at their bottoms to receive the heads of the bolts 11, which are slidable therein, which bolts secure the brackets 10 to the cross-bars. The back plate 12 is secured to the brackets 10 and may therefore be positioned at any desirable distance from the front plate. The machine can thus be readily adjusted for the manufacture of sills, lintels, and coping of any desired width. The front plate 13 is mounted on the top by means of the hinges 14 and is adapted to be swung out and down, its limit of movement being determined by the screws 15, carried by the legs 2. (See Fig. 2.) End plates 16 are hinged to the vertical edges of the front plate and when the mold is

closed fit against the vertical ends of the back plate 12, as shown in Fig. 1. The length of the mold is not adjustable, but filling-pieces may be employed to shorten the space within the mold.

To secure the end plates firmly against the ends of the back plate, I pivot the links 17 to the back plate on bolts 18. These links are so formed that the pivots 19 for the cams 20 will extend down below the upper edges of the end plates. The cams have handles 21, so that they may be depressed and the end plates locked in position. As these links are secured to the back plate, they will be operative at whatever distance from the front plate the back plate may be placed.

The plate or board 22 forms the face of the object molded, and the distance between it and the pallet 23 determines the thickness. To support this plate, I screw-thread a series of holes 24 in the lower edges of the end plates, (see Fig. 4,) in which holes the bolts 25, that secure the brackets 26, engage. These brackets carry set-screws 27, which support the plate 22 at any desired height. By having these series of holes 24 the brackets may be positioned for all widths of the plates 24, which plates will always be the same width as the molded article.

Secured to the outside of the end plates are the brackets 28, which carry pins 29, on which pins are mounted the eyebolts 30. The ends of the pallet 23 are slotted, so that the bolts may be swung up into position, the pallet being secured in place by means of the thumb-nuts 31.

The carrier-bars 32 are mounted at their rear ends on the pins 32', secured to the rear legs 1. Their front ends rest on the cams 33, which are mounted on the shaft 34. This shaft is operated by the lever 35. Secured to the frames 4 are the brackets 36, which are cut out sufficiently to permit the carrier-bars to drop below the upper line of the frames 4 and which brackets slidably support the pusher-bars 37. A crank 38 and link 39 connect the forward end of each pusher-bar to the shaft 34. The upwardly-projecting hook 40 on each pusher-bar is normally to the rear of the end of the screw 15.

The operation of the machine is as follows: The screws 27 and brackets 10 are adjusted

to determine the width and thickness of the article to be molded. The end plates 16 are locked in place by the cams 20 and the mold filled with the desired material, which is
 5 rammed as it is filled in. The material is then smoothed off on the top and dry sand thrown on the same. The pallet 23 is then laid on the top and worked around so that it may grind itself to place, contact along the
 10 whole upper surface of the block being necessary. The bolts 30 are then swung up and the nuts 31 turned down until the pallet is securely held against the end plates 16. The
 15 cams 20 and links 17 are then swung upward and inward, thus freeing the end plates from the back plate. The operators then take hold of the handles 41 and roll the block, front plate, and end plates over as a unit until the front plate contacts with the screws
 20 15. At this time the pallet 23 will rest on the two carrier-bars, which are in the position shown in Fig. 2. The nuts 31 are then turned back, the bolts 30 swung out of the way, thus releasing the pallet, and the mold
 25 is swung back to position. The handle 35 is then swung over, which first lowers the pallet 23 and the molded block down onto the side frames 4, and then, continuing its movement, pulls the pusher forward, which causes the
 30 hooks 40 to engage the pallet and push pallet and block forward from the position where the mold left them to one where they can be easily handled and carried off.

It may be somewhat difficult at times to
 35 place the board or plate 22 in position on the screws 27. To remedy this, a strut 42 is pivoted to the end 8 of the top. When the emptied mold is swung back to filling position, the operators cause the handle 41 on one side
 40 to rest in the V of this strut, thus causing an opening into the mold over the back plate, into which the plate 22 may be easily introduced. Any of the well-known devices and
 45 processes may be employed to give the faces and ends of blocks molded on this machine any desired configuration.

Having now explained my improvements, what I claim as my invention, and desire to secure by Letters Patent, is—

50 1. In a concrete-molding machine, the combination of a frame, a top for the same, and a knockdown mold comprising a rear side plate adjustably secured to the top, a front side plate hinged to the top, end plates
 55 hinged to the front side plate, and a bottom plate carried by the end plates.

2. In a concrete-molding machine, the combination of a frame, a top for the same, a mold comprising a rear side plate adjustably
 60 secured to the top, a front side plate hinged to the front of the top, end plates hinged to the ends of the front side plate, and a bottom carried by the end plates, and means for securing the parts together.

65 3. In a concrete-molding machine, the

combination of a frame, a mold mounted on said frame comprising a front plate hinged to the frame, a back plate secured to the frame and adjustable with reference to the front plate, end plates and a bottom plate carried
 70 by the end plates.

4. In a concrete-molding machine, the combination of a frame, a top for the same, and a knockdown mold comprising a rear side plate, a front side plate hinged to the
 75 top, end plates, and a bottom plate carried by the end plates.

5. In a concrete-molding machine, the combination of a frame, and a mold mounted on said frame comprising a front plate hinged
 80 to the frame, a back plate secured to the frame and adjustable with reference to the front plate, end plates, a removable bottom plate mounted on the end plates, and means to adjust the position of the bottom plate.
 85

6. In a concrete-molding machine, the combination of a frame, and a mold mounted on said frame comprising a front plate hinged to the frame, a back plate secured to the frame, end plates hinged to the front plate,
 90 and a removable bottom plate, and means adjustably secured to the end plates for carrying said bottom plate.

7. In a concrete-molding machine, the combination of a frame, a mold mounted
 95 thereon, projecting side bars connected to said frame, a shaft mounted in the forward ends of the side bars, and carrier-bars pivoted to the frame at their rear ends and adjustably supported at the front ends by said
 100 shaft, said mold in part adapted to be turned to discharge the molded article onto the carrier-bars.

8. In a concrete-molding machine, the combination of a frame, a mold mounted
 105 thereon, projecting side bars connected to said frame, a shaft mounted in the forward ends of the side bars, carrier-bars pivoted to the frame at their rear ends and adjustably supported at the front ends by said shaft,
 110 said mold in part adapted to be turned to discharge the molded article onto the carrier-bars, and means connected to said shaft and adapted to move the molded articles forward.

9. In a concrete-molding machine, the combination of a frame having a main and a forwardly-projecting portion, a shaft journaled in said forwardly-projecting portion, a hinged mold mounted on said main portion
 115 and adapted to be swung forward to discharge the molded article onto the forwardly-projecting portion, and means connected to said shaft for conveying the article forward.
 120

10. In a concrete-molding machine, the combination of upright legs, a top connecting
 125 the same, a hinged mold mounted on said top, said mold adapted to be swung forward to discharge the molded article onto side bars, side bars connected to said legs, a shaft mounted in the forward ends of the side bars,
 130

and means connected to said shaft and carried by said side bars for conveying the article forward.

5 11. In a concrete-molding machine, the combination of an upright frame, a hinged mold mounted thereon, projecting side frames connected to said upright frame, a shaft mounted therein, and vertically-movable bars pivoted at one end on the frame
10 and supported at the other end by said shaft and adapted to receive the molded article from the mold when the same is turned to discharging position, and lower the article onto the side frames.

15 12. In a concrete-molding machine, the combination of an upright frame, a mold mounted on the same comprising a stationary back plate, and front, end and bottom plates adapted to be swung to carry the

molded articles to discharging position, said 20 end plates provided with means to secure the pallet to the mold, forwardly-extending frames connected to the main frames, a shaft carried by said forwardly-extending frames, cams carried by said shaft, carrier-bars 25 mounted on pins on said upright frame and resting on said cams and adapted to receive the molded articles from said mold and lower the same onto the forwardly-extending frames, and means connected to said shaft 30 for conveying said molded articles forward.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK A. BORST.

Witnesses:

SIBYL JACKSON,
ALMA RHEAD.