

No. 891,423.

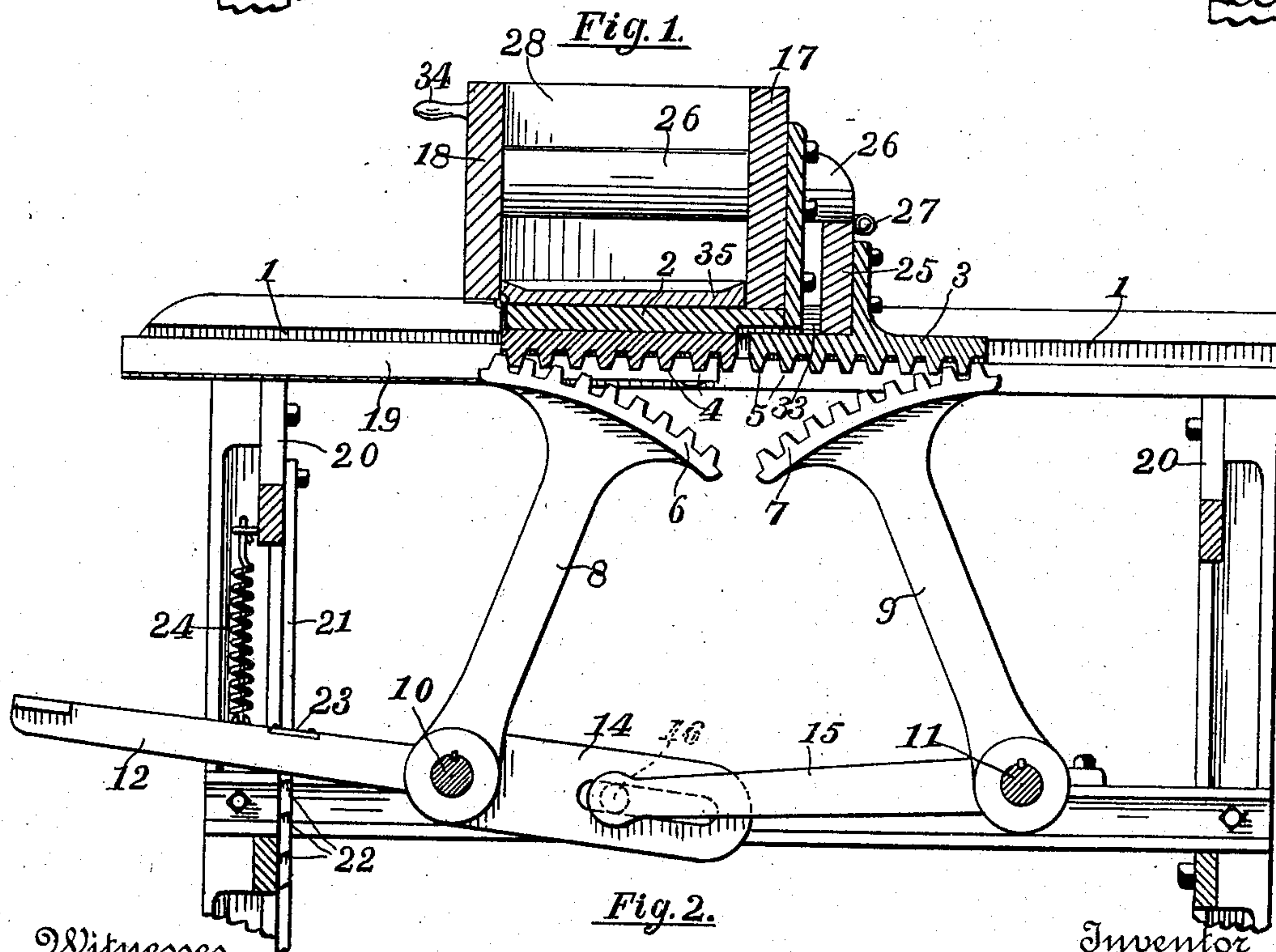
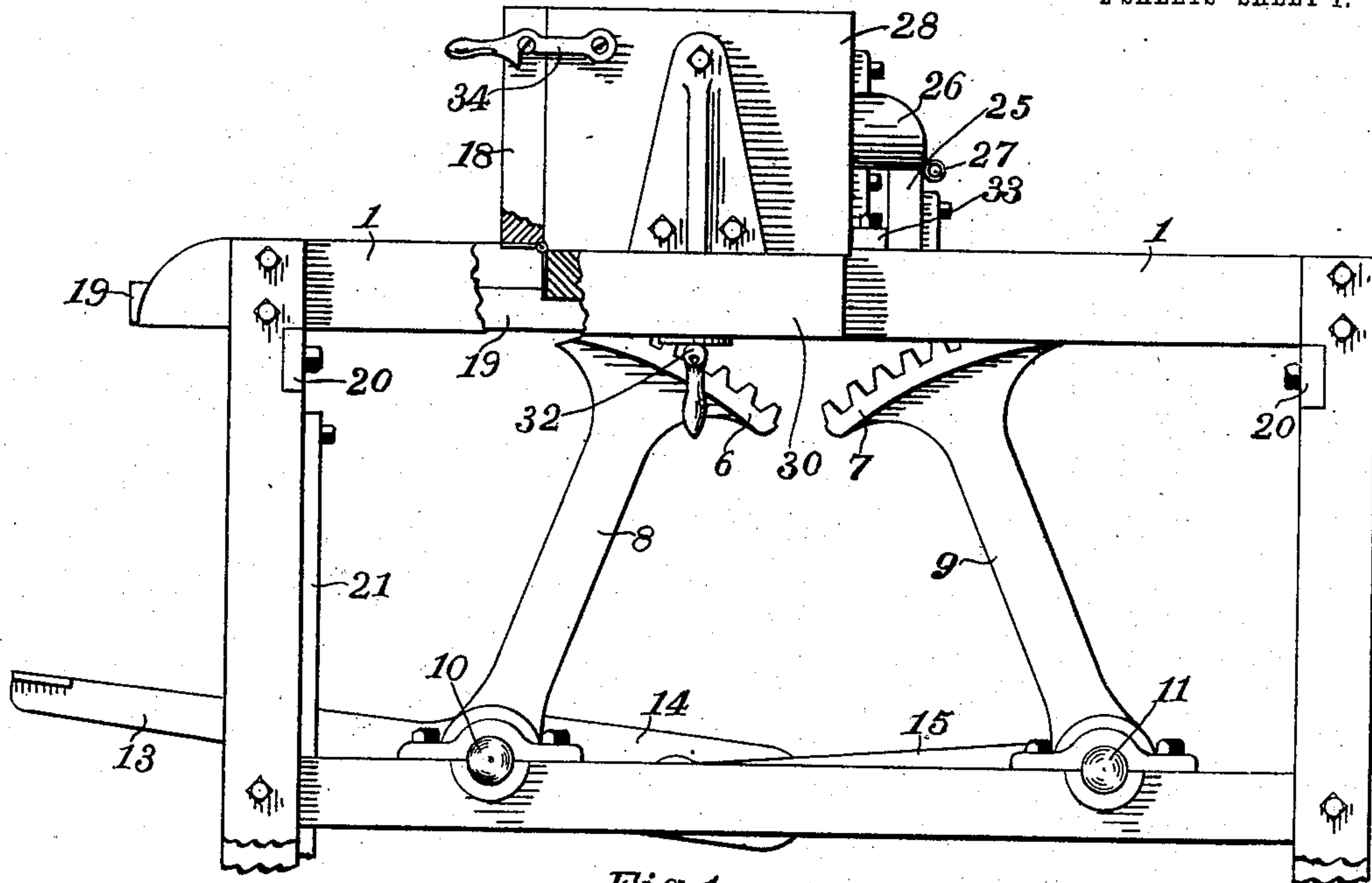
PATENTED JUNE 23, 1908.

J. INGELLS.

# MACHINE FOR FORMING CONCRETE BLOCKS.

APPLICATION FILED SEPT. 17, 1907.

2 SHEETS—SHEET 1.



Witnesses

Vernon J. Lilly.  
Palmer A. Jones.

Inventor

James Ingells

By *Luther V. Moulton*  
Attorney

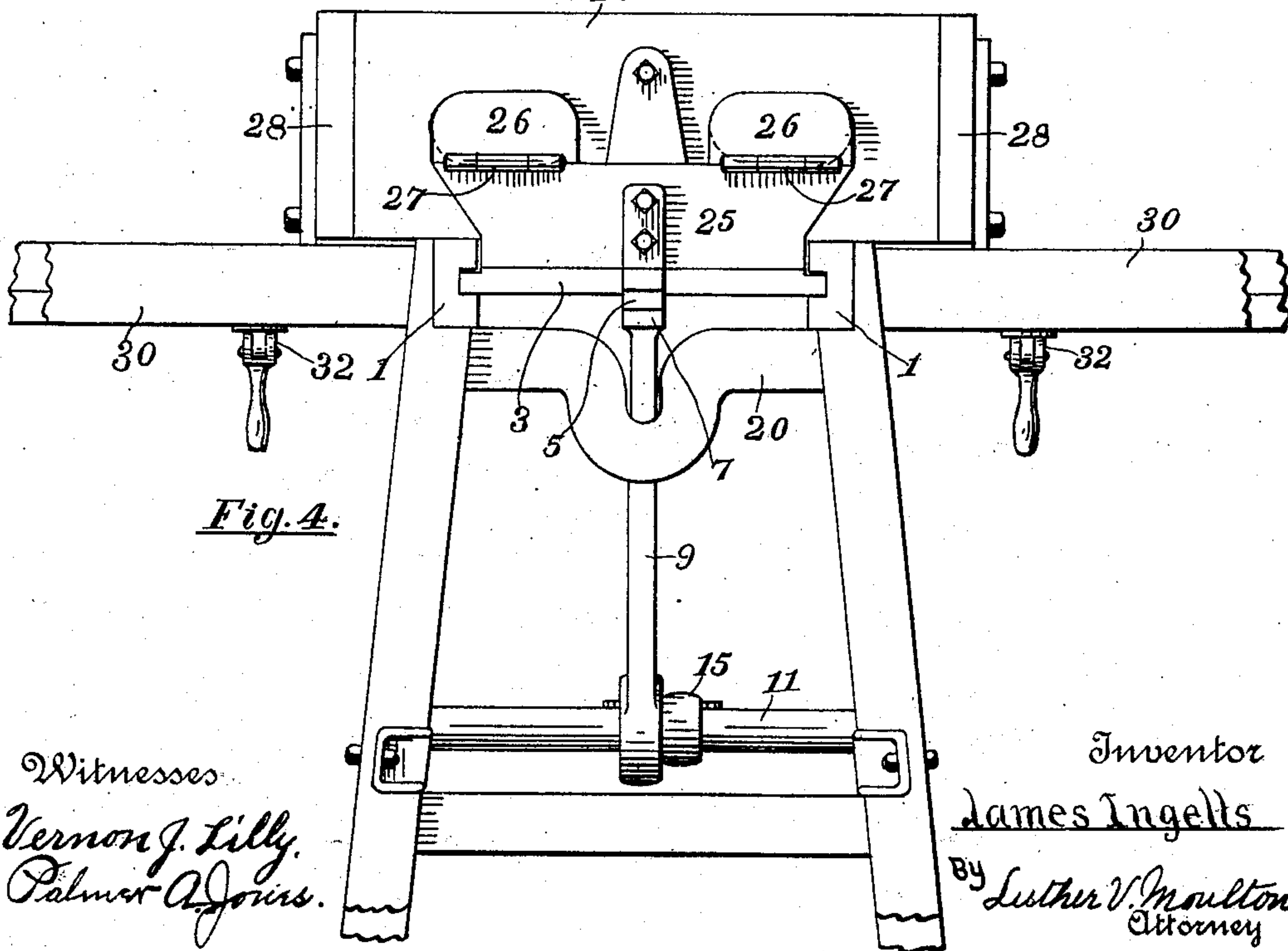
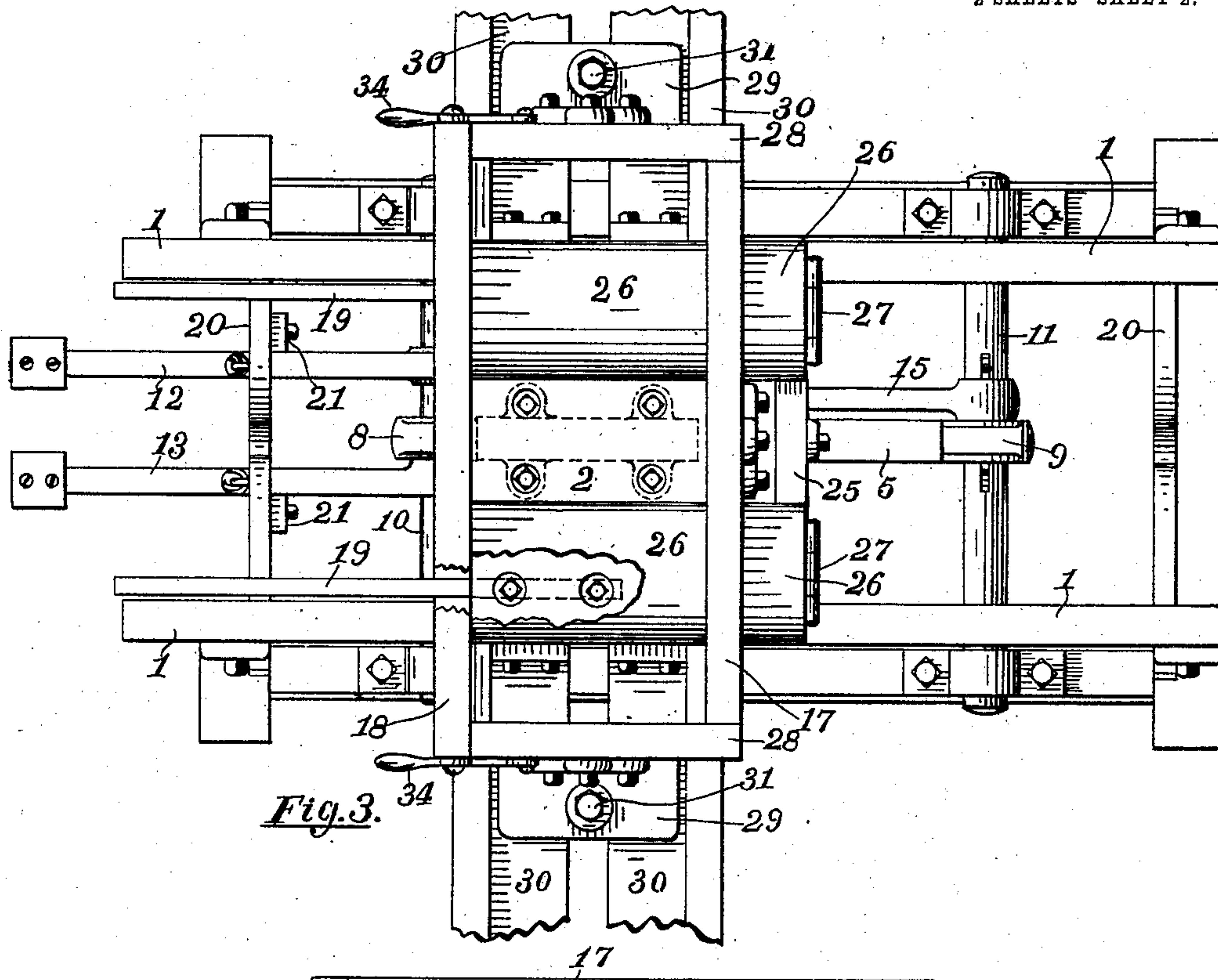
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# UNITED STATES PATENT OFFICE.

JAMES INGELLS, OF MUSKEGON, MICHIGAN.

## MACHINE FOR FORMING CONCRETE BLOCKS.

No. 891,423.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed September 17, 1907. Serial No. 393,277.

*To all whom it may concern:*

Be it known that I, JAMES INGELLS, a citizen of the United States of America, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Machines for Forming Concrete Blocks; 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 improvements in machines for forming concrete blocks, and its object is to provide a convenient manually operated device adapted for use with a bottom plate adapted to mold the material to represent any determined design, and so constructed that said plate may be used successively for any number of blocks, and to provide the device with various new and useful features hereinafter more fully described and particularly pointed out in the claims.

This class of machines usually require a large number of molded bottom plates allowing the material to remain thereon until hardened.

By the use of my improved device herein shown, the blocks immediately upon removal from the machine, are transferred to any convenient flat surfaced support on which they are permitted to remain until hardened. The plate adapted to form the outer face of the block is returned to the machine, and used repeatedly requiring but a single plate having the required formation to mold the outer surface of the blocks.

Referring to the accompanying drawings; Figure 1. is a side elevation of a machine embodying my invention with portions broken away; Fig. 2. a vertical section of the same; Fig. 3. a plan view of the same with portions removed; and Fig. 4. a rear elevation of the same with parts omitted.

Like numbers refer to like parts in all of the figures.

Mounted on suitable supports are a pair of parallel ways 1 in which is a slidable bed 2 above which is supported a detached plate 35, having the shape in reverse of the required outer surface of the blocks to be molded. Movable in the same ways is a slide 3 supporting a transverse bar 25, on which is mounted cores 26 to form openings through the blocks, these cores being attached to the bar by hinges 27 so that the

cores may be reversed when not used. These cores extend through openings in the walls 17 and 18 of the molds and are withdrawn therefrom by the rearward movement of the slide 3.

To move the bed 2 and slide 3 in the ways, a rack 4 is attached to the bed 2 and a similar rack 5 is attached to the slide 3. Respectively engaging these racks are segments 6 and 7 respectively mounted on the upper ends of arms 8 and 9 fixed on rock shafts 10 and 11 and operated by treadles 12 and 13, these treadles being provided with springs 24 to restore the same to raised position, and return the bed 2 and slide 3 to the closed position of the mold. To hold the mold in open position, vertical bars 21 extend alongside the respective treadles which treadles are each provided with a projection 23 adapted to engage one or more recesses 22 in the side of the bar 21 and thus prevent the return of the treadle to raised position.

The treadle 13 is fixed on the shaft 10 and operates to move the bed 2. The treadle 12 is journaled on the shaft 10 as a fulcrum and is provided with a slotted extension 14 in which is a pin 16 pivotally connecting the end of a lever 15 with said extension, which lever 15 at the other end is fixed on the shaft 11 and operates the arm 9 thus reversing the direction of the movement of the slide 3 and bed 2 when the respective levers are depressed. The respective ends of the mold 28 are mounted on slides 29 movable in the ways 30 and secured in place by bolts 31 extending through slots in the ways and provided with cams 32 to bind the slides in place.

The rear wall 17 is rigidly attached to the bed 2 and the front wall 18 is hinged at the bottom to the said bed to turn down to a horizontal position and when in this position is supported upon bars 19 attached to the bed and movable therewith. To hold the front wall 18 in vertical position, latches 34 are attached to the end walls 28 and detachably engage projections on the ends of the front wall. The transverse stay bars 20 are recessed downward at the middle to permit the racks to move outward sufficiently to properly adjust the bed and slide 3. Stops 33 on the ways, limit the movement of the bed and slide 3 and properly locate the same.

By detaching the front and rear walls 17 and 18 and attaching others of different length and adjusting the end walls 28 to the same, and the cores thrown out of action by



turning them on the hinges to reversed position, blocks of different lengths can be made such as window caps, and sills, as occasion may require.

5 In operation a detached bottom plate 35 having a surface formed in reverse to the surface desired to be formed in the outer side of the block is placed on the bed 2 and when the mold has been filled the cores 26 are  
10 withdrawn by depressing the treadle 12, and the bed 2 and walls 17 and 18 are then moved forward, and the front 18 turned down upon the bars 19 and upon these bars is laid any  
15 suitable board or other plate to receive the block, the ends of which, together with the ends of the plate 35 being exposed, the same are rolled forward as the front is turned, and the block slid forward upon this board, the  
20 plate 35 is then replaced on the bed, the mold restored to closed position, and the operation repeated.

Obviously, if preferred, the cores may remain stationary and the bed and the walls 17 and 18 moved to simultaneously draw the  
25 molded block off the cores and from between the end walls, but this requires more power applied to the treadle 13 and I prefer to divide the operation and use two treadles in succession as described.

30 What I claim is:

1. In a mold for concrete blocks, the combination of a slidable bed, means for sliding the bed, a rear wall fixed on the bed, a front wall hinged to the bed, supports for the front  
35 wall, and detached end walls.

2. In a mold for concrete blocks, the combination of a slidable bed, means for sliding the bed, a detachable rear wall mounted on the bed, a detachable front wall hinged to the  
40 bed, and detached laterally adjustable end walls.

3. In a mold for concrete blocks, a slidable bed, means for sliding the bed, a rear wall attached to the bed, a front wall hinged to the  
45 bed, a support for the front wall attached to the bed, and end walls detached from the bed.

4. In a mold for concrete blocks, a slidable bed, means for sliding the bed, a rear wall fixed on the bed, a front wall hinged to the  
50 bed, cores extending through the rear wall, a support for the cores, detached end walls, and a support for the front wall.

5. In a mold for concrete blocks, the combination of parallel ways, a bed and a slide  
55 movable in the ways, racks on the bed and slide, segments engaging the racks and mounted on rock-shafts, treadles to operate

the segments, cores mounted on the slide, front and rear walls mounted on the bed and perforated to receive the cores, the front  
60 wall being hinged to the bed and the rear wall fixed on the bed, a support for the front wall when turned down, and detached end walls.

6. In a mold for concrete blocks, the combination of parallel ways and lateral ways, a  
65 bed slidable in the parallel ways, slides movable in the end ways, means for adjusting the bed and slides, a rear wall detachably secured to the bed, end walls attached to the  
70 slides, a front wall detachably hinged to the bed, and a support for the front wall attached to the bed and movable therewith.

7. In a mold for concrete blocks, the combination of parallel ways, a bed and a slide  
75 movable in the ways, a rack attached to the bed, a rack attached to the slide, a segment engaging each rack, an arm supporting each segment, a rock shaft supporting each arm, a treadle fixed on one shaft, a treadle pivoted  
80 on said shaft, and an arm fixed on the other shaft and connected to the last named treadle, cores carried by the slide, front and rear walls carried by the bed, detached end walls, and independent supports for the end walls. 85

8. In a mold for concrete blocks, the combination of a slidable bed, means for sliding  
85 the bed, a rear wall detachably secured to the bed, a front wall detachably hinged to the bed, a support for the front wall, cores extending through the rear wall and removable therefrom, a support for the cores, hinges  
90 connecting the cores and said support, detached end walls, and independently adjustable supports for the end walls. 95

9. In a mold for concrete blocks, the combination of parallel ways, a bed and a slide  
100 movable in said ways, treadles to separately move the bed and slide, cores hinged to a support mounted on the slide, a rear wall attached to the bed and having openings for the cores, a front wall hinged to the bed, a support for the front wall attached to the bed, lateral ways, slides adjustable on the  
105 lateral ways, end walls attached to the slides and supported thereby, and hooks on the end walls engaging projections on the front wall.

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

JAMES INGELLS.

Witnesses:

WILLART J. TURNER,  
JEROME E. TURNER.