

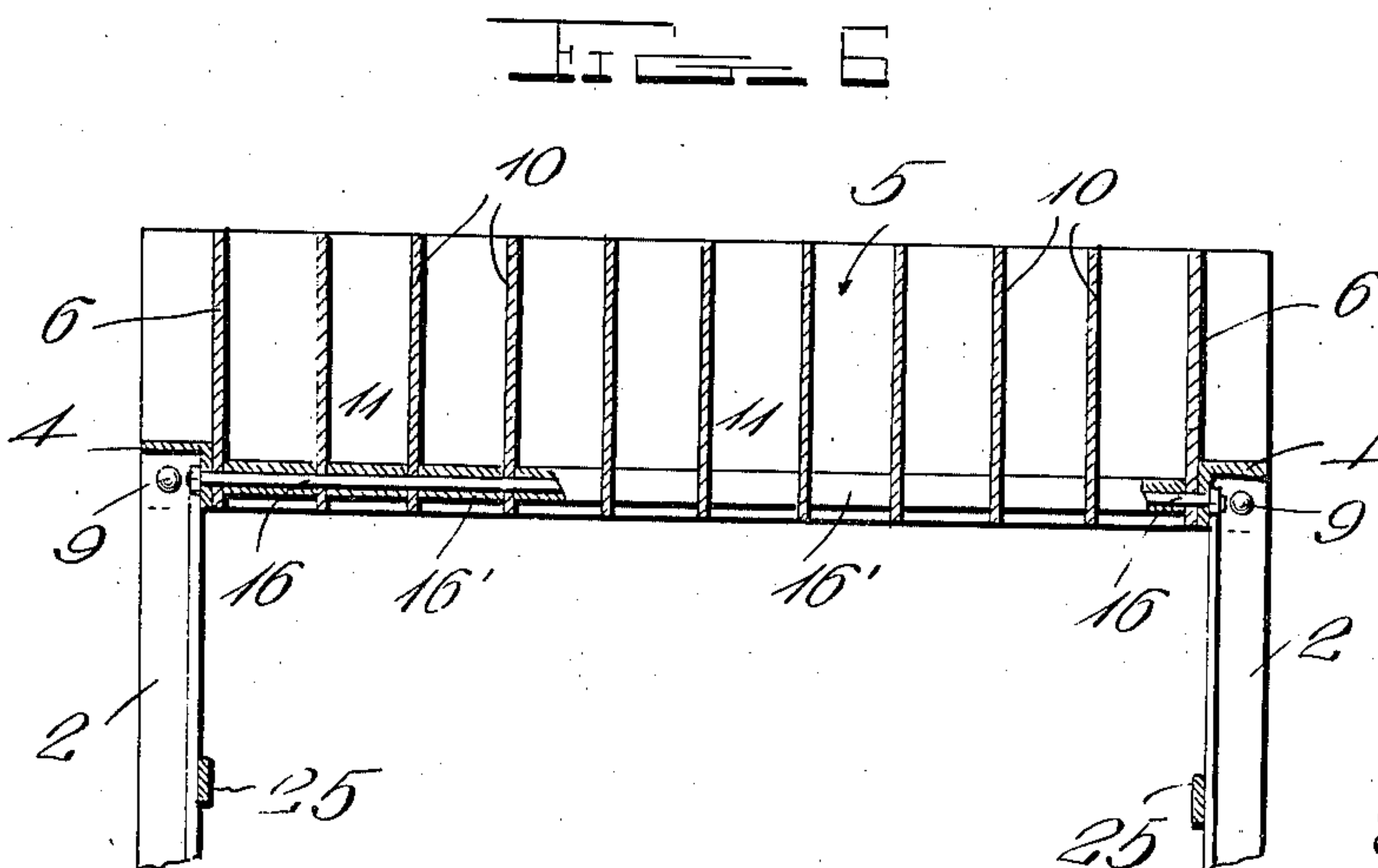
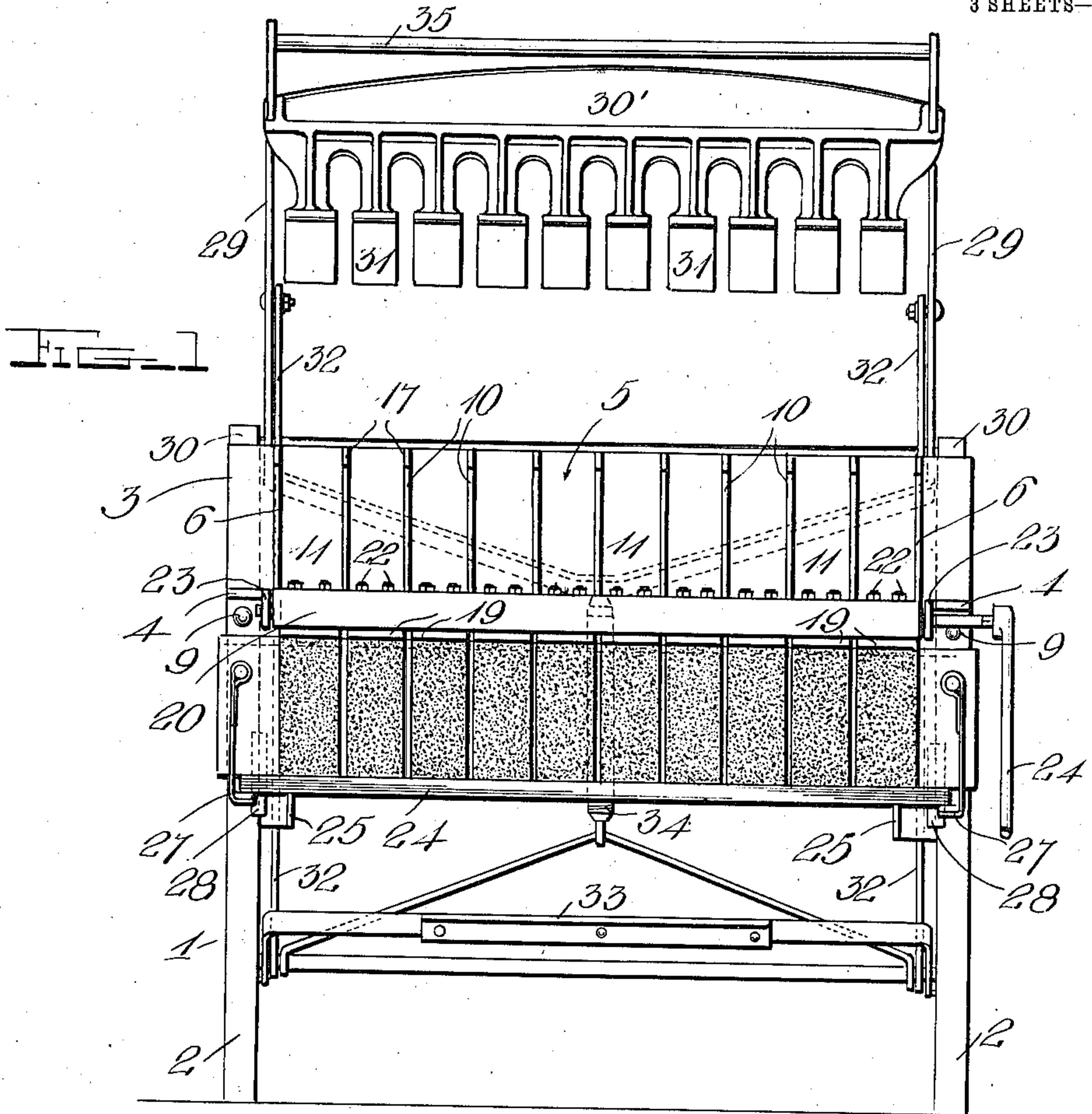
C. S. WERT.
BRICK MACHINE.

APPLICATION FILED NOV. 4, 1909.

965,350.

Patented July 26, 1910.

3 SHEETS—SHEET 1.



Witnesses

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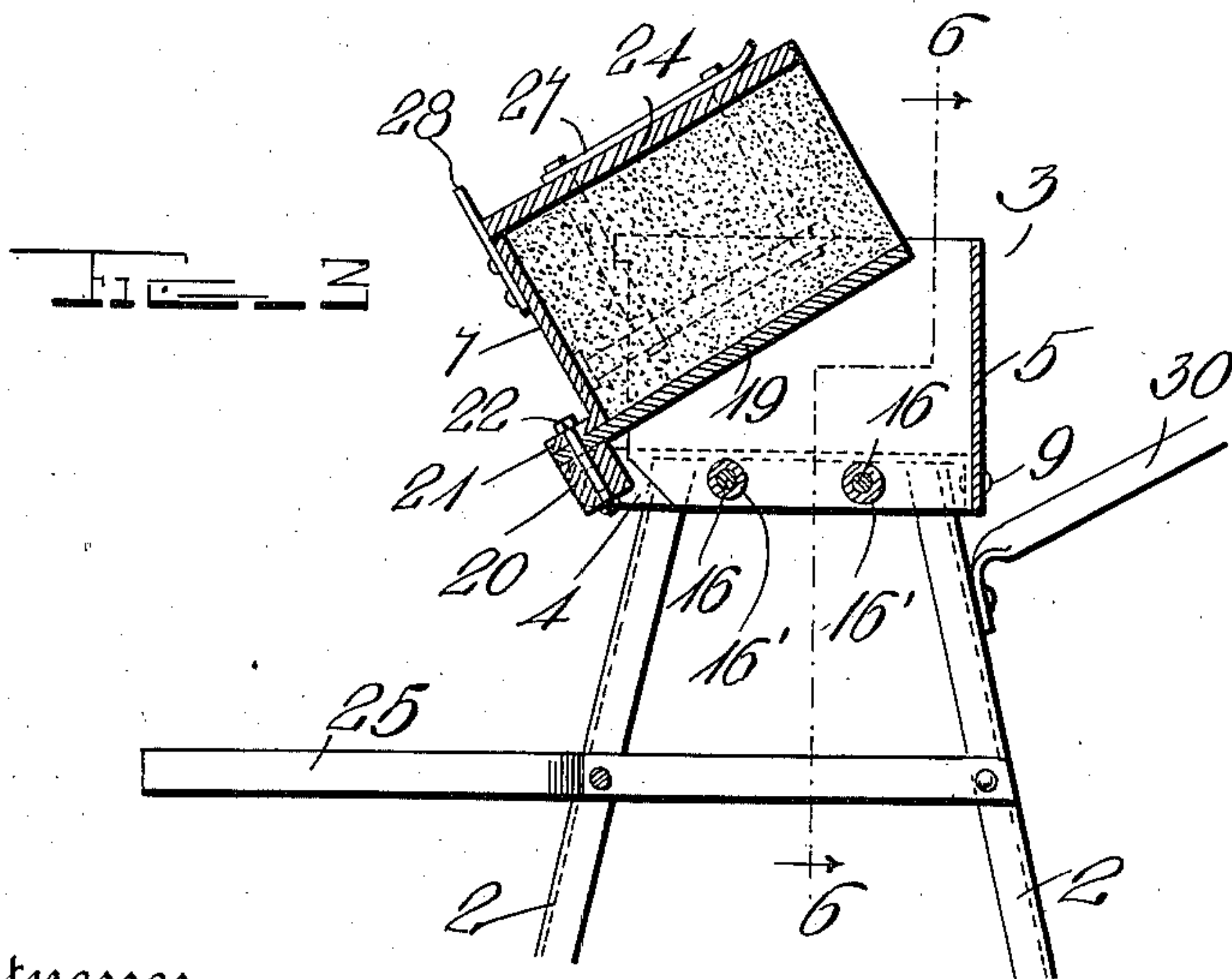
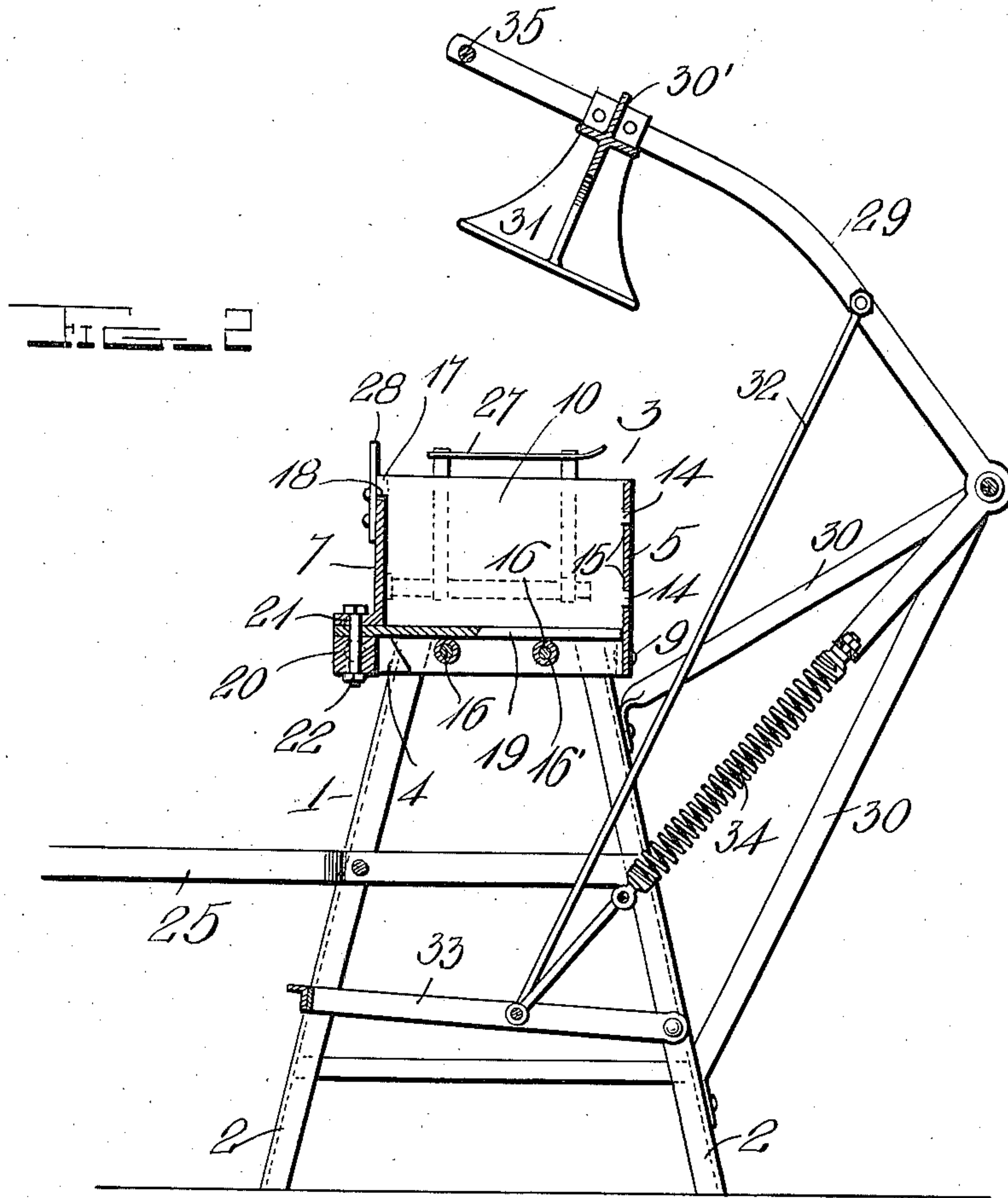
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3 SHEETS—SHEET 2.



Witnesses

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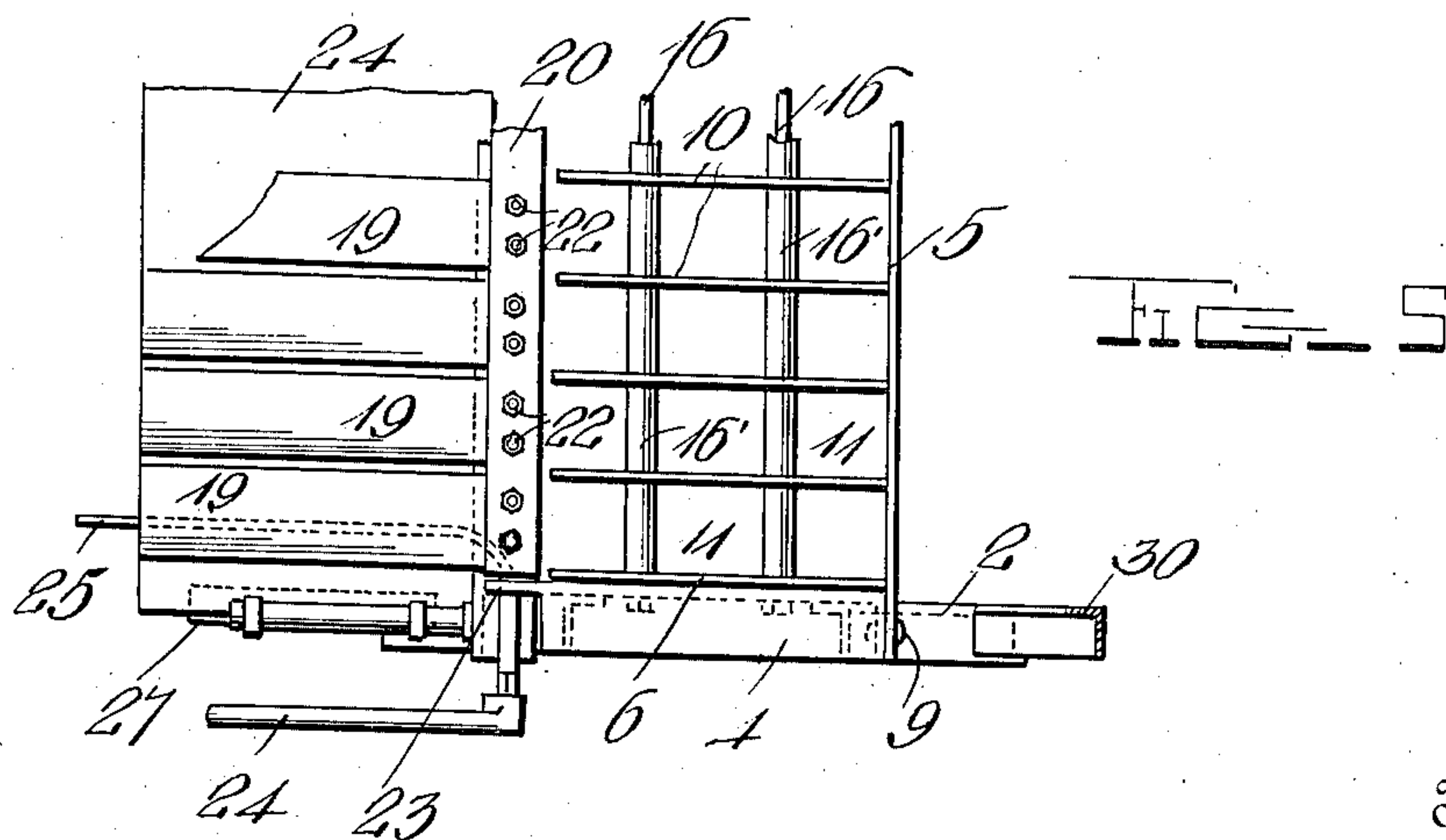
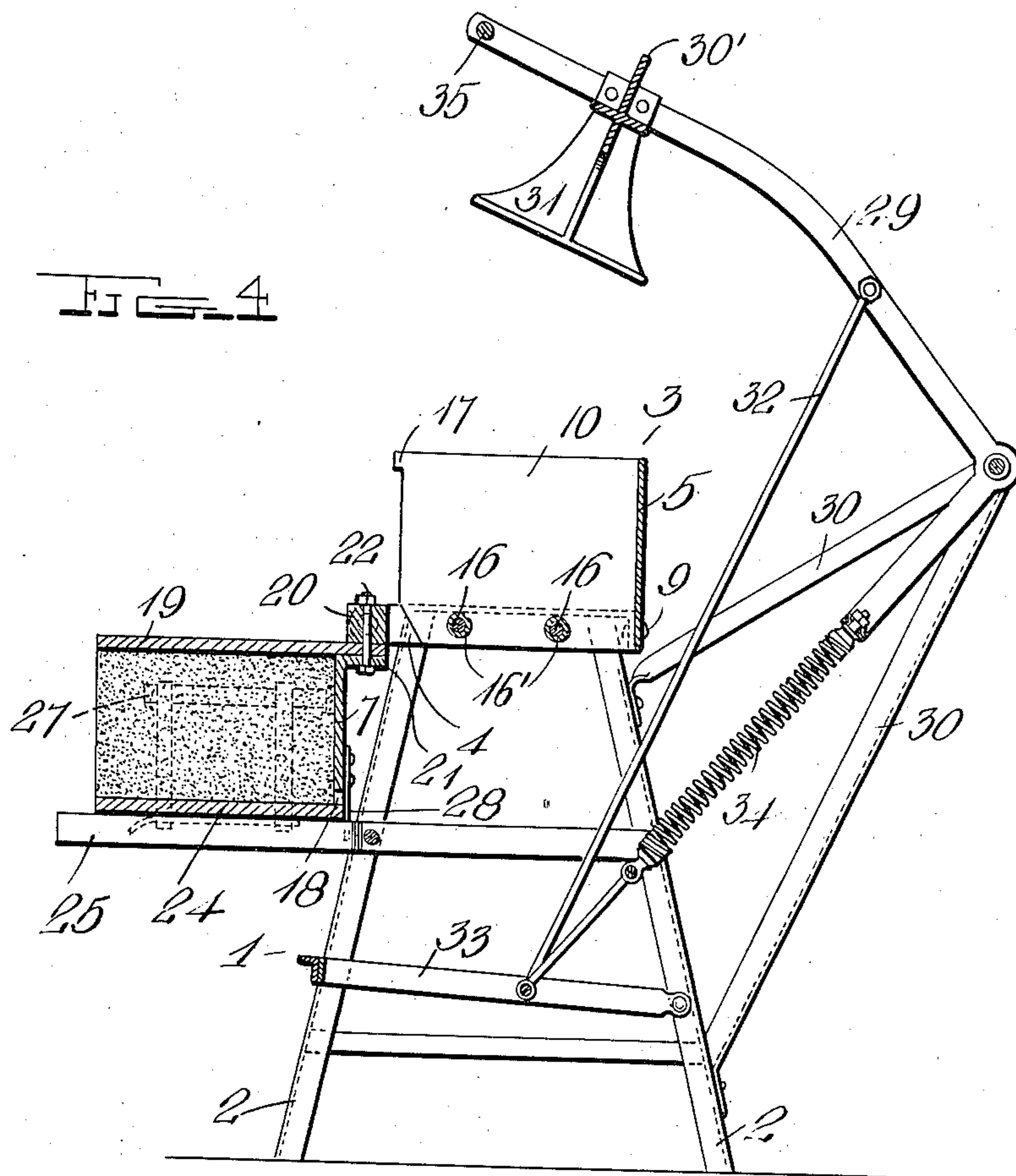
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

CYRUS S. WERT, OF KENDALLVILLE, INDIANA.

BRICK-MACHINE.

965,350.

Specification of Letters Patent. Patented July 26, 1910.

Application filed November 4, 1909. Serial No. 526,266.

To all whom it may concern:

Be it known that I, CYRUS S. WERT, a citizen of the United States, residing at Kendallville, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Brick-Machines; and I do 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.

This invention relates to improvements in concrete brick machines.

One object of the invention is to provide a simple and improved construction of brick machines by means of which a number of bricks may be quickly and easily made at one operation.

Another object of the invention is to provide a machine or mold of this character in which the bricks are formed face downward and delivered face upward in finished condition, whereby they may be properly dried out before used.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a front elevation of the machine, showing the mold box open and the tamping devices in raised or inoperative position and also showing a pallet board in position on the front of the machine and having thereon a row of finished bricks; Fig. 2 is a vertical longitudinal section with the mold box in closed position; Fig. 3 is a detail vertical section of the mold box and a portion of the frame, showing the parts in the act of discharging the finished bricks from the mold; Fig. 4 is a vertical longitudinal sectional view with the parts as shown in Fig. 1; Fig. 5 is a detail horizontal section on one end of the machine with the parts as shown in Figs. 1 and 4; Fig. 6 is a vertical cross sectional view of the mold box.

In carrying out the present invention, the working parts of the molding machine are associated with a main supporting frame, designated in its entirety, by the number 1, and including in its construction the oppositely located end frame sections 2—2 suitably

braced and connected together to provide a rigid frame work of sufficient strength and durability to not only support the operative parts of the machine, but also to be capable of withstanding the jar and shock incident to its use. The said supporting frame 1 is also provided with a horizontal top frame portion 3, which in the present invention is designed to have bolted or otherwise suitably fastened thereto horizontal base bars 4. This mold proper essentially consists of the said base bars 4, a stationary upright back wall 5, the opposite end walls 6, and a swinging front wall 7, the latter constituting one of the members of a rocking brick carrier to be presently referred to.

It is preferable in carrying out the invention to construct the entire machine of steel and iron, and the base bars may be of angle iron formation, as illustrated, to facilitate the setting up of the frame as well as to reinforce and stiffen the frame. The upright back wall 5 is detachably secured to the ends of the base bars by the bolts or equivalent fastenings 9 as plainly shown in Fig. 2 of the drawings.

The end walls of the mold proper, designated by the numeral 6, may be rigidly, though detachably, fitted to the base bars 4 and back wall 5 in any suitable or convenient manner, but a simple and effective construction is shown in the drawings and consists in utilizing as end walls, plates of the same general type as the partition plates 10 which are arranged in a series throughout the entire mold body to provide a multiplicity of molding compartments 11, each of which is designed to accommodate the material for molding a single brick.

The partition plates 10 are of dimensions corresponding with the standard sizes of brick to be molded in the machine, and in order to effect a proper setting and bracing of the individual partition plates, each of the same is provided on its rear edge with pairs of fastening tongues 14 which are adjusted to engage keeper slots 15 formed in the back wall of the mold box. The plates 10 are further secured at their lower edges by transverse, horizontally disposed tie rods 16 having their ends secured by suitable nuts in the base bars 4 as shown in Fig. 6 of the drawing. On the rods 16 between each of the partition plates 10 is arranged a spacing

sleeve or tube 16', said sleeves or tubes holding the lower portions of the plates in proper spaced relation.

The front ends of the series of parallel spaced partition plates 10 are provided with short retaining tongues 17 registering in keeper sockets or openings 18 formed in the swinging front wall 7, so that when such front wall is in its normal upright position, closing the front of the mold, the same acts as the locking keeper for the front ends of all of the partition plates, thus completing the fastening and bracing of such plates in position within the mold body to form a multiplicity of molding compartments for the individual brick. By fastening the partition plates at their rear, lower and front edges as herein shown and described, they will be securely held and braced against the strains incident to the tamping of the concrete material into the molding compartments.

As already stated, the swinging front wall 7 constitutes a member of a rocking brick carrier which comprises the said wall 7, a plurality of mold face plates 19, and a shifter rock-shaft 20, said members or elements being designed to rock or tilt as an entirety through an arc of 180°, or a half circle, in order to deliver the molded article face up after the molding operation is completed in the closed molds.

The mold face plates 19 correspond in number, size, and position, to the individual molding compartments 11, each of which compartments is designed to receive in the bottom thereof one of the said face plates 19 which constitutes the temporary or false bottom for the mold during the molding of the bricks. Hence, the said face plates 19 may present a pattern face of any desired configuration according to the finish to be given the face of the brick, but for illustrative purposes, the said face plates are shown as having smooth surfaces for forming smooth faced brick.

The entire series of mold face plates 19 are arranged in regular parallel spaced order and are separately removable and replaceable for convenience in adjustment and repairs, but the entire series of said face plates are detachably fastened at one end to the shifter rock-shaft 20. This shaft is preferably square for the greater portion of its length to permit a proper fitting of the face plates thereto, and also to admit of the bottom fastening flange 21 of the front wall 7 being arranged in superposed and contacting relation to the fast ends of the face plates so that common fastening bolts 22 may be employed for securing these members rigidly to the rock-shaft 20. This shaft is journaled in suitable bearings 23 provided in the ends of the base bars 4, and is equipped at either or both ends with an op-

erating handle by means of which the entire brick carrier may be swung from its molding position to its delivery position where the brick are delivered and supported face up upon the supporting and delivering pallet 24 adapted to be placed on the fixed delivery platform members 25 arranged on the supporting frame 1 as a part thereof, and projected or offset from one side, and arranged in a lower plane than the mold base 4 in order to permit of the mold carrier being completely reversed in position.

The supporting and delivering pallet 24 forms the top of the mold when closed and is adapted to be inserted in the pallet receiving slots provided for by horizontal holding hooks 27. These holding hooks are secured to opposite ends of the swinging front wall 7 and are carried thereby. Also, it will be observed that when the mold is closed, the main part of the hooks 27 lies above the end walls 6 in spaced parallel relation thereto in order to provide what has been characterized as the pallet receiving slots.

Secured to the front wall 7 of the mold near the opposite ends thereof are upwardly projecting stop lugs 28 which hold the pallet board 24 in position when the movable portion of the mold box is tilted forwardly and downwardly to discharge the bricks. The lugs 28 also serve to push the pallet and the bricks thereon away from the base plate when the face plates are turned back to their normal or operative positions.

In connection with the mold, I provide a tamping mechanism consisting of frame 29 which is pivotally connected at its rear portion to a rearwardly projecting extension 30 of the main frame. Secured to the side bars of the pivoted frame 29 is a cross bar 30' on which is formed a series of tamping plungers 31 which correspond in size, shape and number to the molding compartments 11 of the mold box. The frame 29 is connected by operating rods 32 to a foot treadle frame 33 pivotally mounted in the lower portion of the main frame, whereby the tamping plungers carried by the frame 29 may be depressed or brought down onto the cement in the mold compartments whereby the same is properly tamped or packed to form a firm, perfect, brick. To the treadle frame 33 is connected a coiled retracting spring 34 which is adapted to raise the treadle frame and thereby lift the tamping frame and plungers to an inoperative position above the mold box, when pressure on the treadle is removed. In addition to the foot treadle the tamping frame is provided with a hand operating bar 35 arranged between and secured to the forward ends of the side bars of said frame whereby the latter may be operated by hand to depress the plungers into engagement with the material in the mold compartments. It will of

course, be understood that when the hand bar 35 is released the frame carrying the tamping mechanism also will be raised to an inoperative position above the machine as shown.

From the foregoing description it is thought that the operation of the machine will be readily understood, but it may be further explained that when all of the parts are assembled in their closed positions, with the pallet 24 off, it is simply necessary to fill the individual molding compartments with the concrete material, tamp the same tightly down onto the face plates 19 and then insert the pallet beneath the holding hooks 27 so as to form a top or cover for all of the molding compartments. Then by rocking the shaft 20, the brick carrier, carrying the entire series of molded brick, is turned over to a face up position and with the pallet dropped onto the platform members 25 so that the pallet and the whole series of brick can be removed intact to the drying yard or shed.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim is:—

In a concrete brick machine, a mold proper having a plurality of individual mold compartments, a rocking brick carrier having mold face plates movable into and out of the individual compartments, a supporting frame at the rear of the machine frame, a tamping mechanism comprising a hinged plunger carrying frame pivotally mounted in the supporting frame and provided with a right angularly projecting portion at its pivoted end, a series of tamping plungers carried by said pivoted frame, a foot treadle, a resilient connection between the foot treadle and the right angularly projecting portion of the plunger-carrying frame, whereby the treadle is normally held in raised position and the plunger-carrying frame swung up into inoperative position after having been depressed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CYRUS S. WERT.

Witnesses:

W. O. SAMPS,
WM. ROHLOFF.