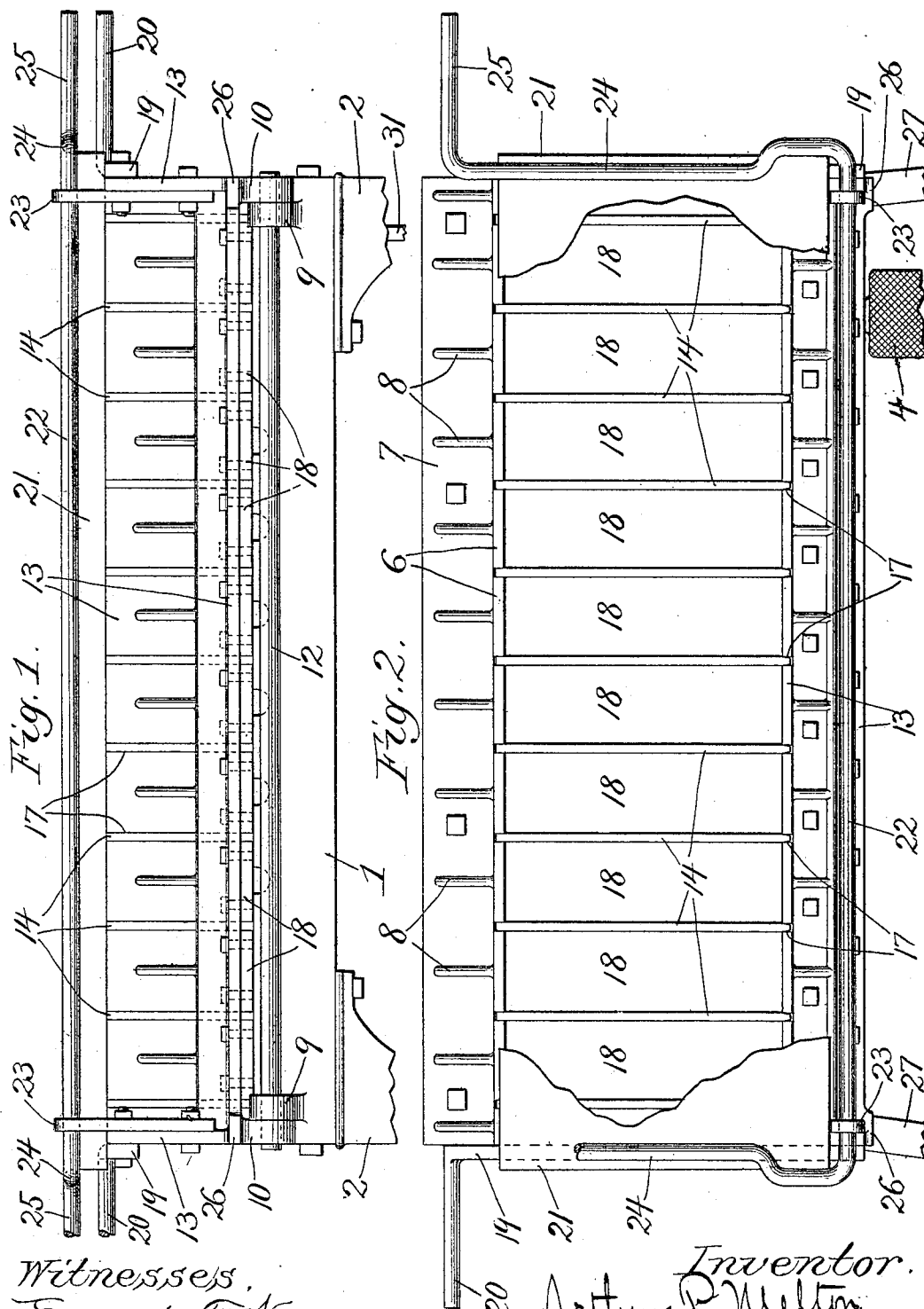


No. 825,919.

PATENTED JULY 17, 1906.

A. P. MELTON.
BRICK MOLDING MACHINE.
APPLICATION FILED DEC. 11, 1905.

3 SHEETS—SHEET 1.



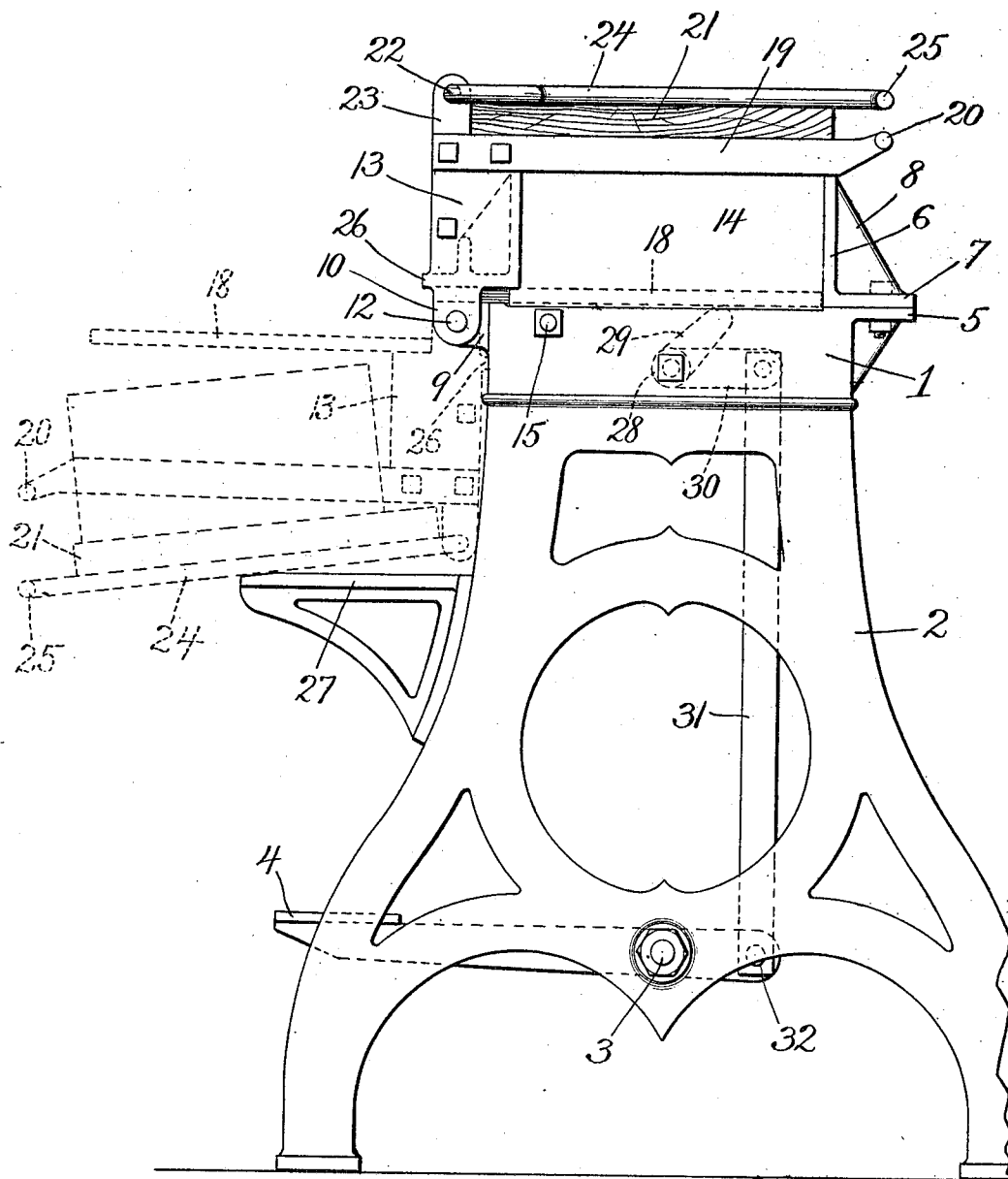
Witnesses,
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M. Gertrude Ady

Inventor.
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3 SHEETS—SHEET 2.

Fig. 3.



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3 SHEETS—SHEET 3.

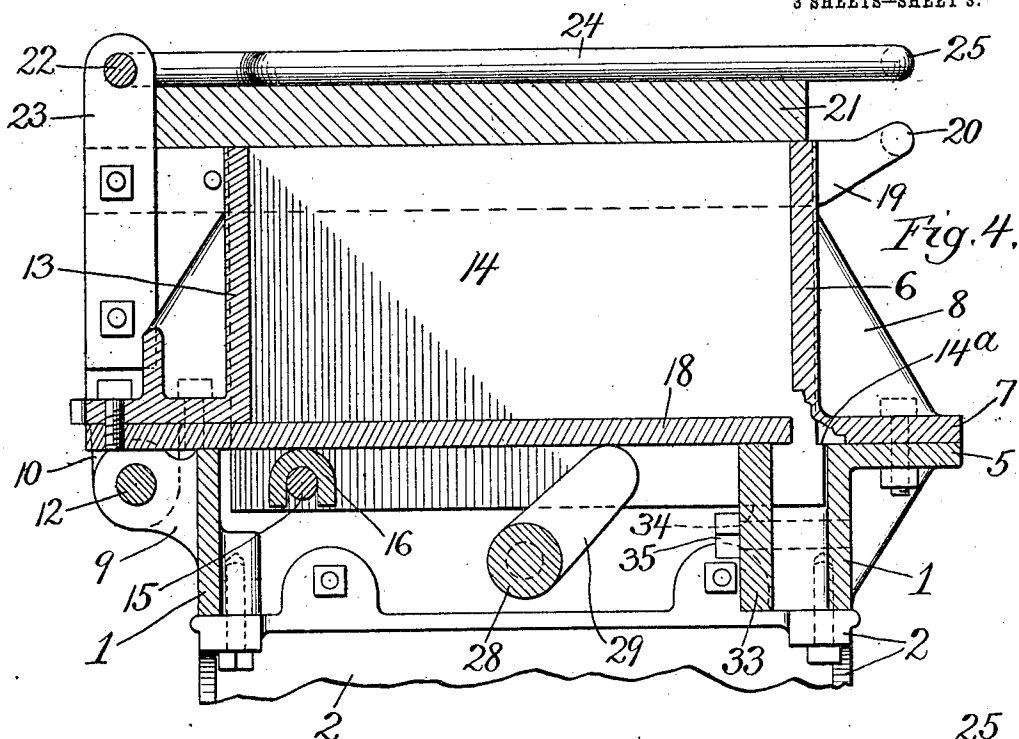
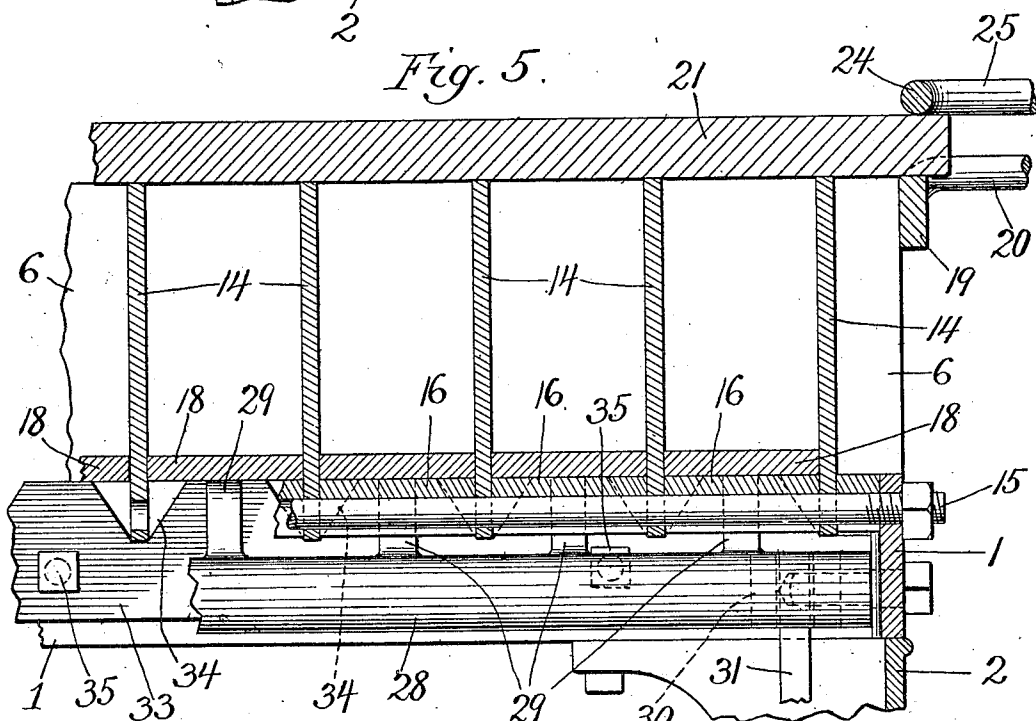


Fig. 5.



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UNITED STATES PATENT OFFICE.

ARTHUR P. MELTON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR TO
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SOUTH DAKOTA.

BRICK-MOLDING MACHINE.

No. 825,919.

Specification of Letters Patent.

Patented July 17, 1906.

Application filed December 11, 1905. Serial No. 291,341.

To all whom it may concern:

Be it known that I, ARTHUR P. MELTON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented new and useful Improvements in Brick-Molding Machines, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The object of this invention is to provide a brick-molding machine embodying a suitable supporting-frame and a mold-box or mold proper mounted thereon and comprising a stationary member and a movable member, which, taken together, embody all the walls of the molding cavity or cavities, the movable member being capable of inversion for the purpose of moving molded brick out of the mold cavity or cavities and carrying them to a position where they may be taken from the machine while supported on a suitable pallet.

The invention consists in the novel construction, combination, and arrangement of parts of the machine, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a front elevation of the machine. Fig. 2 is a plan view thereof. Fig. 3 is an end elevation of the machine. Fig. 4 is a vertical transverse section through the same. Fig. 5 is a longitudinal section through the machine.

The brick-machine contemplated in this invention comprises a suitable supporting-frame consisting of a substantially rectangular top 1, supported at opposite ends by leg-frames or pedestals 2, bolted or otherwise suitably connected firmly to the frame-top 1, as shown in Figs. 1 and 2, the leg-frames 2 being connected at a point between the top and bottom thereof by a horizontal tie-rod 3, upon which is fulcrumed a foot-lever 4, the purpose of which will hereinafter appear.

At one side the top 1 is provided with upstanding lugs 5, to which is bolted the stationary member 6 of the mold-box, the inner face of said stationary member 6 forming the end wall or walls of the cell or cells of the mold-box. The member 6 is provided with offstanding lugs or a flange 7, permitting the same to be bolted to the lugs 5 of the top 1, and is also reinforced by means of braces or

ribs 8 to impart the necessary stability thereto. At the opposite side the top 1 is provided with offstanding pivot-lugs 9, to which the corresponding pivot-lugs 10 of the movable member 13 of the mold-box are connected by means of the pivot rod or bolt 12. The movable mold-box member comprises a bar 13, which extends lengthwise of the frame parallel with the stationary member 6 and at a distance therefrom equal to the length of the brick, the inner face of the bar 13 forming the other end wall of the brick cell or cavity.

Between the bar 13 and the stationary member 6 is arranged a gang or plurality of division plates, walls, or partitions 14, set at a distance apart equal to the thickness of the brick to be molded. The walls or partitions 14 extend at their lower edges below the plane of the upper edge of the top 1 and receive a through-bolt 15, which passes through all of the partitions 14 and also through the opposite ends of the frame-top 1. On the bolt 15 between the walls or partitions 14 are spacing blocks or fillers 16, which firmly hold said walls or partitions properly spaced and rigid with respect to each other and to the frame. Said walls or partitions are connected rigidly at their rear ends to the stationary mold member 6, while the front edges thereof are received in grooves 17 in the inner face of the bar 13 of the movable mold member when the latter is in its operative position, as shown in Fig. 2.

Extending horizontally inward from the bar 13 are the bottoms or face-plates 18 of the mold cells or cavities, said plates being of the proper size to fit between the division-pieces or partition-walls 14. These plates 18 extend the full length of the brick cells or cavities from the bar 13 to the stationary member 6 and are rigidly connected to and carried by the bar 13 as the latter swings upon its pivotal connection with the frame, the plates 18 being thus caused to move upward between the partition-walls or division-pieces and carry the molded brick upward and outward from the space between said partition-walls and away from the stationary mold member 6.

Located laterally beyond the outside of the entire group of brick-cells, extending

horizontally inward from the bar 13, are pallet-supporting bars 19. These bars 19 are rigidly connected to the bar 13 at one end, while their opposite end portions are adapted to rest on top of the stationary mold member 6, their upper edges being at this position in the plane of the upper edges of the division-plates 14. The bars 19 extend beyond the member 6 and are provided with outturned handles 20. An ordinary wooden pallet 21 is placed upon the supporting-bars 19 over the top of the mold-box after the mold cavity or cavities have been filled, and said pallet is held firmly in place by means of a clamping device comprising a rock-shaft 22, mounted in bearings 23 on the movable member 13, oppositely-arranged presser-arms 24, extending transversely of the top of the machine across the pallet 21, so as to rest thereon, and outturned end portions forming handles 25, which lie just above and parallel with the handles 20 of the bars 19. By this arrangement the operator can simultaneously grasp the handles 20 and 25, and thus hold the pallet in place while swinging the movable mold member on its pivotal connection for inverting the movable mold member to carry the same from the full-line position of Fig. 3 to the dotted-line position of the same figure.

To assist in the preliminary movement of the movable mold member, a horizontal shaft 28 is journaled in the frame-top and provided with a series of cam projections 29, one for each bottom or face-plate 18, the said cam projections underlying the face-plates or bottoms 18 and working against the same. The shaft 28 is provided with a crank-arm 30, to which is pivotally connected the upper end of a connecting rod or bar 31, the lower end of which is pivotally connected at 32 to the inner short arm of the foot-lever 4, hereinabove referred to. By depressing the foot-lever 4 the shaft 28 is rocked, so as to cause the cam projections 29 to operate simultaneously against the bottoms or face-plates 18, thereby raising said plates and partially swinging the movable mold-box member 11, shearing the molded brick from the side or partition walls 14. Simultaneously with the operation of the foot-lever the operator grips the handles 20 and 25 and raises the movable mold-box member and inverts it as described, the pallet 21 then becoming the bottom support for the molded brick wall, the bottoms or face-plates 18 overlying the molded brick. In this inversion the movable mold member carrying the molded brick or bricks out of the mold cavities or cells and also away from the stationary mold members 6 affords support for the bricks successively on three sides—first, by the bottoms or face-plates 18; next, by the end bars 13, and, finally, by the pallet 21, which, as stated, becomes the bottom of

the mold in its inverted position. Stop-lugs 26 are provided on the movable member which come in contact with the frame of the machine for limiting the movement of the member 13 and sustaining the same in a substantially horizontal position at the front of the machine, as shown in dotted lines in Fig. 3.

Secured to the front of the machine-frame at a suitable elevation are brackets or rests 27, arranged in the path of the arms 24 of the clamping device and adapted to permit said arms 24 to move farther than the limit of movement of the movable mold-box member 11, as shown in dotted lines in Fig. 3. The pallet 21, which then finds its support on the arms 24, is also adapted to move a corresponding distance beyond the limit of movement of the movable mold-box member, the result being that the molded brick or bricks are permitted to move downward and free themselves from the bottom or face-plates 18. Thus the molded brick or bricks are disengaged and moved away from all of the walls of the mold cavities or cells and rest solely upon the pallet 21, which is then lifted and carried away from the machine preparatory to another molding operation.

I claim—

1. A brick-molding machine having a mold-box which consists of a movable member and a stationary member, the movable member comprising the bottom and top and one upright wall.
2. A brick-molding machine having a mold-box which consists of a movable member and a stationary member, the stationary member comprising two opposite upright sides and the movable member comprising the top and bottom of the mold-box.
3. A brick-molding machine comprising a mold-box which consists of a movable member and a stationary member, the stationary member comprising two opposite upright sides and one end of the mold-box, and the movable member comprising the top and bottom and the other end of such box.
4. A brick-molding machine comprising a mold-box which consists of a movable member and a stationary member, the stationary member comprising two opposite upright sides and one end, and the movable member comprising the top and bottom and the other end of the mold-box, said movable member being mounted for movement in a plane parallel to the said two opposite sides of the fixed member.
5. A brick-molding machine comprising a mold-box which consists of a movable member and a stationary member, the stationary member comprising two opposite upright sides and one end, and the movable member comprising the top and bottom and the other end of the mold-box, said movable member being mounted for movement in a plane par-

allel to the said two opposite sides of the fixed member, and transverse to the said two opposite sides of said movable member.

6. A brick-molding machine comprising a mold-box consisting of a fixed member and a movable member, one having the two opposite horizontal sides of said box and one end thereof, and the other having the two opposite upright sides and the other end, the movable member being mounted for movement parallel with the upright sides, the lower of said horizontal sides being adapted to pass between the upright sides in such movement.

7. A brick-molding machine comprising a mold-box consisting of two members, one member comprising two opposite upright sides and one end, and the other member comprising the other two opposite sides and the other end, and means for moving said members relatively to cause the lower side of the last-mentioned member to pass between the upright sides of the other member to carry the molded brick outward therefrom.

8. A brick-molding machine comprising a two-part mold-box, each part comprising two opposite sides and one end, and means for moving said two parts relatively to cause one of the two opposite sides of one member to pass between the two opposite sides of the other member.

9. A brick-molding machine comprising an invertible mold-box member embodying a bottom which becomes the top when the mold-box is inverted; stationary side walls and a pallet carried by the invertible member forming first the top or cover, and after inversion the bottom of the mold-box, such pallet being separable and removable from said member after such inversion.

10. A brick-molding machine comprising a plurality of mold-boxes, each consisting of a movable and a stationary member, the stationary members of all said mold-boxes being formed by a continuous bar which constitutes one end of every mold-box, and parallel upright plates rigid with said bar constituting sides of said mold-boxes, the movable members of all said mold-boxes being formed by a bar parallel to the first; bottom plates rigid with said bar adapted to pass between the upright plates of the fixed member; a pallet carried by said last-mentioned bar extending over all the mold-boxes and forming a continuous cover for the entire number, and means for moving said movable member parallel to the upright plates of the fixed member, the bottom plates of said movable member being adapted to pass between the upright plates of the fixed member in such movement.

11. A brick-molding machine comprising a frame, a reversible mold-box member mounted thereon and divided into a plurality of individual brick-cells embodying bottoms which become the tops of said cells respec-

tively when the mold-box is inverted; side and partition walls for such cells fixed with respect to the frame, and a pallet carried by the reversible member and forming first the top or cover, and after reversion the bottom of all the brick-cells, said pallet being removable from said member when inverted.

12. A brick-molding machine comprising a frame and a reversible mold-box member mounted thereon embodying a bottom which becomes the top when the member is inverted; sides fixed with respect to the frame and means for moving the reversible member to carry the bottom in direction parallel with the fixed sides and between the same to carry the molded brick outward from between said sides.

13. A brick-molding machine comprising a frame; a mold-box connected therewith and comprising a stationary member and an invertible member; a separable pallet and releasable means for holding the pallet against the invertible member during inversion.

14. A brick-molding machine comprising a frame, and a mold-box connected therewith which consists of a stationary member and an invertible member; pallet-supporting bars carried by the invertible member; a separable pallet lodged on said bars and releasable means for holding the pallet against the bars during inversion of said member.

15. A brick-molding machine comprising a frame, and a mold-box connected therewith consisting of a stationary member and an invertible member; pallet-supporting bars carried by the invertible member; a separable pallet lodged on said bars, and a releasable clamping device on said invertible member for holding the pallet against the bars during inversion.

16. A brick-molding machine comprising a frame, and a mold-box connected therewith embodying a stationary and an invertible member; pallet-supporting bars carried by the invertible member; a separable pallet lodged on said bars, and a releasing clamping device pivoted on the invertible member for holding the pallet against the bars during inversion.

17. A brick-molding machine comprising a frame, and a mold-box connected therewith embodying a stationary and an invertible member; pallet-supporting bars carried by the invertible member; a separable pallet lodged on said bars, and a clamping device pivoted on the invertible member for holding the pallet against the bars during inversion, said clamping device and invertible member having juxtaposed handles for holding the clamp and inverting the member.

18. A brick-molding machine comprising a two-part mold-box, one part having two of the opposite sides and one end, and the other the other two opposite sides and the other end of such box, one of said members being

movable relatively to the other to carry one of its two sides between the two sides of the other member for taking the brick out from between said other two sides, and foot-operated means for actuating such movable member.

19. A brick-molding machine comprising a two-part mold-box, one part having two opposite sides and one end and the other the other two opposite sides and the other end of the box, one of said parts being movable relatively to the other to carry one of its two sides through the space between the two opposite sides of the other part for taking the brick out from between said other two sides of the mold; a cam device for starting the movable member in said movement, said member being mounted for swinging through one hundred and eighty degrees about an axis at right angles to the planes of said two last-mentioned opposite sides, and suitable hand-operated means for so swinging it.

20. A brick-molding machine comprising a frame, and a mold-box connected therewith consisting of a stationary member and an invertible member, the latter having pivotal

connection with the frame, and a stop device for limiting the inverting movement of said invertible member.

21. A brick-molding machine comprising a frame, and a mold-box connected therewith consisting of a stationary member and an invertible member, the latter having pivotal connection with the frame; a stop limiting the inverting movement of the invertible member; a separable pallet carried by said invertible member; a pallet-holding clamping device mounted on the invertible member and carried thereby in its inverting movement, and a stop for said clamping device located to permit it to continue said inverting movement after the invertible member has been stopped, said clamping device being adapted to support the pallet in said inverted position.

In testimony whereof I have hereunto set my hand, at Minneapolis, Minnesota, this 8th day of November, 1905.

ARTHUR P. MELTON.

In presence of—

LEONORA E. OLSEN,
MATILDA A. MORSHARE.