

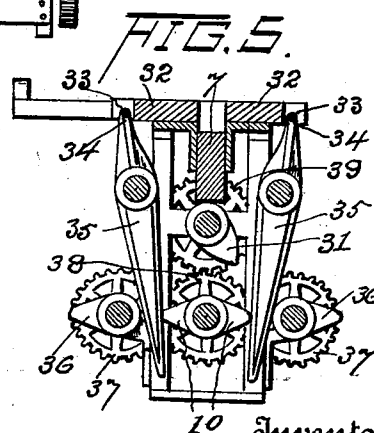
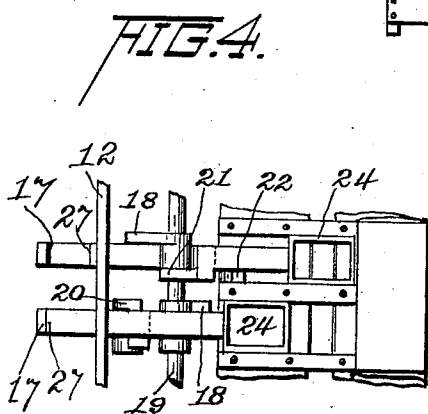
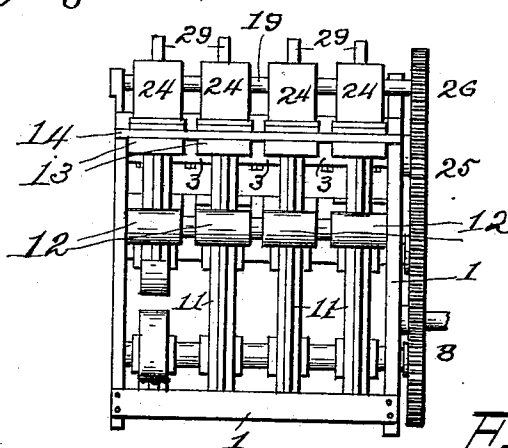
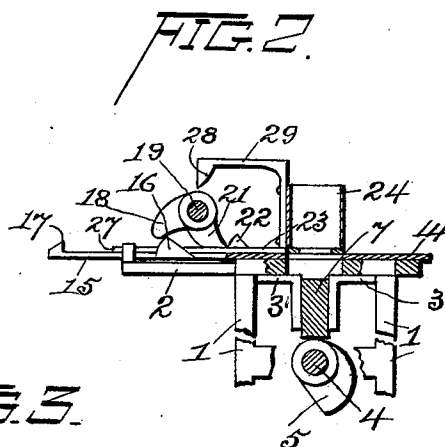
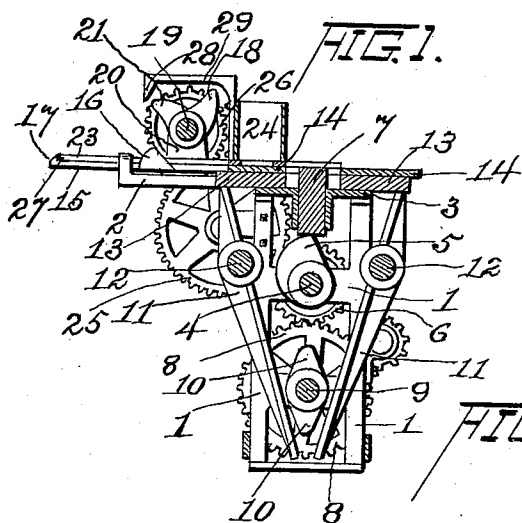
No. 636,252.

Patented Nov. 7, 1899.

S. B. FRANK.
DRY PRESS BRICK MACHINE.

(Application filed June 23, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

SAMUEL B. FRANK, OF SAN ANTONIO, TEXAS.

DRY-PRESS BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 636,252, dated November 7, 1899.

Application filed June 23, 1899. Serial No. 721,594. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL B. FRANK, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Dry-Press Brick-Machines, of which the following is a specification.

This invention relates to brick-machines, and particularly to dry-press brick-machines; and the object of the invention is to provide a new and improved means for automatically operating a hopper and a cover or cap simultaneous with the operation of the plunger and followers.

The invention consists in the novel construction and arrangement of parts, and resides, essentially, in the mechanism for automatically operating the hopper and cap or cover.

In the accompanying drawings, forming part of this application, Figure 1 is a vertical section showing a plunger raised. Fig. 2 is a similar view, partly broken away, showing the plunger lowered. Fig. 3 is a front end view of the machine. Fig. 4 is a top view, partly broken away, showing relative position of cap and hoppers and relative position of shoulders 17 and ends 27. Fig. 5 is a vertical sectional view of a modification without hoppers, caps, and means for operating the same.

The same reference-numerals denote the same parts throughout the several views.

The frame 1 has extensions or arms 2, which support the moldboard 3. Journaled in the frame 1 is a shaft 4, having cams 5 and a gear-wheel 6. These cams operate vertical plungers 7 through the moldboard 3. Meshing with the gear-wheel 6 is a gear-wheel 8 upon a shaft 9, journaled in the lower portion of the frame 1 and having double cams 10, which engage and operate levers 11, pivoted at 12, with their lower ends free and their upper ends pivotally secured to horizontal followers 13, which are moved toward each other to assist in forming the mold.

The cap or cover 14 has an arm 15, provided with a lug or projection 16 and a shouldered end 17. The projection 16 is engaged by a wing 18, secured upon a shaft 19, journaled in standards 20. The wing 18 by said engagement moves the cap or cover 14 over the moldboard. After the cap or cover has been

thus moved a similar wing 21 upon the said shaft 19, preceding the wing 18 out of the same plane therewith by engaging a lug or projection 22 on the frame 23 of the hopper 24, moves the latter over the moldboard. This operation is accomplished simultaneously with the movement of the plungers 7 and followers 13, operated by cams 5 and 10, respectively driven by gear-wheels 6 and 8, and leaves the hopper and cap or cover over the moldboard with the shoulder 17 against the end 27 of the hopper base-frame 23 until the wing 21 on its continued travel strikes the depending projection 28 of the hopper-hanger 29, which automatically moves the hopper and said cap or cover back from the moldboard, as clearly shown in Fig. 1.

I have shown mechanism for pressing four bricks at the same time; but a greater or less number may be pressed, in accordance with the size of the machine.

It will be observed that the hopper is first run over the moldboard and left there while the cap or cover is pushed over the moldboard beneath the hopper, thus operating the cap and hopper one after the other separately; but in returning them to normal position they are both brought back from the moldboard together at one operation.

Referring to Fig. 5, the plunger 7 is operated by a double cam 31, and the followers 32 have notches 33, in which the upper ends 34 of the levers 35 are pivoted, the lower ends of the levers being worked by cams 36 on gear-wheels 37, meshing with a like wheel 38, the latter meshing with a gear 39. This construction gives the plunger a double-cam bearing and compels the levers to follow the double cam 10.

The operation of the machine is as follows: The train of gearing being driven by a suitable motive power, the cam 5 is turned to permit the plunger 7 to drop, and the cam 10 is turned to operate the levers 11, whereby the followers 13 are moved toward each other. Simultaneously with this operation the wing 18 engages the projection 16 and moves the cap or cover 14 over the moldboard. The wing 21 then engages the projection 22 and moves the hopper over the moldboard, so as to form the mold or brick, as clearly shown in Fig. 2. The wing 21 next engages the pro-

jection 28 and carries the hopper and cap back from the moldboard while the cam 10 is being turned to permit the levers to move the followers from each other and the cam 5 5 is being turned to raise the plunger to eject the mold or brick, as clearly shown in Fig. 1.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. The combination in a brick-machine, of a slidable hopper having a depending lug, and an upward-projecting lug, a slidable cap having an upward-projecting lug, a revoluble shaft, wings secured to the shaft and engag- 15 ing the said lugs to move the hopper back and forth, and means of engagement between the hopper and cap to retract the latter.

2. The combination in a brick-machine, of a cap or cover slidably secured to the frame 20 of the machine and having a rearward extension provided with an upward-projecting lug, a slidable hopper upon the cap having a frame engaging the said cover extension and provided with an upward-projecting lug, a 25 hanger upon the hopper having a depending lug, a revoluble shaft, wings upon the shaft adapted to engage the said hanger-lug to retract the hopper and to engage the cap and hopper, lugs to move the same forward, and

means of engagement between the hopper and 30 cap to retract the latter.

3. The combination, with a brick-machine, of a slidable hopper having a base-frame and an upward projection therefrom, and a de- 35 pending projection, a cap or cover provided with a projection, a revoluble shaft, wings upon the shaft adapted one to engage the projections of the hopper and the other to en- 40 gage the said cap projection to move the cap and hopper forward alternately and to retract the latter, and a stop or shoulder on the cap-frame adapted to be engaged by the end of the hopper-frame to retract the cap.

4. In a brick-machine, the combination, with the plunger, and the followers, of means 45 for operating the plunger and followers comprising a train of meshing gears, cams operated by each of said gears, and the levers having one end connected to the followers, and the other end depending between and en- 50 gaged by certain of the said cams.

In witness whereof I hereunto set my hand in the presence of two witnesses.

SAMUEL B. FRANK.

Witnesses:

M. C. LACEY,
T. W. MATHER.