

(No Model.)

W. E. DAMON.
BRICK MACHINE.

No. 579,384.

Patented Mar. 23, 1897.

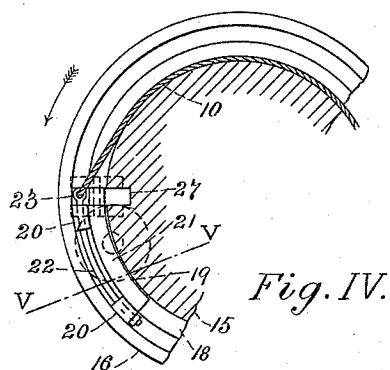


Fig. IV.

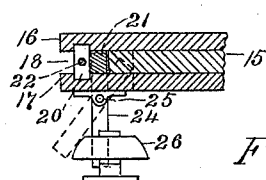


Fig. V.

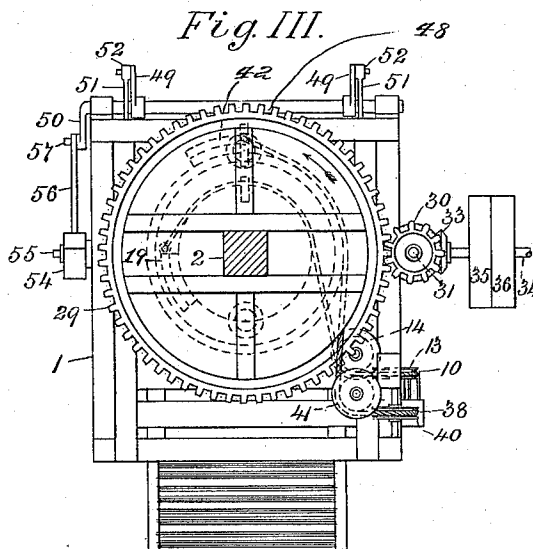


Fig. III.

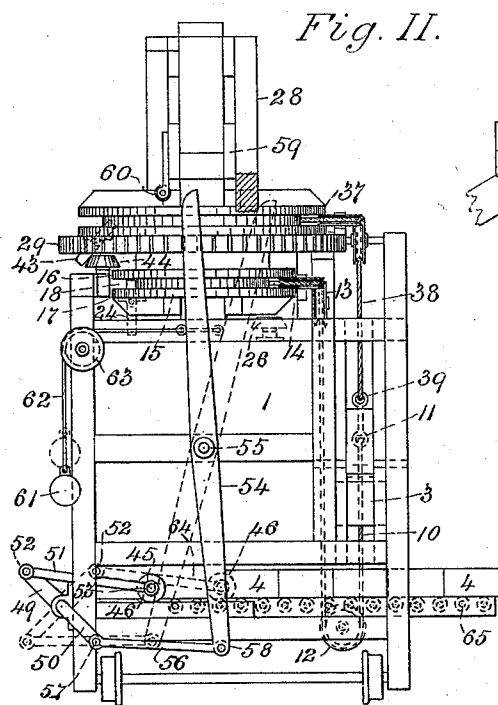


Fig. II.

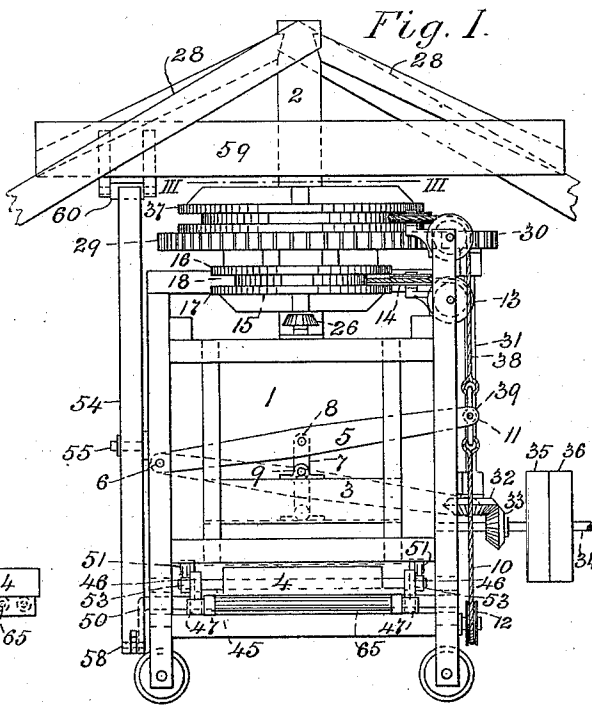


Fig. I.

WITNESSES.

Henry E. Brett.
Jas. White

INVENTOR.

W. E. Damon
By Knicker Box,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM E. DAMON, OF POMONA, CALIFORNIA.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 579,384, dated March 23, 1897.

Application filed April 21, 1896. Serial No. 588,514. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. DAMON, residing at Pomona, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in brick-machines; and my invention consists in certain features of novelty hereinafter described and claimed.

Figure I represents a front view showing the plunger raised in full lines and down in dotted lines. Fig. II is a side view showing operation of lever for feeding and discharging the molds. Fig. III is a horizontal section taken on line III III, Fig. I, looking downward. Fig. IV is a detail top view of power-wheel and trip device. Fig. V is a section taken on line V V, Fig. IV, showing means for throwing trip device.

Referring to the drawings, 1 represents the box or receiver in which the clay is mixed and prepared for the molds.

2 represents a vertical post suitably journaled at the center of the box. After the clay is mixed it passes out in suitable quantities at the bottom of the box to a point directly beneath the plunger 3 and is pressed by the same into the molds 4.

5 represents a bar having one free end and having the opposite end pivoted to the side of the press at 6.

7 represents a link having its upper end pivoted at 8 to the bar 5 and its lower end pivoted at 9 to the upper side of the plunger 3.

10 represents a rope or cable having one of its ends attached at 11 to the free end of the bar 5, said rope engaging suitable bearing-pulleys 12, 13, and 14.

15 represents a wheel secured rigidly to the vertical post 2, said wheel having upper and lower peripheral flanges 16 17, with an intervening circumferential groove 18.

19 represents a clip operating in the groove 18, said clip consisting of end portions 20, connected by a curved connecting portion 21.

22 represents a bolt connecting the two end portions near their outer ends, said bolt having an eye 23 on its rear end adapted to receive the free end of the rope 10, which depresses the plunger.

24 represents a vertical pin pivoted at 25 to the under side of the wheel 15 and having its upper end extending up into the groove 18 of said wheel. (See Fig. V.) Said pin, having over one-half of its length extending below its pivotal point, remains normally in an upright position, as shown in full lines in Fig. V.

26 represents a beveled trip-wheel journaled to the frame of the machine and located in the path of the pin 24. As the lower end of the pin 24 strikes the wheel 26 said pin is canted over, as shown in dotted lines, Fig. V, the upper end of the pin passing into a recess 27 in the wheel 15, leaving the groove 18 entirely clear from obstruction.

The machine may be driven either by horse or other power.

28 represents a sweep, the outer ends of which are broken away in the drawings, to which one or more horses may be attached, said sweep being attached to the vertical post 2.

29 represents a master-wheel secured to the post 2, with which a pinion-gear 30 on the upper end of a vertical shaft 31 meshes.

32 represents a bevel-gear on the lower end of the shaft 31, said bevel-gear meshing with a bevel-gear 33 on a horizontal shaft 34.

35 36 represent the usual power and idler pulleys on the shaft 34, by which means steam or other power may be communicated to the machine.

37 represents a wheel on the vertical post 2, located above the master-wheel, said wheel 37 conforming in all respects to the wheel 15, with the exception that the latter wheel is of less diameter.

38 represents a rope having one of its outer ends attached at 39 to the free end of the bar 5, said rope engaging pulleys 40 41 and having its opposite end connected with a clip 42, corresponding to the clip 19, said clip 42 operating in the wheel 37 in the same manner as the clip 19 operates in the wheel 15.

43 represents a pivoted trip-pin on the wheel 37, which is of the same construction and operates the same as the pin 24 on the wheel 15, there being a trip-wheel 44 for tripping said pin in the same manner as trip-wheel 26 trips

the pin 24. The trip-wheels 26 44 are located some distance apart, so as to release the clips 19 42 at different points in the rotation of the wheels in which the clips operate.

5 As each of the molds 4 are filled with plastic clay for making the brick by the plunger 3 forcing the clay into the molds it is necessary, as soon as the plunger begins to rise, to force the full mold out from beneath the plunger and shove an empty one in its place, said
10 action being accomplished by means of a cross-bar 45, pressing against the rear side of the molds. The feed-bar 45 travels back and forth on rollers 46, journaled on its ends, said
15 rollers traveling on parallel strips 47.

48 represents a crank-rod movably secured at the rear end of the machine, said rods having cranks 49 50.

51 represents arms having their outer ends
20 pivoted to the cranks 49 at 52 and their inner ends pivoted at 53 to the feed-bar 45.

54 represents the actuating-lever for throwing out the molds, said lever being pivoted at 55 to the side of the box 1 and having its
25 lower end extending to a point near the bottom of the machine.

56 represents an arm having one of its ends pivoted at 57 to the crank 50 and its opposite end pivoted at 58 to the lower end of the actuating-lever 54.
30

59 represents a cross-bar secured to the vertical post 2 and having near one of its ends a dependent roller 60. As the post 2 rotates, the roller 60 comes in contact with the upper
35 end of the actuating-lever 54, rocking said lever into the position shown in dotted lines, Fig. II, thus causing the feed-bar 45 to travel into the position shown in dotted lines Fig. II and forcing the molds forward. As soon
40 as the roller 60 passes on over the lever 54 the lever is returned to its normal position, as shown in full lines, Fig. II, by means of a weight 61 or similar device, said weight being connected with the lever by means of a
45 rope 62, passing over a bearing-pulley 63. As the lever is returned to its normal position the feed-bar 45 is drawn backward, as shown in Fig. II, thus leaving space for a fresh mold to be inserted in the space 64.

50 65 represents the usual rollers over which the molds travel.

The operation of the plunger is as follows: As the wheel 15 rotates the pin 24 comes in contact with the clip 19, carrying said clip
55 around with the wheel, drawing on the rope 10, and through the lever 5 forcing the plunger downward, thus forcing the clay into the molds. When the plunger has been forced downward to a sufficient degree, the pin 24
60 will come in contact with the beveled wheel 26, which will cause the pin to cant over, as shown in dotted lines, Fig. V, thus releasing the clip and discontinuing the downward

pressure on the plunger. After a short interval of sufficient length to permit the lever 65 54 to shove the full mold out and an empty one in its place—the wheels keeping up a continuous rotation—the pin 43 in the wheel 37 comes in contact with the upper clip 42, thus drawing on the rope 38 and raising the plunger until the pin 43 comes in contact with the wheel 44, which is located at a different point from the wheel 26, and releases the clip in the same manner as clip 19 is released, the releasing of the clip 42 permitting the
70 plunger to drop for some distance, the weight of the plunger in falling serving in a large degree to press the clay into the molds. The wheel 37 being of larger diameter than the wheel 15 provides a sufficient interval in the
80 operation of the plunger to permit the molds to be moved without interfering with the continuous operation of the machine.

I claim as my invention—

1. In a brick-machine the combination, of 85 a clay-receiver, a plunger, a lever for raising the plunger, a wheel, means for operating the wheel, trip mechanism in connection with the wheel, a flexible connection between the trip mechanism and plunger, for forcing the
90 plunger downward, and a like wheel, trip mechanism and connection for raising and dropping the plunger, substantially as set forth.

2. In a brick-machine the combination, of 95 a clay-receiver, a plunger, a lever for raising the plunger, upper and lower wheels supported on the machine, trip mechanism in connection with said wheels, and a flexible connection between the trip mechanism and
100 the lever, one of said wheels being of greater diameter than the other wheel, substantially as set forth.

3. In a brick-machine the combination, of a clay-receiver, a plunger, a lever for raising 105 the plunger, upper and lower wheels supported on the machine, trip mechanism in connection with said wheels and a flexible connection between the trip mechanism and the lever, said trip mechanism being operated at different periods in the revolution of the wheels to which they are connected, substantially as set forth.

4. In a brick-machine the combination of a clay-receiver, a plunger, upper and lower 115 trip-wheels, suitable trip mechanism, means for connecting the trip mechanism with the plunger, a master-wheel located on the same support as the trip-wheels, and suitable gearing in connection with the master-wheel for
120 revolving the same, substantially as set forth.

WILLIAM E. DAMON.

Witnesses:

GEORGE BECK,
A. H. TUFTS.