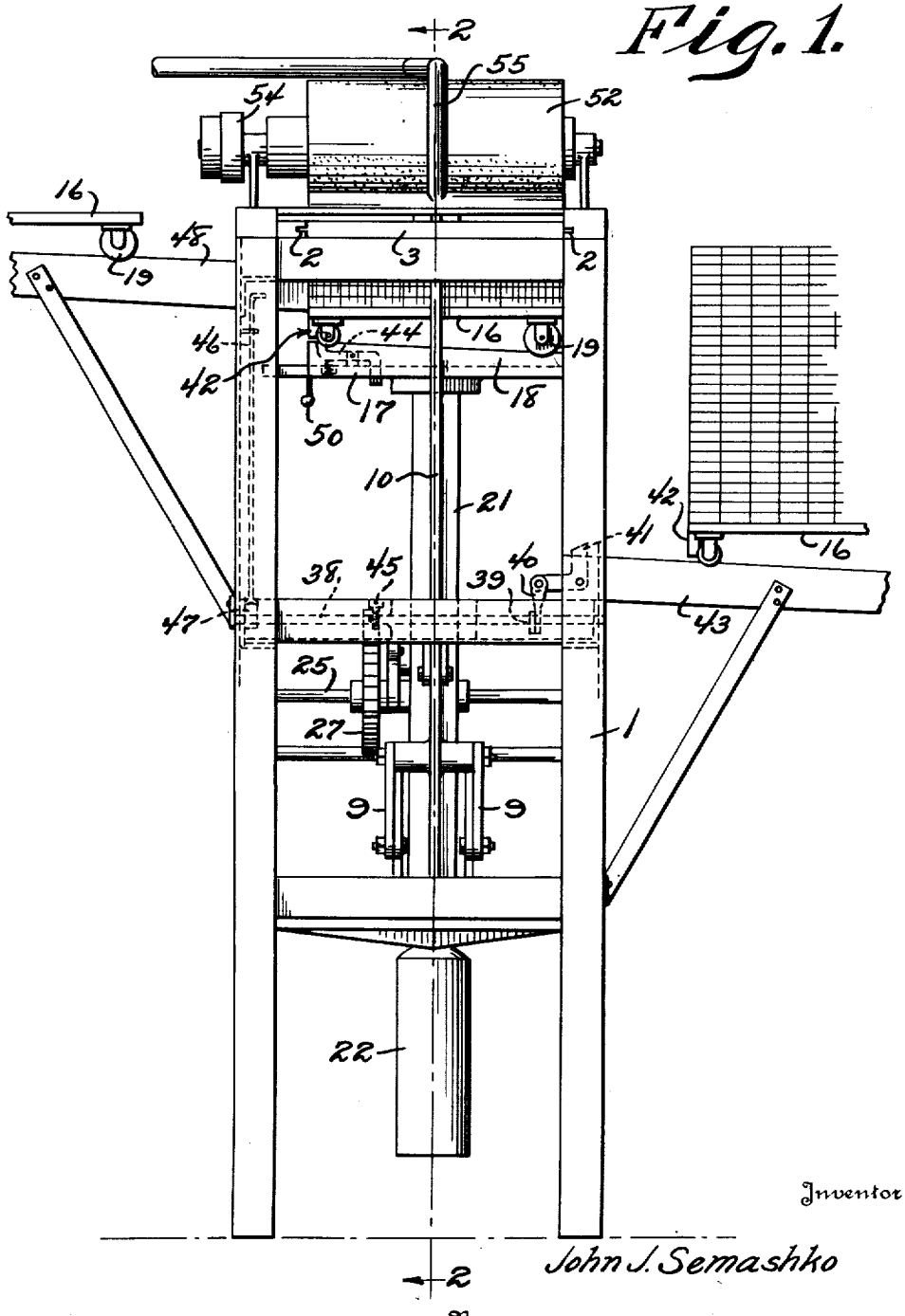
Aug. 16, 1927. 1,639,576

J. J. SEMASHKO

TILE RECEIVING MACHINE

Filed Jan. 23, 1926 5 Sheets-Sheet 1

Fig. 1.



Inventor

John J. Semashko

By Victor J. Evans Attorney

Witness

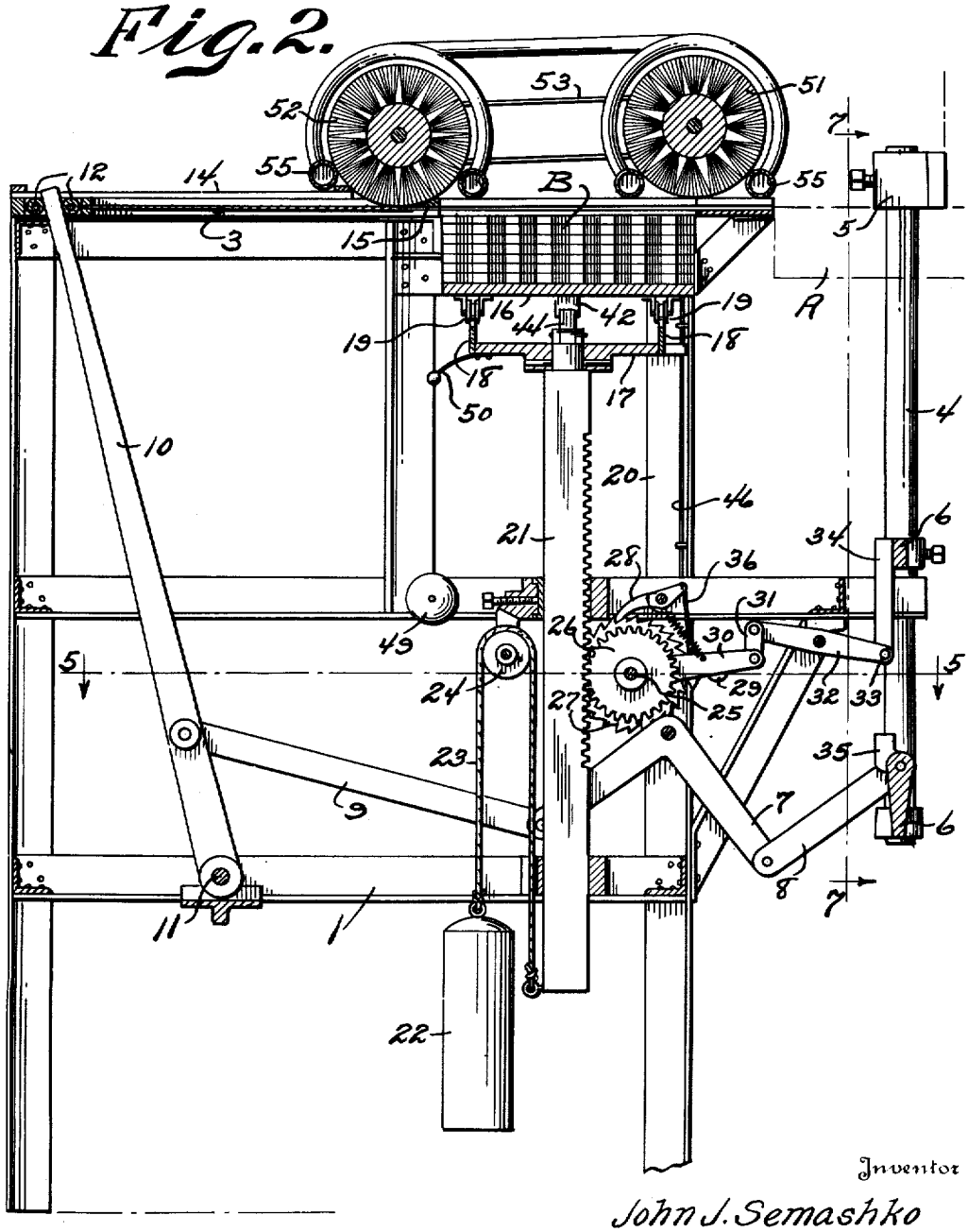
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J. J. SEMASHKO

TILE RECEIVING MACHINE

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Fig. 2.



Inventor

John J. Semashko

Witness

By Victor J. Evans

Attorney

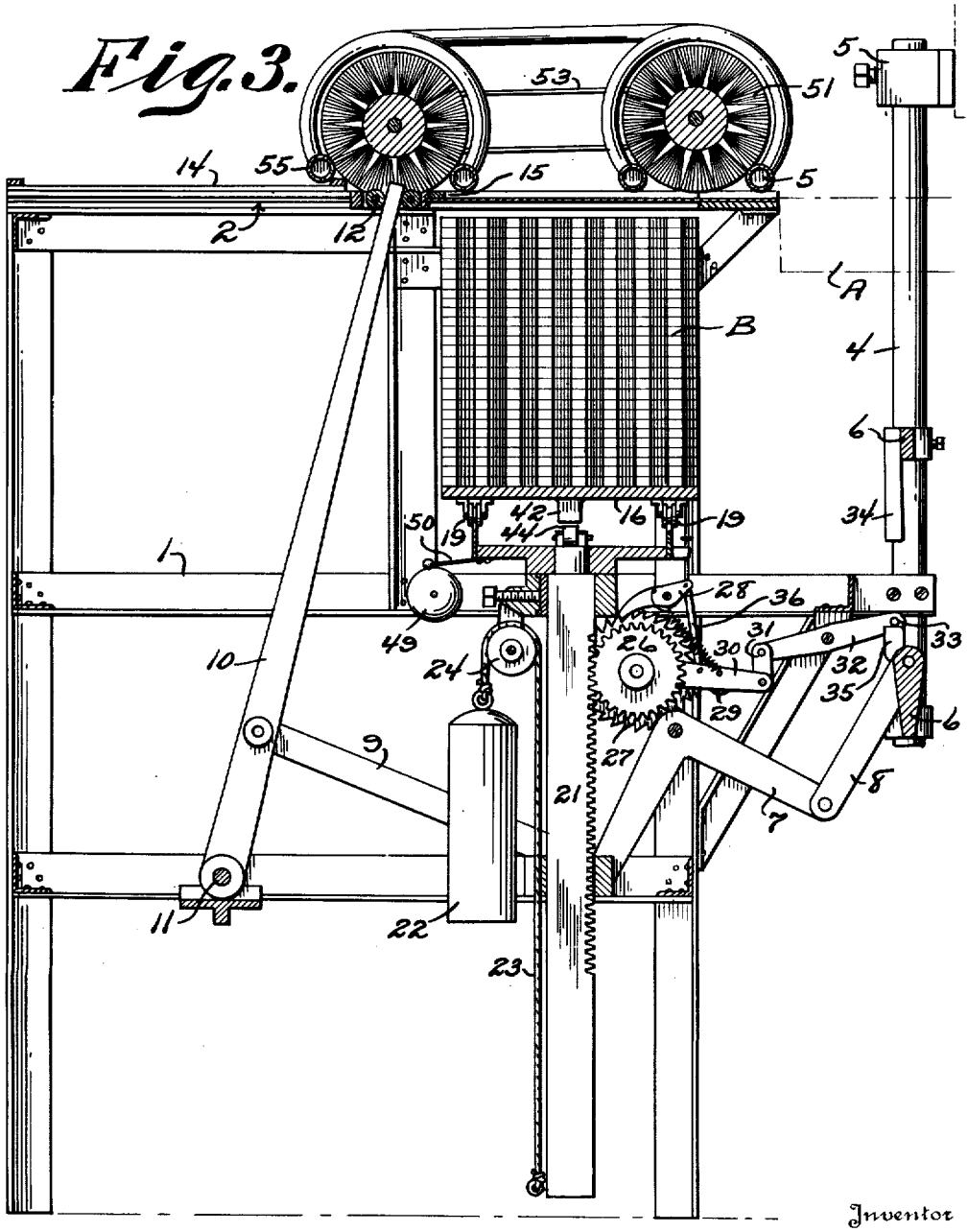
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J. J. SEMASHKO

TILE RECEIVING MACHINE

Filed Jan. 23, 1926 5 Sheets-Sheet 3

Fig. 3.



Inventor

John J. Semashko

Witness John Donovan

By Victor J. Evans

Attorney

Aug. 16, 1927. 1,639,576

J. J. SEMASHKO

TILE RECEIVING MACHINE

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Fig. 4.

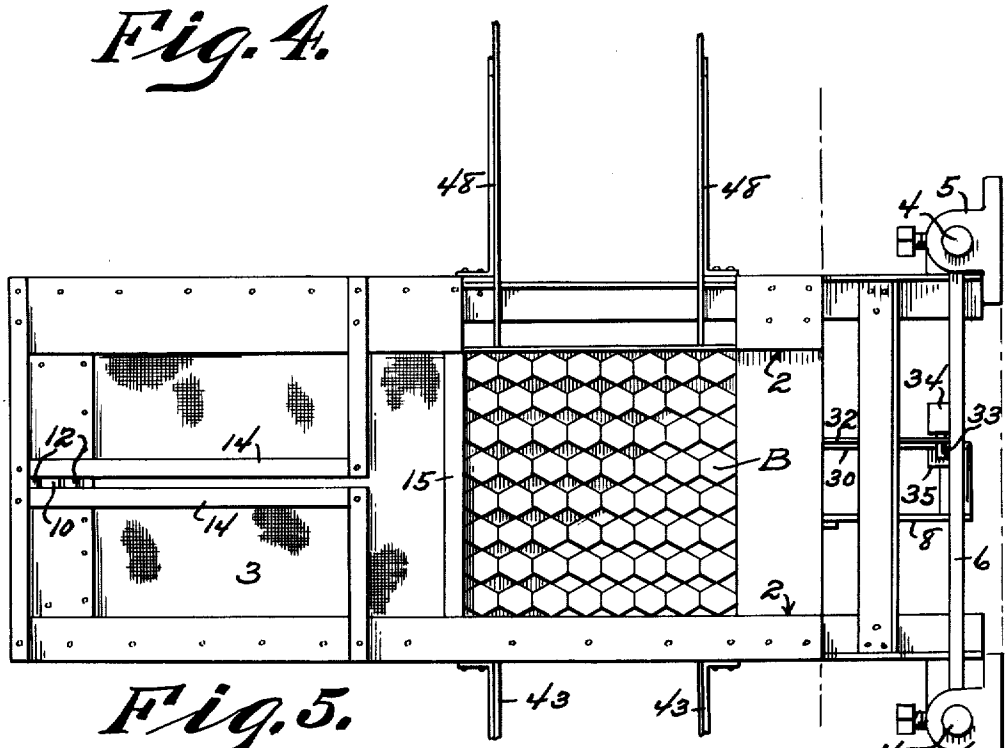
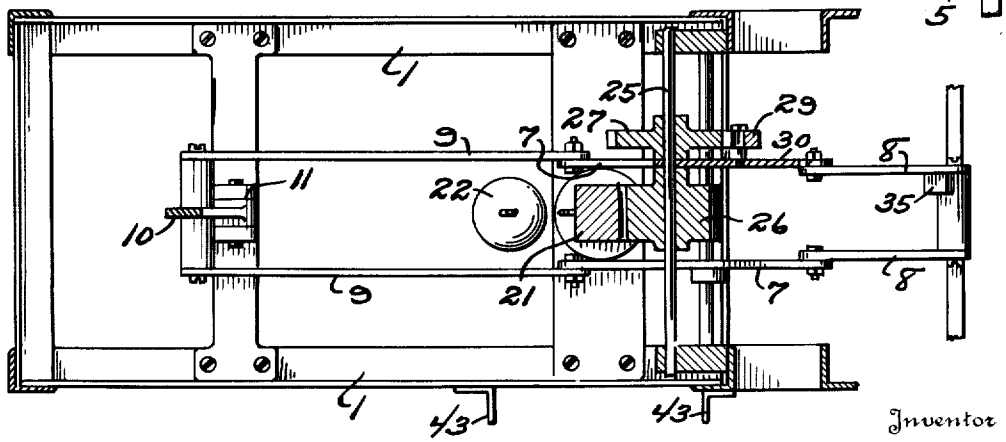


Fig. 5.



Inventor

John J. Semashko

Witness

By Victor J. Evans

Attorney

Aug. 16, 1927. 1,639,576

J. J. SEMASHKO

TILE RECEIVING MACHINE

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Fig. 6.

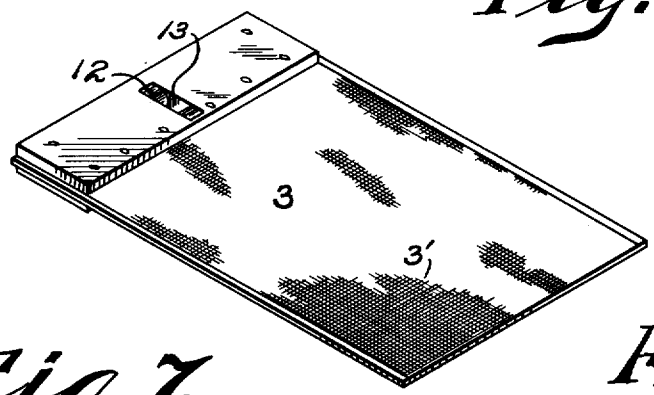


Fig. 7.

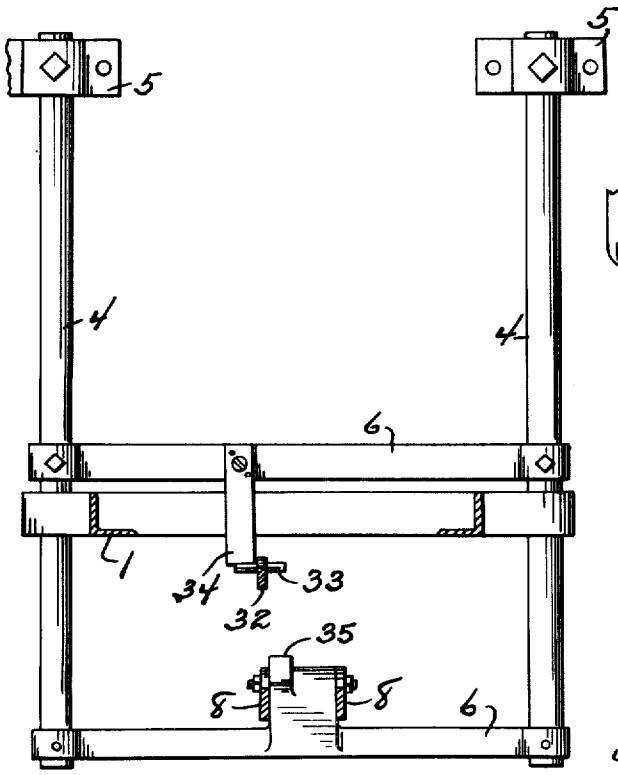
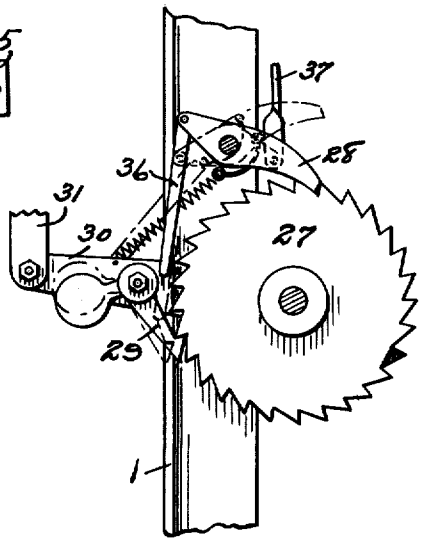


Fig. 8.



Inventor

John J. Semashko

Witness

By Victor J. Evans

Attorney

Patented Aug. 16, 1927. 1,639,576

UNITED STATES PATENT OFFICE.

JOHN J. SEMASHKO, OF MORRISVILLE, PENNSYLVANIA.

TILE-RECEIVING MACHINE.

Application filed January 23, 1926. Serial No. 83,278.

This invention relates to a machine for handling tiles, such as are used on floors and the like in bathrooms and other places, the general object of the invention being to provide means operable from the press of the tile forming machine for reciprocating a tray which receives the tiles from the machine and an elevator for holding a truck which receives the tiles from the tray, with means for moving the elevator downwardly step by step, as the tiles are deposited upon the truck on it.

Another object of the invention is to provide automatic means for causing the field truck to leave the elevator when the elevator reaches its lowest position, with means operable by the moving truck for causing the press to return the elevator to raised position again.

A further object of the invention is to provide means for cleaning the tiles as they move over the tray and means for brushing the tray after the tiles are removed therefrom.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation loooking toward the press.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a similar view showing the parts in a different position.

Figure 4 is a plan view with the brushes removed.

Figure 5 is a section on line 5—5 of Figure 2.

Figure 6 is a view of the tray or slide.

Figure 7 is a section on line 7—7 of Figure 2.

Figure 8 is an enlarged detail view of the ratchet means for controlling the movement of the elevator.

As shown in these views, 1 indicates a frame which is placed adjacent the tile forming machine, a portion of which is shown at A in dotted lines. This frame has the horizontal guideway 2 at its top for the tray or slide 3, which is somewhat similar to the tray now used for receiving the tiles from the press and which is held against a part of the press by a boy or man. When the tray or slide is in its forward position, it will strike a part of the machine A and will thus be in a position to receive the formed tiles being pushed from the press by the placing of the new batch of material under the press. The frame 1 also slidingly supports a pair of vertically arranged rods 4 which are connected by the brackets 5 to a part of the plunger of the press and which are connected together by the bars 6. The lower bar 6 is connected to bell cranks 7 by the links 8 so that the bell cranks will be rocked on their pivots by the reciprocatory movement of the bars 4 and said bell cranks are connected by the links 9 with a lever 10 having its lower end pivoted to the frame, as shown at 11, and with its upper end engaging the rollers 12 placed in an opening 13 in the tray 3, with the end of the lever projecting above the tray engaging the guiding bars 14 which are carried by the frame above the tray. Thus as the plunger of the press moves up and down, it will reciprocate the bars 4 and this movement will be transmitted to the lever 10 through the links and the bell cranks, so that said lever will reciprocate the slide or tray 3 in its guideway so that the tray will first move up against the press to receive the tiles therefrom and then it will move rearwardly. As it moves rearwardly, a bar 15 which extends across the path of the tray and is carried by the frame, will scrape the tiles off the tray so that they will fall upon a truck 16 carried by a platform or elevator 17 which has inclined rails 18 thereon which are engaged by the wheels 19 of the truck. The elevator is vertically movable in the elevator shaft formed by the vertical pieces 20 of the frame and a vertically arranged rack bar 21 is connected with the platform and is suitably guided in the frame. A weight 22 is attached to one end of a cable 23 which passes over a pulley 24 and has its other end connected with the bottom of the rack bar so that the weight tends to hold the elevator in raised position.

A shaft 25 is journaled in the frame and carries a toothed wheel 26 which engages the teeth of the rack. The shaft also carries a ratchet wheel 27 which is held against

retrograde movement by a spring pressed pawl 28 and which is also engaged by a weighted pawl 29 which is carried by an arm 30 which is pivotally supported by the shaft 25 and has its outer end connected by a link 31 to a lever 32, pivoted intermediate its ends to the frame, and which has a pin 33 at its outer end which is adapted to be struck by the depending projection 34 and the upwardly extending projection 35 which are carried by the cross pieces 6 of the rods 4. Thus as the rods 4 move downwardly, the projection 34 will strike the pin 33, causing a rocking movement of the lever 32 which will pull the arm 30 upwardly, causing a partial rotation of the ratchet 27 through means of the pawl 29, so that the shaft 25 and wheel 26 will be partially rotated and thus the toothed wheel will cause the rack bar 21 to move downwardly. This will lower the elevator a sufficient distance to make room for another layer of tiles on the truck, the tiles being shown at B. On the upward movement of the bars 4, the projection 35 will strike the pin 33 of the lever 32 and thus return the parts to normal position, with the pawl 29 engaging a new tooth of the ratchet wheel, so that the parts will be ready to cause the elevator to move another step downwardly on the next downward stroke of the rods 4. A rod 36 depends from the tail of the pawl 28, so that when said pawl is lifted to its full extent, the rod 36 will strike the pawl 29 and swing it out of engagement with the ratchet 27 so that said ratchet will be free of the pawls and thus the shaft 25 and wheels 26 and 27 are free to rotate, which will permit the weight 22 to return the elevator to its raised position. The pawl 28 is attached by a link 37 with an arm on a shaft 38 and another arm 39 on said shaft is connected by a link 40 with a bell crank 41 pivoted in the frame and having a beveled end which is adapted to be struck by a projection 42 on the truck when said truck rolls down the inclined rails 18 on the elevator upon the inclined track 43 which leads the filled truck to a point of discharge. The truck is released from the platform or elevator when the elevator reaches its lowest position by means of a spring latch 44 on the elevator and engaging the stop 42, striking a stop 45 which moves the latch into releasing position and thus permits the truck to run off the elevator upon the track 43. As the elevator nears the limit of its upward movement, a portion thereof will engage the bent end of a rod 46 which is connected to an arm 47 on shaft 38, which will partially rotate the shaft and thus return the pawls to their normal positions.

A track 48 is provided for directing empty trucks on to the elevator when the same is in its top position, each truck having a projection 42 thereon which is engaged by the latch 44 to hold the truck on the platform and which also engages the bell crank 41, as the truck is leaving the platform, to release the pawls to enable the weight to return the platform to its top position.

A bell 49 is arranged to be struck by a hammer 50 on the platform when the platform reaches its lowest positions, so as to sound a warning to the operator that the filled truck is about to leave the elevator.

I also provide a pair of rotary brushes 51 and 52 for brushing the tiles and the tray. The brushes are connected together by the belt 53 which passes over pulleys 54 on the shafts of the brushes, one of the brushes being driven from a suitable source of power. Suction devices 55 are also associated with each brush for moving dust from adjacent the brushes. The brush 51 is arranged to brush the tiles as they come upon the tray, while brush 52 is arranged to brush the tray itself in its movement.

A strip or sheet 3′ of felt or the like, is placed on the tray to clean the lower faces of the tiles on the tray.

Form the foregoing, it will be seen that the tray is moved up to the press on the upward movement of the plunger part thereof, so that when the new material is being placed under the die, the formed tiles will be pushed upon the tray. Then on the downward movement of the plunger, the tray is moved back and in this movement the tiles are acted upon by the cleaning means and are then pushed from the tray upon the truck on the elevator and the empty tray is engaged by the other set of cleaning means. At the final downward movement of the rods 4, the projection 34 will strike the lever 32 so that the elevator is moved downwardly one step to make room for a new batch of tiles from the press. This action is kept up until the elevator reaches its downward limit of movement, when the alarm will be sounded and the latch moved to releasing position so that the filled truck will run off the platform upon the track and in doing this, will release the pawls so that the weight can return the elevator to its raised position. Thus I have provided automatic means for handling the tiles after they leave the press, so that the cost of production is greatly reduced and the time of producing the finished products is reduced to a minimum.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. An apparatus of the class described,

comprising a reciprocatory tray, an elevator, a weight for normally holding the elevator in raised position, a truck carried by the elevator, means for causing the articles on the tray to drop therefrom upon the truck, means for reciprocating the tray, means for lowering the elevator step by step and means actuated by the truck leaving the elevator for rendering the lowering means inactive to permit the weight to raise the elevator.

2. An apparatus of the class described, comprising a reciprocatory tray, an elevator having an inclined track thereon, a truck having its wheels engaging the track, a latch for holding the truck on the track, means for causing the articles to drop from the tray upon the truck, means for reciprocating the tray, means for lowering the elevator step by step, a stop for moving the latch to releasing position when the elevator reaches its lowest position and means operated by the truck passing from the elevator for moving the lowering means to inactive position for permitting the weight to return the elevator to raised position.

3. In combination with a member, a horizontally movable tray means for moving the tray by the vertical movement of the member, an elevator, means for lowering the same step by step by the downward movement of the member, a truck on the elevator, means for causing the articles to drop from the tray upon the truck, a weight for normally holding the elevator in raised position and means actuated by the truck leaving the elevator for moving the lowering means to inactive position to permit the weight to raise the elevator.

4. An apparatus of the class described comprising a horizontally movable tray, a lever pivotally supported at its lower end and engaging the tray, a bell crank, a link connecting the same with the lever, a vertically movable member and a link connecting the same with the bell crank for causing the reciprocation of the tray.

5. An apparatus of the class described comprising a horizontally movable tray, means for reciprocating the tray, an elevator, a holder thereon for receiving the articles from the tray, means for causing the articles to drop from the tray into said holder, a rack bar connected with the elevator, a shaft, a toothed wheel thereon engaging the rack bar, a ratchet wheel on the shaft, an arm pivotally connected with the shaft, a pawl thereon engaging the ratchet wheel, means for rocking the arm, a weight for returning the elevator to its raised position, a second pawl engaging the ratchet wheel, a part thereon for engaging the first pawl to move the same out of engagement with the ratchet wheel when the second pawl is lifted and means for lifting said second pawl when the holder is moved from the elevator.

In testimony whereof I affix my signature.

JOHN J. SEMASHKO.