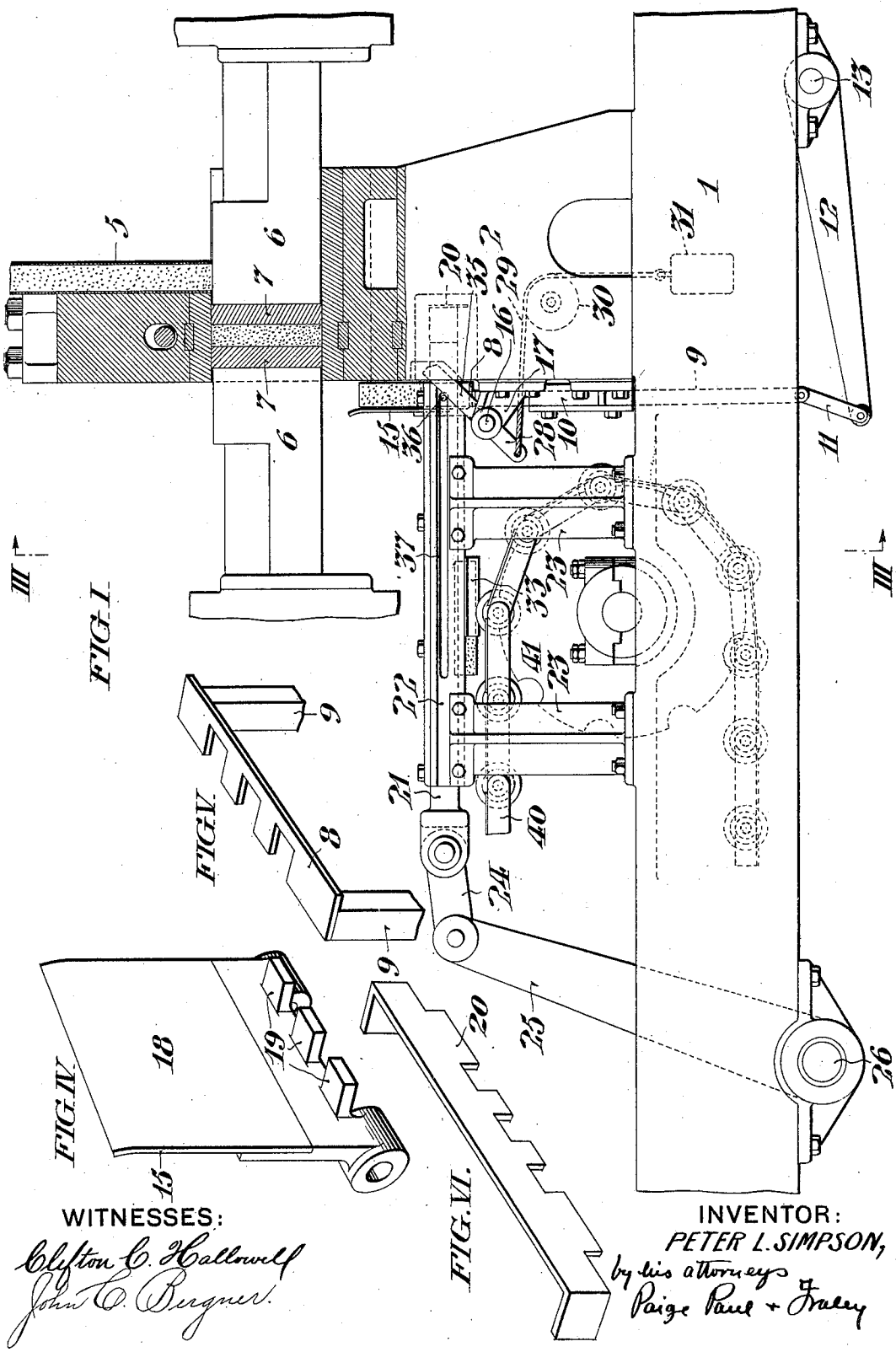
No. 827,472. PATENTED JULY 31, 1906.

P. L. SIMPSON.

TILE PRESS.

APPLICATION FILED FEB. 21, 1905.

3 SHEETS—SHEET 1.



WITNESSES:

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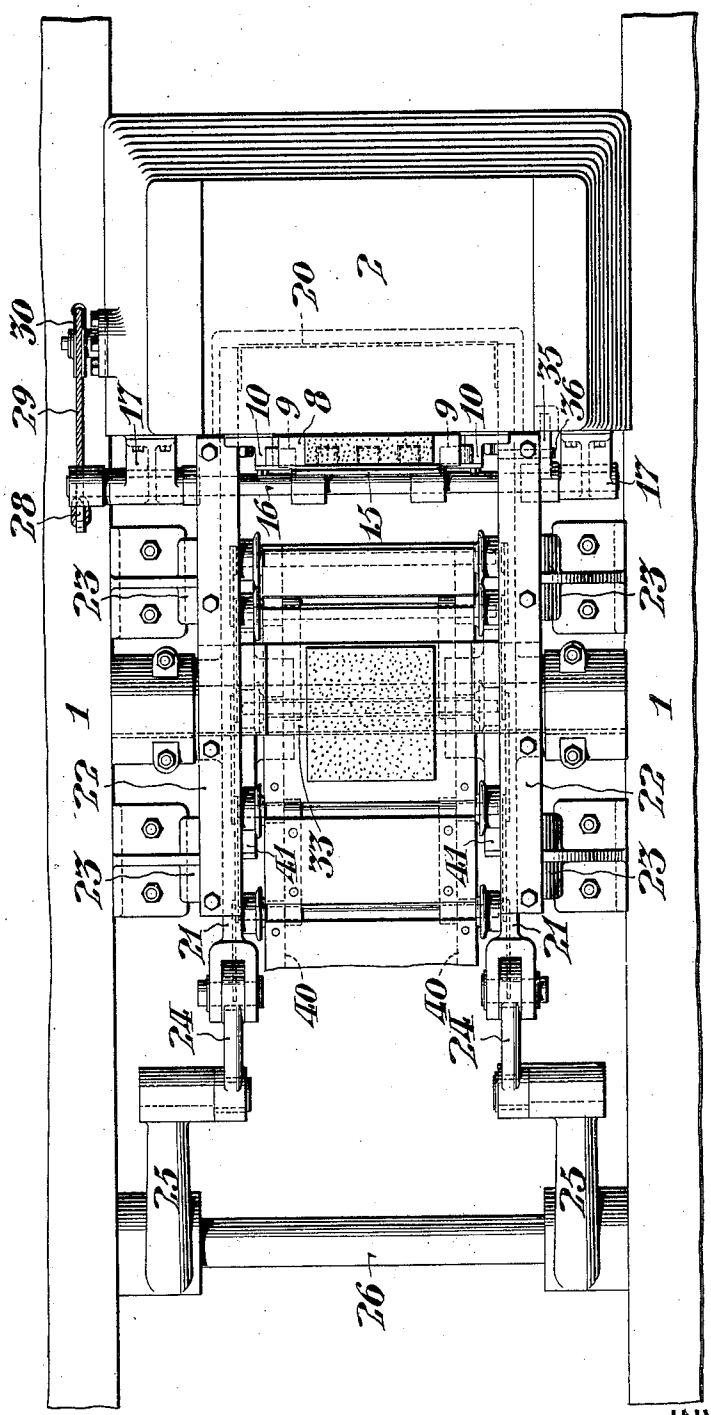
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3 SHEETS—SHEET 2.

FIG. II.



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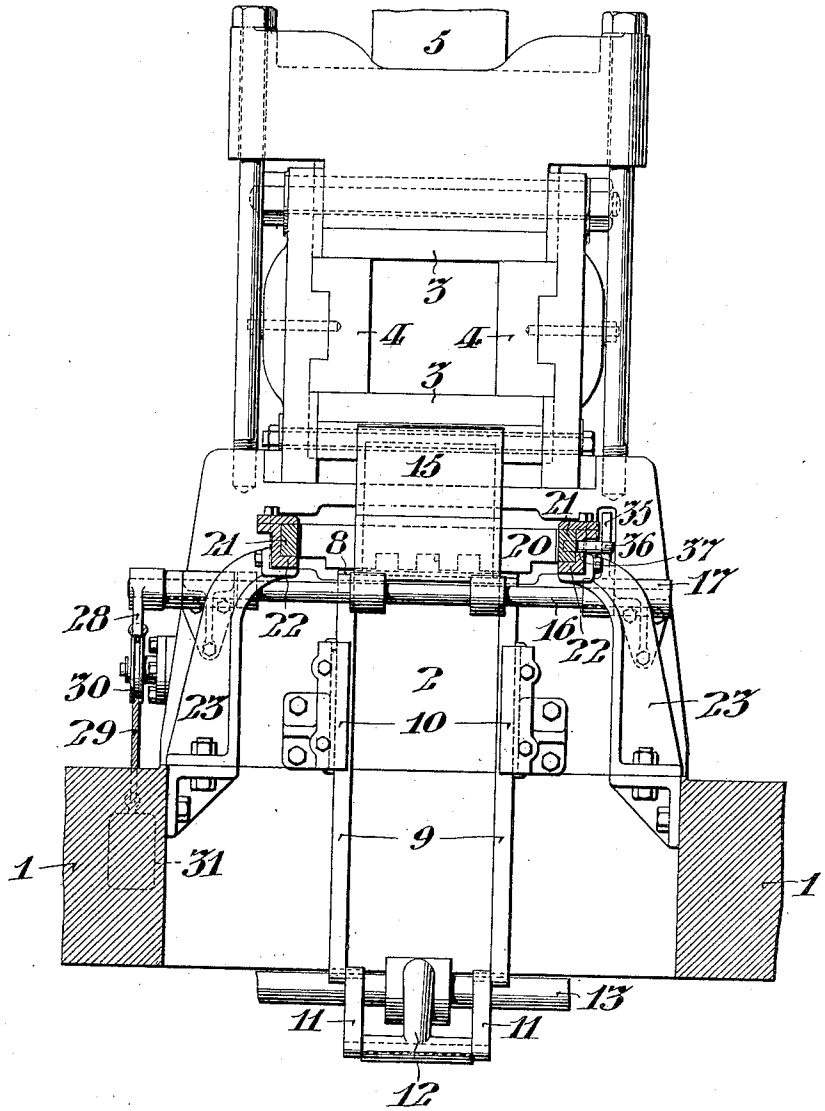
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3 SHEETS—SHEET 3.

FIG. III.



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UNITED STATES PATENT OFFICE.

PETER L. SIMPSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE BARBER ASPHALT PAVING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF WEST VIRGINIA.

TILE-PRESS.

No. 827,472. Specification of Letters Patent. Patented July 31, 1906.

Application filed February 21, 1905. Serial No. 246,657.

To all whom it may concern:

Be it known that I, PETER L. SIMPSON, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Tile-Presses, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to tile-presses in which the tile is originally formed in a vertical position or on edge. There is an advantage in thus originally compressing the tile in this position, because in this way the compression can be exerted in line with the short axis of the tile and at the same time horizontally-moving plungers can be employed; but in the subsequent handling of the plastic tile after it has been thus compressed on edge it is desirable that as soon as possible after its compression the tile should assume a horizontal position, so that its subsequent handling and drying may occur in this position, for while it is plastic it tends to lose its shape if allowed to remain for any substantial length of time standing upon edge.

Accordingly my invention comprises in a tile-press a tilting table upon which the plastic tile is delivered in an upright position and by which it is swung to a horizontal position before it is delivered to the transportation or other handling or drying devices.

I have shown an embodiment of my invention especially adapted for the compression of tiles of asphalt; but it will be understood that it is applicable to tiles of other plastic material. I have omitted in this case the actuating parts of the tile-press proper, because these form no part of my present invention and may be of any desired construction. I have also omitted the actuating connections for the transportation devices for a similar reason. I have, however, shown plungers and certain transportation devices in such relation as to be capable of being used in connection with a block-press invented by me and which has been fully shown and described by me in the specification and drawings of an application for Letters Patent of the United States filed by me on November 22, 1904, Serial No. 233,797; but it will be understood that my invention is not limited to such a press.

In the accompanying drawings, Figure I is a side elevational view of those portions of a tile-press to which my invention is applicable, the mold-frame being shown in section. Fig. II is a plan view of the same with omission of the plungers and mold-frame. Fig. III is a vertical transverse sectional view taken along the line III III of Fig I. Figs. IV, V, and VI are detail perspective views of certain parts hereinafter more particularly referred to.

In the figures the bed-frame 1 1 supports the pedestal 2, upon which is mounted a vertical mold-frame formed by horizontal pieces 3 3 and vertical pieces 4 4 with suitable clamping mechanism for maintaining the parts in proper position under great strain. The vertical feeding-tube 5 is placed in proximity to one side of the mold-frame of such shape as to deliver from its lower end a mass of asphalt or other plastic material corresponding in some degree in horizontal cross-section to that of the tile which is to be compressed therefrom. The horizontal reciprocatory plungers 6 6 carry at their opposed ends the dies 7 7, between which the compression of the tile occurs. The parts for carrying and actuating the plungers 6 6 are not shown; but it will be understood that they have reciprocatory motion of unequal extent and of such character that the dies are brought below the feeding-tube 5 with sufficient space between them to receive from the lower end of the tube a charge of the plastic material and then moved simultaneously toward the mold-frame carrying the charge with them. Within the mold-frame the dies are brought closer together, effecting the compression of the tile. They then carry the tile to the other side of the mold-frame from that where they entered it, and when the tile is clear of the mold-frame they deliver it upon a vertically-movable elevator 8, which is shown upon an enlarged scale in Fig. V. This elevator is carried by uprights 9 9, which reciprocate vertically in guideways 10 10, supported by the pedestal 2, their lower ends being connected by links 11 11 to a rocker-arm 12, carried by the rock-shaft 13.

The tilting table 15, which is carried by a shaft 16, is journaled in suitable bearings 17, carried by the pedestal 2. The tilting table 15 consists of two faces which are at right angles to each other. The main face 18 has an extent preferably somewhat greater than

the flat side of the tile which is to be formed in the press. The other face 19 is at right angles to this and forms a ledge of somewhat smaller extent than the narrow edge of the tile. This short face 19 is cut away at intervals, as shown, so as to form what may be termed "prongs," and it will be seen that the corresponding edge of the elevator 8 is cut away in a complementary manner. The scraper-plate 20 is also cut away in a manner complementary to the pronged or serrated edge of the face 19 of the tilting table. This scraper-plate is carried between two parallel slide-bars 21, which are supported in the guideways 22, upheld by pedestals 23 23, mounted upon the bed-plate. The other ends of the slide-bars 21 are connected by links 24 with the rocker-arms 25, set upon the rock-shaft 26, so that the rocking of this shaft effects the reciprocation of the scraper 20.

The rock-shaft 16 carries an arm 28, to the extremity of which is attached a cord 29, which after running over a sheave 30 carries a weight 31, the pull of which constantly tends to rock the shaft 16, so as to carry the tilting table from its upright position, as shown in the drawings, to a horizontal position, in which its main face 18 is brought into coincident relation to a supplemental table 33, which is mounted between the guideways 22; but to oppose this rotary tendency of the rock-shaft imparted by the weight 31 the said shaft carries another arm 35, which is within the path of a projecting pin 36, fixed to one of the reciprocating slide-rods 21. For the purpose of permitting the motion of this pin the corresponding guideway 22 has cut in it the long horizontal slot 37. Accordingly when the slide-rods 21 are thrown by the action of the rock-shaft 26 to the extremity of their travel the pin 36 comes into contact with the arm 35 and rotates the rock-shaft 16 against the pull of the weight 31 and turns the table to its upright position, as shown in the drawings; but as soon as the slide-rods 21 are withdrawn from this position the table is rotated a quarter-circle by the weight 31.

I have shown a portion of an endless chain 40, carried upon the sprockets 41, by which the tile after it has been placed upon its flat surface is carried to a drier or otherwise properly disposed of.

The operation of my device is as follows: At the time when the plungers 6 6 having completed the compression of the tile are ready to deliver the tile upon its edge to the elevator 8 this elevator is raised by the rotation of the rock-shaft 13 to its uppermost position, where its surface is flush with the upper surface of the lower piece 3 of the mold-frame. During this operation the table 15 is in its upright position; but this does not interfere with the motion of the elevator, because of the complementary character of the cut-away portions, respectively, of the short face 19 of the table and the surface of the elevator. As soon as the tile is delivered upon the elevator the latter sinks, carrying the tile with it, and as its depression proceeds the tile is caught by the short face 19 of the tilting table, the elevator in the meantime receding to its lowermost position, where it does not interfere with the subsequent operations. Thereupon the slide-rods 21 reciprocate under the influence of the rocking of the shaft 26. The first result of this is to permit the tilting table, carrying the tile with it, to assume its horizontal position; but as soon as this has occurred the scraper-plate 20, passing the short face 19 of the table by reason of the complementary nature of its cut-away portion, comes in contact with the edge of the tile and slides it from off the flat face of the table and across the supplemental table 33, whence it is delivered upon the endless chain 40. The scraper in passing to the other extremity of its reciprocation returns the table to its upright position, and the elevator is then again raised into position to receive the next tile, and the operation repeats itself.

Having thus described my invention, I claim—

1. In a tile-press, the combination of means for the formation of a plain tile in vertical position, a tilting device; means for delivering the tile in vertical position upon the tilting device; and, means for operating the tilting device whereby the tile is caused to assume a horizontal position, substantially as set forth.

2. In a tile-press, the combination of an elevator upon which the plastic tile after compression is delivered upon edge; a tilting device upon which the tile is delivered upon edge by the depression of the elevator; means for actuating the tilting device to turn the tile to a horizontal position; and means by which the tile is removed from the tilting device in its horizontal position, substantially as described.

3. In a tile-press, the combination of a tilting device having two faces at right angles to each other, one of said faces being partially cut away or serrated; an elevator and a scraper both of which have faces cut away in a manner complementary to the cut-away face of the tilting device; and means for effecting reciprocation of the elevator and scraper, and partial rotation of the tilting device whereby a plastic tile which has been formed upon edge is by the elevator delivered upon edge to the tilting device and is by the tilting device turned to its horizontal position and is by the scraper removed from the tilting device, substantially as described.

4. In a tile-press, the combination of a vertical feeding-tube from the lower end of

which plastic material is delivered, said lower end corresponding in some degree to the horizontal cross-section of a plain tile which is to be compressed therefrom; a mold-frame and plungers by which the tile is compressed upon edge; a tilting device upon which the plastic tile thus formed is received on edge and by which it is turned to a horizontal position; and means for removing the tile in its horizontal position from said tilting device, substantially as described.

In testimony whereof I have hereunto signed my name, at Chicago, in the State of Illinois, this 18th day of February, 1905.

PETER L. SIMPSON.

Witnesses:

OSCAR B. SWANSON,

CHARLES L. HERRICK.