

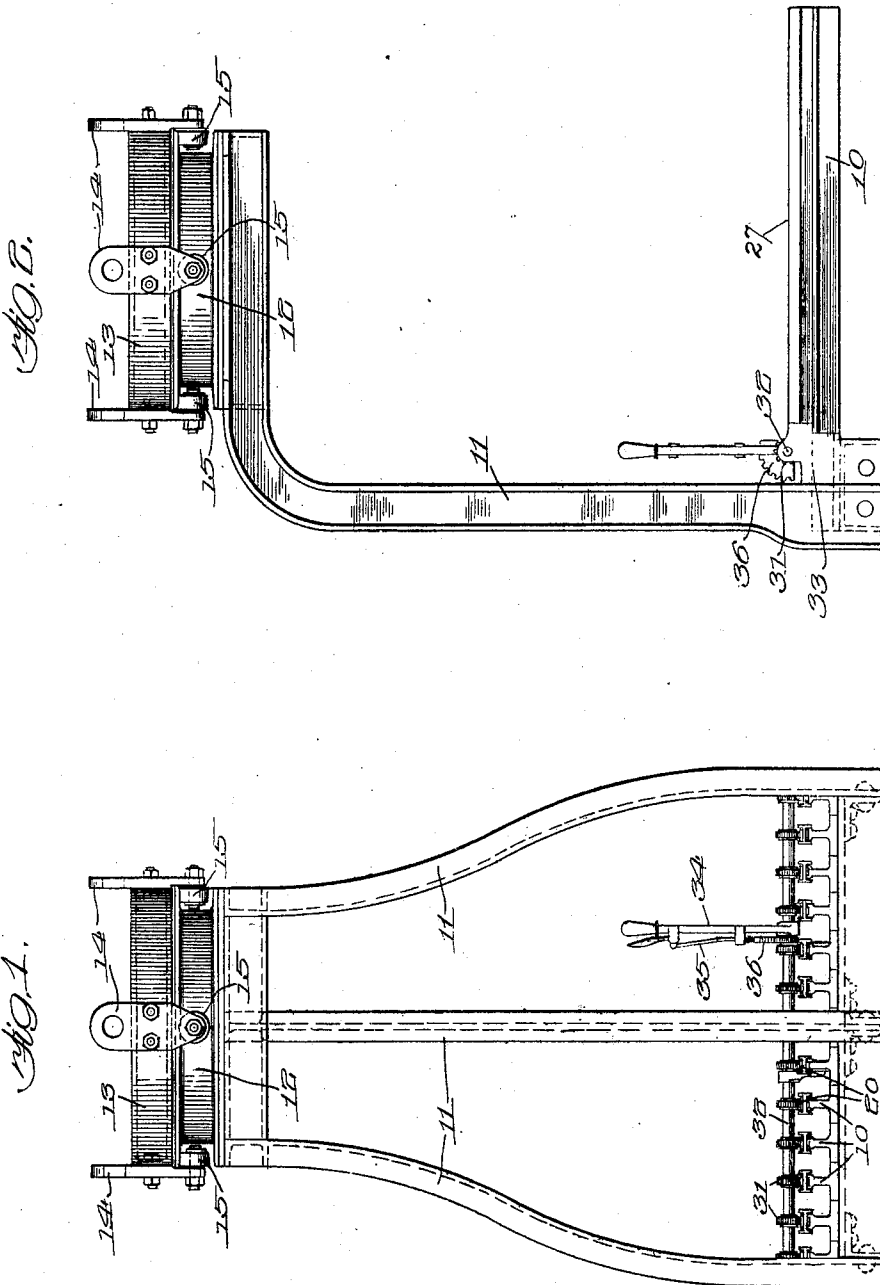
H. WEBER.
BRICK STACKER.

APPLICATION FILED NOV. 26, 1910.

991,254.

Patented May 2, 1911.

2 SHEETS-SHEET 1.



Witnesses:
J. H. Nelson Jr.
L. B. Graham

Inventor:
Henry Weber.
Chever & Cox Att'ys.
By Howard M. Cox

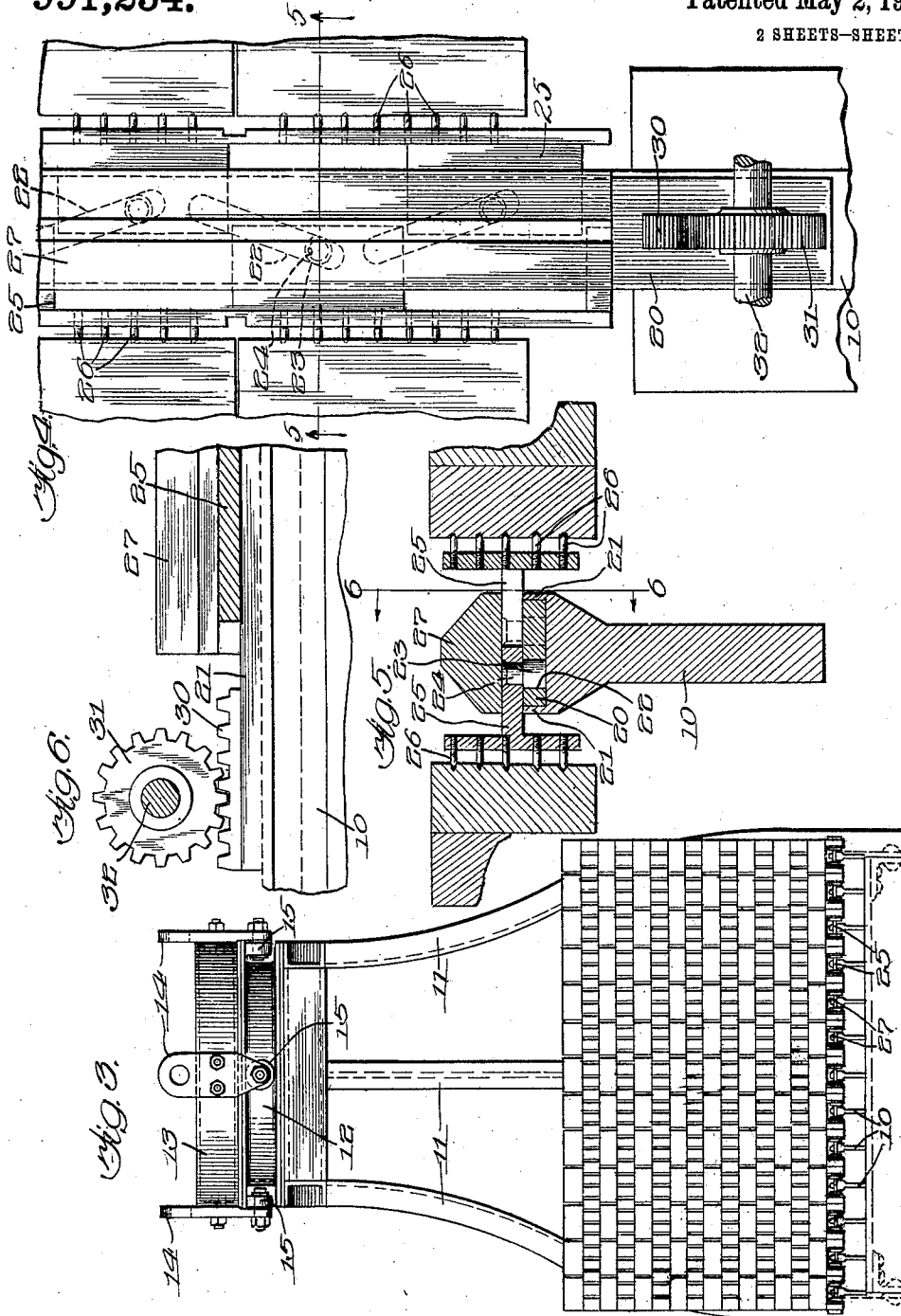
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UNITED STATES PATENT OFFICE.

HENRY WEBER, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN BRICK-HANDLING MACHINE COMPANY, OF CHICAGO, ILLINOIS.

BRICK-STACKER.

991,254.

Specification of Letters Patent.

Patented May 2, 1911.

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To all whom it may concern:

Be it known that I, HENRY WEBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Brick-Stackers, of which the following is a specification.

My invention relates to brick stackers for lifting a stack of dry bricks from the truck and stacking them in the kiln where they are to be burned.

It will be understood that the usual method of making common brick, especially in yards adapted to work all the year around, is to take the green bricks from the conveyer belt and stack them upon trucks. The trucks are then taken to a drying room, where they and the bricks upon them are left for a suitable period, for example twenty hours or thereabout. Here the bricks lose a large percentage of their moisture and are afterward wheeled to the kiln and stacked there preparatory to burning.

Brick stacking machines for lifting the stack of brick bodily from the truck and placing it in the kiln are known and in use, but have certain disadvantages. In one type of machine, for example, a lateral or clamping pressure is exerted upon the bricks in the lower layer, the resulting friction being wholly, or in part, relied upon for carrying the weight of the stack.

The purpose of my invention is to provide a stacking machine adapted to utilize the principle of ice tongs and similar devices, where the object is carried not by friction but by prongs or fork tines actually entering the sides of the body itself and exerting a pure lifting action. This is feasible on account of the hardness and toughness which the bricks acquire after they have been dried. My idea is to obtain a machine of this class which avoids the lateral crushing action of the friction-principle machine, and avoids the difficulties attendant upon a machine which attempts to insert certain of the parts beneath the bottom surface of the bricks in the lowest layer.

I obtain my objects by the mechanism illustrated in the accompanying drawings, in which—

Figures 1 and 2 are side and rear elevations respectively of a machine embodying my invention. Fig. 3 is a front elevation showing the bricks in stacked position. Fig.

4 is a fragmentary view showing the lifting prongs and operating mechanism therefor. Fig. 5 is a sectional view taken on the line 5—5, Fig. 4. Fig. 6 is a side view taken on the line 6—6, Fig. 5.

Similar numerals refer to similar parts throughout the several views.

The main supporting frame consists in the present design of a number of parallel bars 10 secured at the rear end to the upright supporting members 11, said supporting members bending forward at the top where they are rigidly secured together and are surmounted by a channel bar 12 bent to circular form with its flanges extending horizontally outward, as shown in Figs. 1, 2 and 3. The main frame is supported from a hanger 13 having a number of ears 14 by which it may be supported from a crane or other carrier. Said hanger is provided with a number of friction rollers 15 adapted to support the upper flange of the channel bar 12 and permit the latter and the supporting frame to rotate about a vertical axis. At the upper edge the bars 10 are longitudinally channeled to receive a cam plate 20, the plate being held in place and guided longitudinally by flanges 21 on said bars. Each cam plate has a number of oblique slots 22 which form cam tracks for the antifriction rollers 23 mounted upon the pins 24 rigidly secured to the laterally movable prong carriers 25, as best shown in Figs. 4 and 5. The construction is such that when the plate 20 is moved longitudinally in bar 10 it will cause the prong carriers to move simultaneously outward or simultaneously inward, depending upon the direction in which the plate is moved. In the preferred form, the prong carriers are T shaped, the stem of the T lying horizontal and resting upon the plate 20 and flanges 21, the branches of the T being arranged vertically and being provided on their outer surfaces with a number of prongs or tines 26. These prongs may be screw threaded to screw into the prong carrier or may be fastened in any other suitable manner. In the design here illustrated, the stems of the prong carriers, that is their horizontal portions, are held down in position by means of a stationary keeper 27, which extends lengthwise with the bars 10. By this construction the parts are maintained in their proper position and furthermore the keeper 27 serves as a cap

to protect the wearing surfaces and to keep dust and foreign matter out of the cam slots 22.

By preference, the bars 10 and the parts 5 carried thereon are arranged at such intervals and the parts are so proportioned that two bricks may lie edgewise between the proximate points of the prongs of each pair of prong carriers, as best shown in 10 Fig. 3.

The cam plates 10 are each provided with racks 30 arranged longitudinally, these racks being adapted to cooperate with pinions 31 all rigidly secured to a shaft 32. 15 Said shaft extends across the machine and is provided at its ends with bearings 33. Said shaft is rotated by an operating lever 34 provided with a clutch 35 cooperating with a stationary quadrant 36. As a result 20 of this construction, by rotating the lever 34, the shaft 32 and pinions 31 are rotated, thereby causing longitudinal movement of the plate 20 and the lateral movement of the prong carriers and prongs.

25 In operation, when the bricks in their stacked up condition are to be transferred from the truck to the kiln, my machine is brought by the crane or other carrier to the truck and the bars 10 are inserted horizon- 30 tally between the truck and the bricks in spaces provided in the truck and between pairs of bricks in the lower layer. Lever 34 is thereupon rotated in such direction as to

project the prongs toward the side of the bricks and cause them to enter therinto for 35 a slight distance, as illustrated, for example, in Fig. 5. The position of the parts with reference to the bricks will then be as indicated in Fig. 3. The machine is then lifted 40 by the crane and raises the entire stack of bricks from the truck. The loaded machine may then be brought to the proper position in the kiln, the prongs are released by the lever 34 and the bars 10 and other parts of the machine are withdrawn, leaving the 45 bricks in place in the kiln.

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

In a brick stacker the combination of a 50 plurality of substantially horizontal bars, plates longitudinally movable therein, a pair of prong carriers for each plate, cam mechanism interposed between each plate 55 and its prong carriers and adapted to cause lateral movement of said carriers when said plate is moved longitudinally and keepsers rigidly held above said carriers for holding them in place during their movement.

In witnesses whereof, I have hereunto 60 subscribed my name in the presence of two witnesses.

HENRY WEBER.

Witnesses:

JOHN K. JOHONNESEY,
E. L. MILLER.