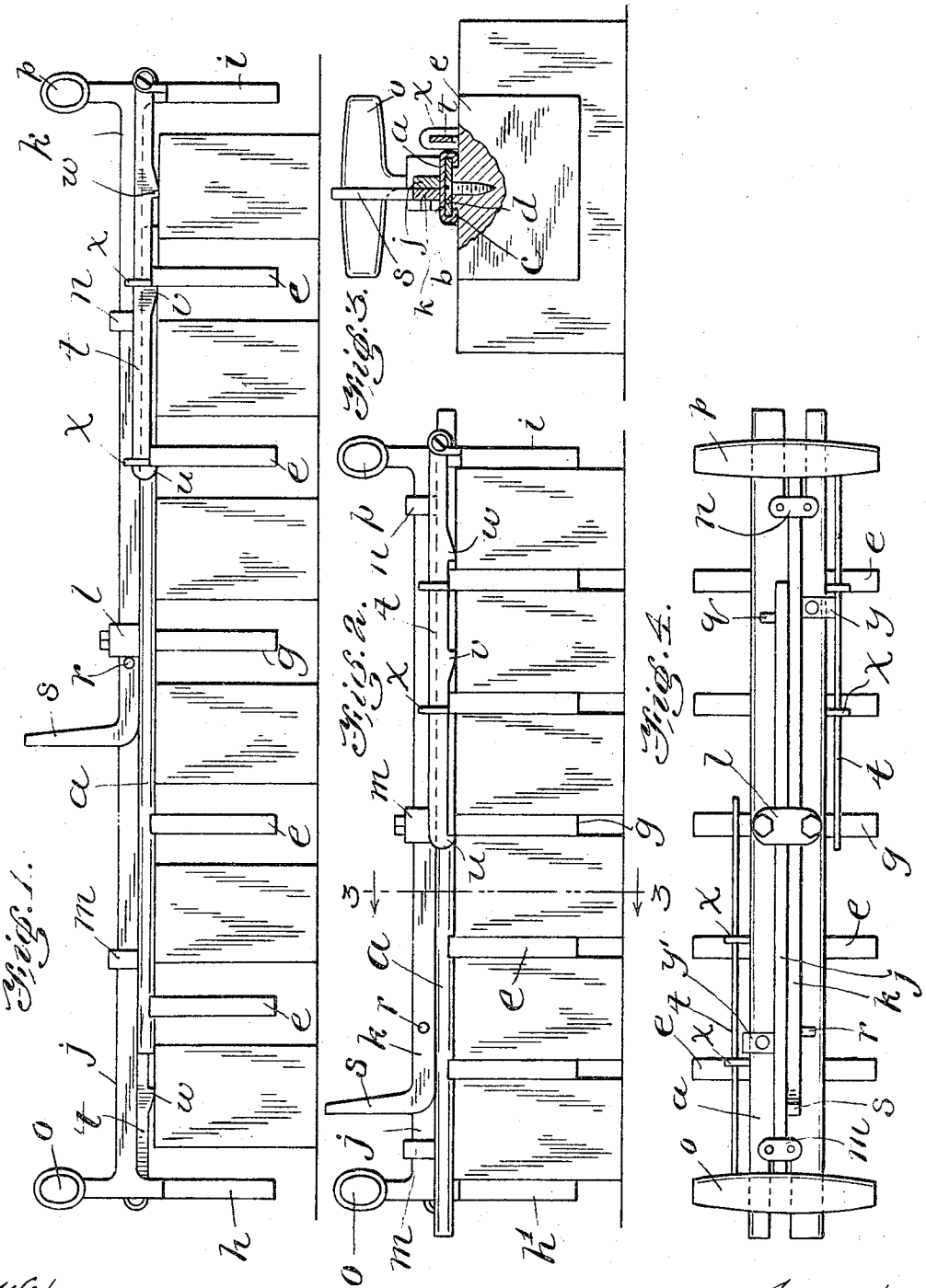
No. 799,838. PATENTED SEPT 19, 1905.

A. DUPUY.

BRICK HANDLING MACHINE.

APPLICATION FILED MAR. 9, 1905.



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UNITED STATES PATENT OFFICE.

ARTHUR DUPUY, OF WESTDALE, MASSACHUSETTS.

BRICK-HANDLING MACHINE.

No. 799,838. Specification of Letters Patent. Patented Sept. 19, 1905.

Application filed March 9, 1905. Serial No. 249,221.

To all whom it may concern:

Be it known that I, ARTHUR DUPUY, of Westdale, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Brick-Handling Machines, of which the following is a specification.

This invention relates to devices for handling brick and is particularly adapted to pick up bricks from the drying-yard after they have been dried by the sun to the proper degree of hardness and depositing them in a pile or hake preliminary to their being placed in the kiln for baking.

In the ordinary procedure of brick-making the bricks after being first formed are laid on their broadest sides in rows slightly separated from each other in the drying-yard. After they have become sufficiently dry and hard to admit being handled they are then turned up on one edge and allowed to continue the drying process. After the side which was formerly at the bottom has hardened the bricks are then picked up and arranged in a stack or hake which is carried to and placed in the kiln.

The object of the present invention is to provide a device for picking up the bricks in the drying-yard and haking them, which is adapted to lift a number of bricks at once without danger of injuring them, and which will also be simple in construction and certain in operation.

The invention consists in the device having the features which I will now proceed to describe and claim.

Of the accompanying drawings, Figure 1 represents a side elevation of the device embodying my invention with the parts extended in position preparatory to engaging a series of bricks. Fig. 2 represents a similar view showing the parts collapsed with the brick-holding blades engaging a series of bricks. Fig. 3 represents a cross-section on line 3 3 of Fig. 2. Fig. 4 represents a plan view of the device.

The same reference characters indicate the same parts in all the figures.

a represents the main frame of the apparatus, which consists of a straight bar or plate of metal having formed on its under side a guideway *b*, which is preferably made by turning down and under the edges *c* of the plate, so that these form lips extending inward from the sides of the frame and slightly separated from the under surface thereof. In this guideway are placed a number of plates or blocks *d*, which are slidingly held therein, and to each of the plates *d* is rigidly connected a blade *e*. The plates *d* are adapted to be placed in the guideway by being slid into the same from the ends of the frame *a*, and after they are in place they are prevented from being removed by means of stops of any desired form or construction detachably held in the frame at its ends and projecting into the guideway.

In addition to the blades *e*, which are slidingly held in the guideway, as before stated, there is a central blade *g*, rigidly fastened to the frame *a*, so as to be stationary and always occupy the same position relative to the frame. There are also end blades *h i*, which are rigidly fastened to the overhanging end portions of bars *j k*, respectively. These bars are mounted on the top of the frame member *a*, being held extending in the direction of the length of the frame by guide members *l*, *m*, and *n*, in which they are free to slide. The guide member *l* is located approximately at the center of the frame-plate *a* and extends over and holds both of the bars *j k*, which extend therefrom in opposite directions, while the guides *m* and *n* are adjacent the ends of the frame-plate and each engages only one of the bars. Handles *o* and *p* are connected to the bars adjacent their ends, and by these handles the bars may be slid longitudinally of the frame in opposite directions to move the blades *h* and *i* away from or toward the ends of the frame. Stops *q* and *r*, mounted on the bars, engage the guide member *l* and prevent too great extension of the bars. The bar *k* also has at its end an upwardly-turned projection or arm *s*, which when the handles *o p* are moved into their most retracted position comes adjacent the handle *o* and can be grasped, together with the handle *o*, for carrying the device when empty and preventing the parts extending.

Each of the end blades has pivoted to it a latch *t*, which extends over the top edges of the movable blades *e* between the fixed blade *g* and the respective end blade and has projections *u v*, which engage the movable blades and draw them out toward the ends of the frame when the handles are separated. Each latch also has a projection *w*, which engages the blade *e* nearest the fixed blade on which the latch is pivoted when the handles are moved together and pushes the blade *e* toward the center. Each of the movable

blades has a guide x, which embraces the latch t, holding it in proper lateral relation with the blade.

y and y' are stops mounted on the frame and extending outward in position to engage the guide members x of the blades next the fixed blade and prevent their being displaced to too great an extent.

The manner of use of the device is as follows: The bricks in the drying-yard which are in condition to be haked are, as previously stated, arranged standing on one of their shorter sides in rows, each brick separated by a short distance from its neighbors. The handling apparatus is then grasped by its handles o p and the latter are separated, causing the latches t to engage the movable blades and separate them by a suitable distance from the central blade. The device is then placed over a series of bricks and lowered, the blades then entering into the spaces between the bricks. The handles p o are then moved toward each other, moving the blades h i toward the center. These blades first engage the outside bricks and move them inward toward the blades e, which when engaged by the bricks are also moved inward to engage the next bricks and move them also toward the center, this procedure continuing until all the blades are in engagement with bricks and are separated only by the width of the bricks between them. As is evident, pressure exerted on the handles is transmitted to all of the bricks and blades, so that all are held with an equal degree of firmness. The device can then be raised, carrying the bricks gripped between the blades, and moved to a hake, where they may be deposited. Upon the pressure being relieved the blades may be readily withdrawn from between the bricks, leaving them upon the hake. Preferably the blades are of wood, while the other parts are of metal, thus reducing the danger of injury to the bricks to the minimum, while at the same time providing a device having the greatest possible strength and stiffness with the minimum weight. The projection w of the latch comes into effect when no brick is present between the end blade and the next adjacent movable blade. In this case the projection w engages the blade e and moves it toward the adjacent brick in the same manner as that just described. The distance between the end blade and projection w is less than the width of a brick, so that this projection will not prevent the grasping of a brick between the end and adjacent movable blades. In cases where the bricks are to be deposited in a space such as that between shelves, where the vertical distance is not great, the handles o p are in the way, and for this purpose the handles may be moved from the position shown in the drawings and placed on the end blades or on the bars j k in line therewith, forming lateral extensions of the apparatus. In carrying the bricks by this devce the arm s serves as a supplemental handle, which is sufficiently close to the handle o when the handles and blades are moved together to engage the bricks to enable one hand of the operator to grasp both handles, thus assisting in holding the blades in engagement with the bricks. When the handle s is released, the blades release the bricks and allow them to be dropped onto the pile.

I claim—

1. A device for handling brick comprising a frame having a longitudinal guideway, blades slidably mounted in said guideway, handles mounted on said frame adapted for movement longitudinally thereof in opposite directions, and connections attached to said handles and adapted to detachably engage the blades.

2. A device for handling brick comprising a frame having a longitudinal guideway, blades movably mounted therein, bars slidably mounted on the frame and overhanging the ends of the frame, end blades connected to the overhanging portions of the bars, and connections carried by said end blades adapted to engage detachably the intermediate blades.

3. A device for handling brick comprising a frame having a longitudinal guideway, blades movably mounted therein, bars slidably mounted on the frame and overhanging the ends of the frame, end blades connected to the overhanging portions of the bars, and latches pivotally connected to said end blades extending over the intermediate blades and adapted to engage and move the latter toward the ends of the frame when the end blades are moved outwardly from the ends of the frame.

4. A device for handling brick comprising a frame having a longitudinal guideway, blades movably mounted therein, bars slidably mounted on the frame and overhanging the ends of the frame, end blades connected to the overhanging portions of the bars, latches pivotally connected to said end blades extending over the intermediate blades and adapted to engage and move the latter toward the ends of the frame when the end blades are moved outwardly from the ends of the frame, and handles connected to the end blades.

5. A device for handling brick comprising a frame consisting of a central plate having a longitudinal guideway on its under side, guide members in its upper side, a blade centrally fixed to said plate, movable blades slidingly held in the guideway on each side of the fixed blade, bars mounted in the guide members and movable longitudinally of the plates, an end of each bar overhanging one of the ends of the plate, end blades fixed to the overhanging portions of the bars, and stops car-

ried by the bars adapted to engage one of said guide members to limit the movement of said bars.

6. A device for handling brick comprising a frame consisting of a central plate having a longitudinal guideway on its under side, guide members in its upper side, a blade centrally fixed to said plate, movable blades slidingly held in the guideway on each side of the fixed blade, bars mounted in the guide members and movable longitudinally of the plates, an end of each bar overhanging one of the ends of the plate, end blades fixed to the overhanging portions of the bars, and a latch carried by an end blade adapted to engage the movable blades between said end blade and the central fixed blade.

7. A device for handling brick comprising a frame consisting of a central plate having a longitudinal guideway on its under side, guide members in its upper side, a blade centrally fixed to said plate, movable blades slidingly held in the guideway on each side of the fixed blade, bars mounted in the guide members and movable longitudinally of the plates, an end of each bar overhanging one of the ends of the plate, end blades fixed to the overhanging portions of the bars, and a latch carried by an end blade adapted to engage the movable blades between said end blade and the central fixed blade, said latch having provisions for engaging each of said last-named movable blades when the end blade is moved away from the plate and for engaging the movable blade nearest the end blade when the latter is moved toward the plate.

8. A device for handling brick comprising a frame consisting of a central plate having a longitudinal guideway in its under side, guide members in its upper side, a blade centrally fixed to said plate, movable blades slidingly held in the guideway on each side of the fixed blade, bars mounted in the guide members and movable longitudinally of the plates, an end of each bar overhanging one of the ends of the plate, end blades fixed to the overhanging portions of the bars, a latch carried by an end blade adapted to engage the movable blades between said end blade and the central fixed blade, and latch-guides on said movable blades.

9. A device for handling brick comprising a frame consisting of a central plate having a longitudinal guideway on its under side, guide members in its upper side, a blade centrally fixed to said plate, movable blades slidingly held in the guideway on each side of the fixed blade, bars mounted in the guide members and movable longitudinally of the plates, an end of each bar overhanging one of the ends of the plate, end blades fixed to the overhanging portions of the bars, one of said bars having an upstanding handle projection formed on the end opposite to that at which the end blade is fixed, and stops carried by the bars adapted to engage one of said guide members to limit the movement of said bars.

10. In a device of the character specified, a plate having its edges oppositely overturned to form a guideway, slides held in the guideway, blades connected to said slides, additional guide members on the plate, and means for moving said blades slidably mounted in said guide members.

In testimony whereof I have affixed my signature in presence of two witnesses.

ARTHUR DUPUY.

Witnesses:
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C. F. BROWN.