

W. E. GARD.
Brick Trucks and Stands.

No. 158,583.

Patented Jan. 12, 1875.

Fig. 1.

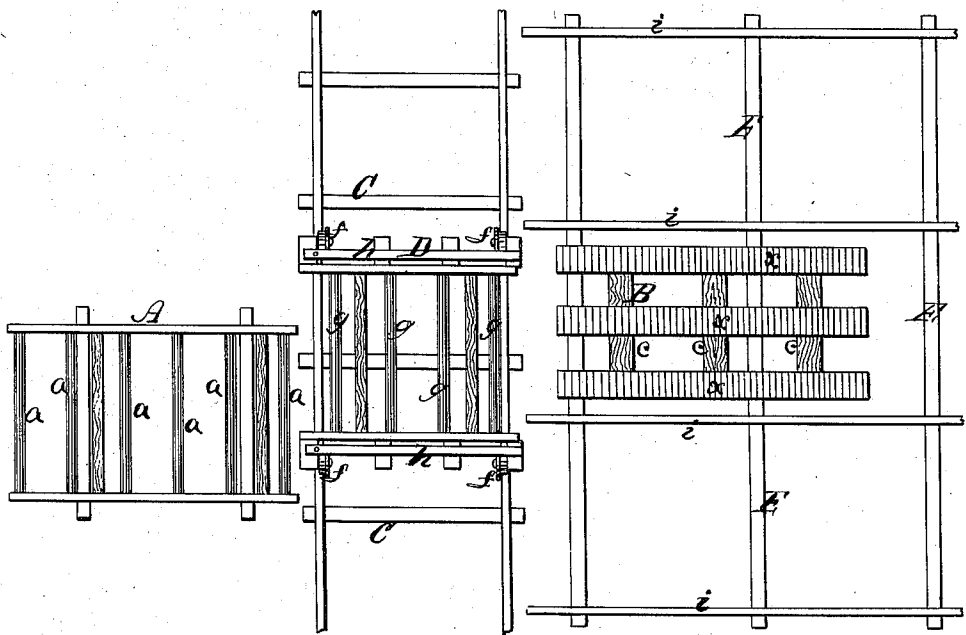
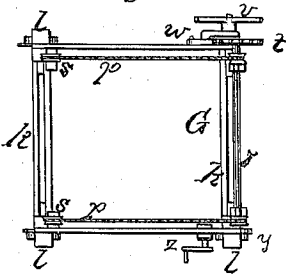


Fig. 2.



Witnesses.
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Geo. H. Graham.

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By his atty.
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Fig. 4.

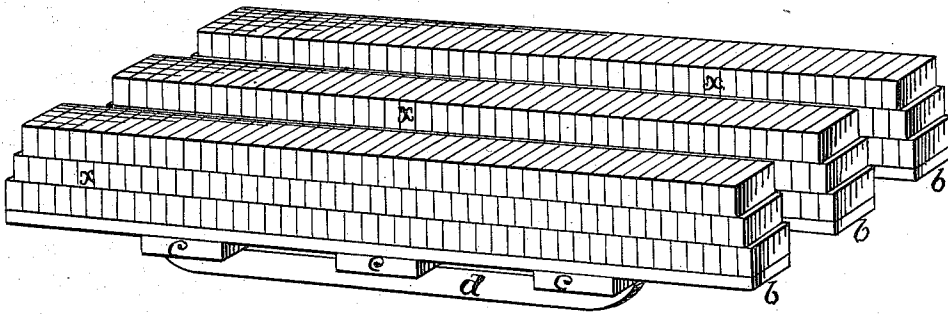
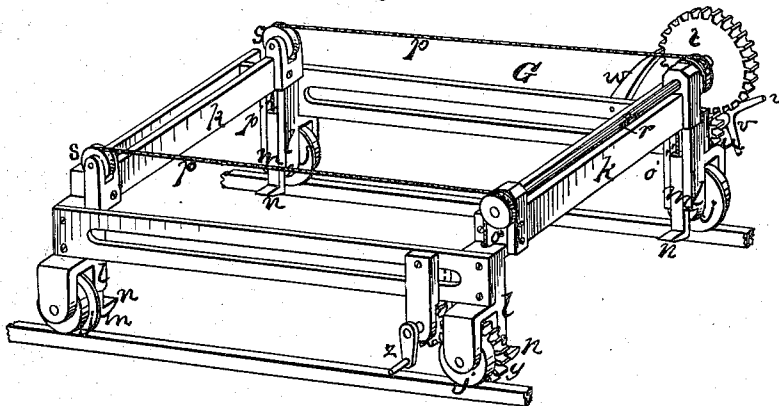


Fig. 3.



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UNITED STATES PATENT OFFICE.

WALTER E. GARD, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN BRICK TRUCKS AND STANDS.

Specification forming part of Letters Patent No. 158,583, dated January 12, 1875; application filed July 17, 1874.

To all whom it may concern:

Be it known that I, WALTER E. GARD, of Chicago, in the county of Cook and State of Illinois, have invented an Improved Truck and accompanying Apparatus for Handling Bricks in Brick-Yards; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a plan of the apparatus, showing its arrangement in a brick-yard; Fig. 2, a plan of the improved handling-truck; Fig. 3, a view of the truck in perspective; Fig. 4, a view, in perspective, of one of the hack-frames loaded with bricks.

Like letters designate corresponding parts in all of the figures.

My invention comprises a complete system of handling bricks in brick-yards in large numbers and with great expedition, both for taking bricks from the machine as fast as made thereby, and distributing them over the drying-ground, and for removing them therefrom, after drying, to the kilns; and it consists in an improved handling-truck, together with an improved transferring-truck and other apparatus employed in connection therewith, all substantially as hereinafter specified.

The whole apparatus includes a "roller-way," A, (one or more,) on which hack-frames B B are successively placed to receive the bricks from the brick-machine; a transferring lateral track, C; a transferring-truck, D, (one or more,) traveling on the said track; a series of tracks, E E E, extending over the yard or drying-ground in any convenient manner; and the main handling-truck G, (one or more,) to lift the hack-frames, loaded with bricks *x x*, from the transferring-truck D, convey the said hack-frames to proper positions along the said tracks, let them down there on the ground, to be left till the bricks are sufficiently dried, and afterward to again take up the hack-frames and convey them with the dried bricks to the kilns. This truck also is, or may be, used for conveying the burnt bricks from the kilns to cars or other means of transportation. The roller-way A, located next to the brick-machine, is provided with a set of transverse rollers, *a a*, on which the hack-frames B B

rest and move with comparative ease. The hack-frames B B consist simply each of three, more or less, hack-planks, *b b b*, arranged in parallel positions, and secured upon cross planks or bars *c c c*, which also rest on shoes *d d*, extending longitudinally, as shown in Fig. 4.

These shoes may be simple joists, cut off square or oblique in the cheapest and simplest way. They may be dispensed with, and the roller-way A varied in construction correspondingly for the hack-frames to move on; but for the apparatus represented the hack-frames are preferably constructed as described.

The simple hack-planks *b b* can be used in this apparatus.

The transferring-track C is designed simply to form a connection between the roller-way A and the several main tracks E E E, and has no peculiarity of construction. The transferring-truck D, which travels laterally on the track C, is provided with flanged wheels *f f* for rolling thereon, and has a set of parallel cross-rollers, *g g*, similar in construction and use to the rollers *a a* of the roller-way A. These rollers corresponding in height with the rollers *a a*, when the transferring-truck is brought opposite to the roller-way, as soon as a hack-frame is filled with bricks, it is pushed along over the roller-way and upon the transferring-truck, and there rests while the truck is rolled along the track C to a position opposite to the particular main track E over which the hack-frame for that time is to be conveyed. On this transferring-truck are two short rails, *h h*, which are set at just the same distance apart as the rails *i i* of any track E, against which they nearly or closely abut when the transferring-truck is brought into position opposite thereto, and these rails *h h* and *i i* may be coupled or locked together to hold them in position while making the transfer.

There may be circular grooves sunk in the rollers *a a* and *g g* at proper distances apart, or equivalent raised flanges thereon, to serve as guides for the shoes *d d* of the hack-frames, to bring them to and hold them in the proper position on the transferring-truck.

The main tracks E E E are constructed in

any ordinary manner. For cheapness of construction and economy of space, I generally use a single line of rails, *i*, between adjacent tracks, serving for the trucks to run on for both tracks.

The handling-truck G, (shown most clearly in Fig. 3,) which is the most important part of my invention, has peculiar features of construction and operation. It has a strong frame, the cross-beams *k k* of which span the track, and are elevated sufficiently to allow the truck to freely pass over the hack-frames loaded with bricks, either when they rest on a transferring-truck, D, or on one of the tracks E E E, or on the ground. Then inside of its four legs, *l l l l*, or other suitable part of the frame, it has, respectively, four lifters, *m m m m*, which slide up and down in grooves of the legs, and have spurs or projections *n n n n* extending inward, so as to catch under the ends of two of the cross-planks *c c* of the hack-frames elevated on the shoes *d d* or other elevating supports; or they may catch under some other part of the hack-frames, suitably provided for the purpose. When the lifters are raised in their grooves or ways the hack-frames are raised from the transferring-truck, or other support, and are held suspended thereby within and under the legs and cross-beams of the truck, and, on lowering the lifters, the hack-frames are again let down and left wherever desired, and the truck is again free to be moved from over the same. In order to raise and lower the lifters *m m m m*, cords or chains *o o* and *p p* are secured to the upper ends thereof, two of them, *o o*, extending upward directly over parts or pulleys of a winding-shaft or windlass, *r*, mounted on one end of the truck, and the other two cords, *p p*, first going up over pulleys *s s*, and thence along to the same winding-shaft, to wind around the pulleys thereon. All of the winding-pulleys are of equal size, so that, as the winding-shaft revolves, the lifters are raised or lowered alike. To turn the winding-shaft, a gear-wheel, *t*, is secured to one end thereof and meshes into a pinion, *u*, on the shaft of which is a crank or handle, *v*, as shown; or any equivalent device may be employed. A pawl or detent, *w*, taking into the gear-wheel *t*, serves to hold the cords of the lifters wound up to any height desired. To enable the truck with a hack-frame of bricks to be propelled easily, there is on one of the supporting-wheels *j j j j* of the truck, or on its shaft, a gear-wheel, *y*, into which gears a pinion with a crank, *z*, whereby

the power may be multiplied to any extent desired. There may be a seat for the operator to occupy while driving the truck along; or the driving-gear may be extended to the top of the truck, on which may be a platform to support the driver; or he can walk upon the ground.

The transferring-truck D and handling-truck G are made to correspond in construction, so that the latter can be run upon the rails *h h* of the former over any hack-frame of bricks thereon, take up the said hack-frame, and convey it to a position for drying the bricks over any one of the tracks E E E.

The apparatus, as above described, contemplates the employment of a transferring rail-truck, C, and main tracks E E E, and flanged wheels on the transferring and handling trucks D G, to run on the rails of the said tracks. But these are not essential, though desirable in brick-yards which are not smooth and well leveled. On hard and smooth brick-yards the tracks may be dispensed with, and, instead of flanged wheels on the trucks, wheels with plain, broad treads may be employed.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A truck, G, for handling bricks, in combination with the hack-frames, combined to operate substantially as and for the purpose specified.

2. A truck, G, for handling bricks, provided with elevating and lowering lifters *m m m m*, combined to operate substantially as and for the purpose specified.

3. The combination of the sliding lifters *m m m m*, cords or chains *o o* and *p p*, winding-shaft *r*, and pulleys *s s*, substantially as and for the purpose specified.

4. A hack-frame, B, provided with elevating-timbers *d d*, combined substantially as and for the purpose specified.

5. A transferring-truck, D, in combination with rollers *g g* and ways *h h*, substantially as and for the purpose specified.

6. A brick-handling apparatus, composed essentially of a roller-way, A, hack-frames B, and handling-truck G combined, operating together substantially as herein specified.

Specification signed by me this 7th day of July, 1874.

WALTER E. GARD.

Witnesses:

W. D. STURTEVANT,
PLUMER HAWORTH.