

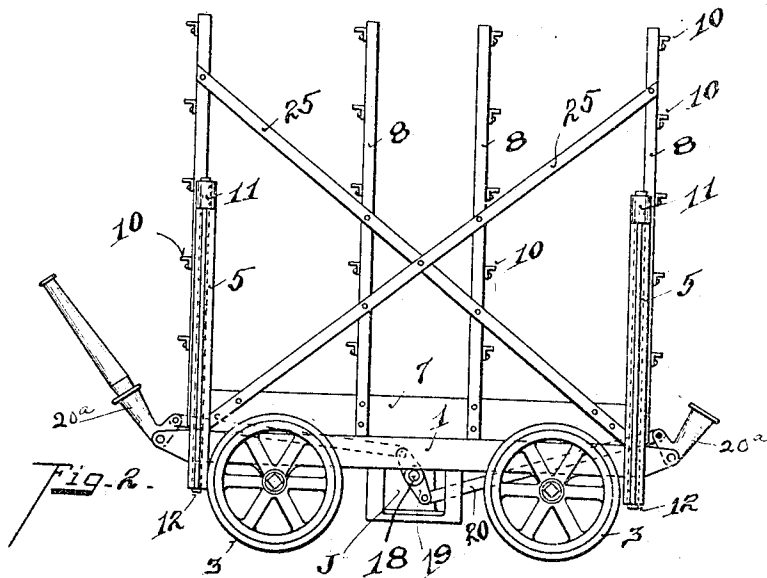
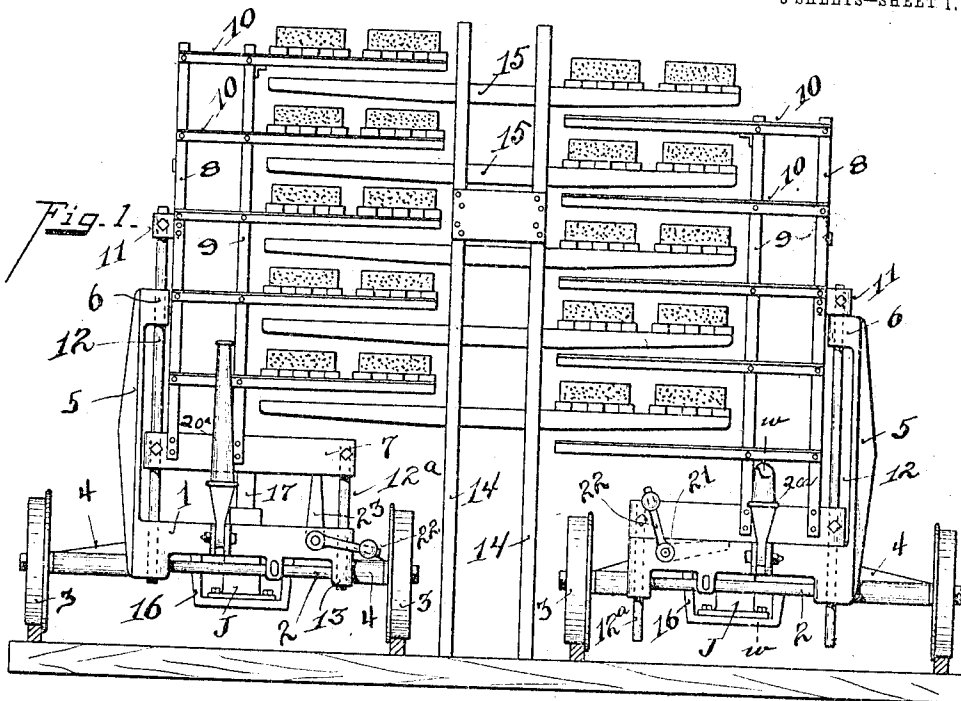
No. 818,852.

PATENTED APR. 24, 1906.

F. H. REID.
BRICK CAR.

APPLICATION FILED MAY 12, 1905.

3 SHEETS—SHEET 1.



Witnesses

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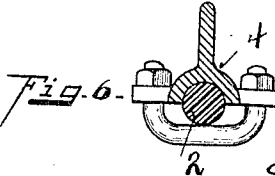
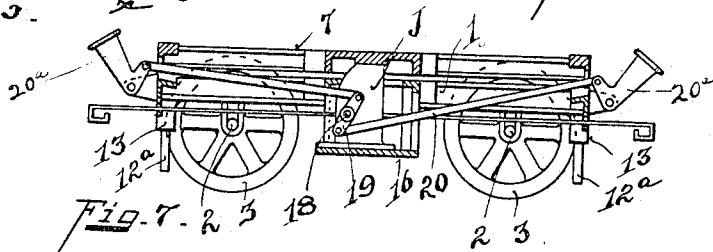
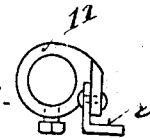
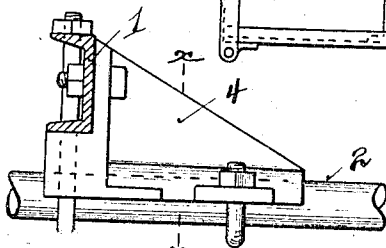
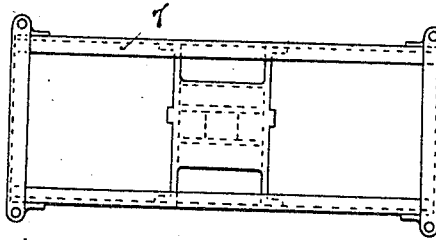
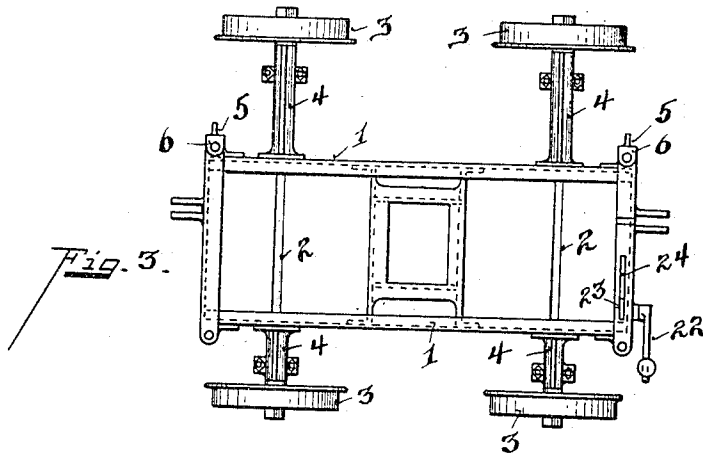
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

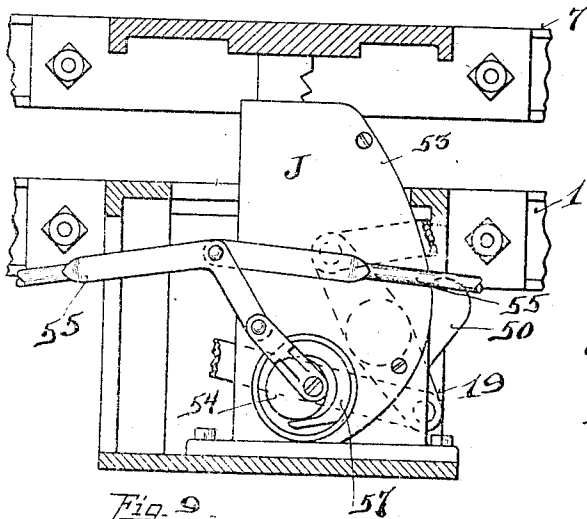


Fig. 9

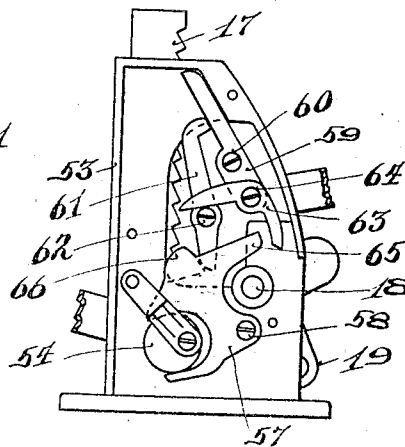


Fig. 10

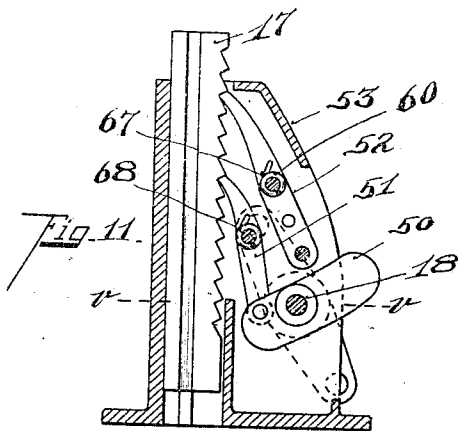


Fig. 11

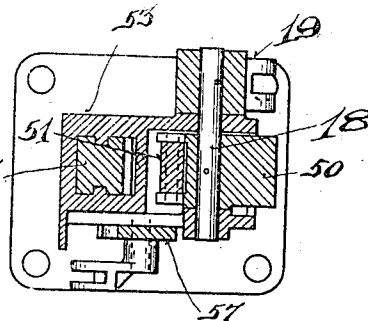


Fig. 12

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UNITED STATES PATENT OFFICE.

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BRICK MACHINERY COMPANY, OF MEMPHIS, TENNESSEE, A CORPORATION.

BRICK-CAR.

No. 818,852.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed May 12, 1905. Serial No. 260,155.

To all whom it may concern:

Be it known that I, FRANK HOWARD REID, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Brick-Cars, of which the following is a specification.

My invention relates to a car truck and wheels, provided with a vertically-moving support and means for raising and lowering the same.

This invention has particular reference to a car for handling what is known as "soft-mud" brick. In the handling of this class of brick each brick has to be separately supported. Preferably the vertically-movable support is provided with one or more tiers of horizontal detachable shelves or pallets, having a support upon one side of the truck, which arrangement permits the car to be wheeled opposite to a stationary brick-support, having an oppositely-extended horizontal tier of shelves. The vertically-movable support may be adjusted to a height at which its tier of shelves will extend in the horizontal planes intermediate of the stationary tier of shelves, whereby when the car is moved opposite the stationary support the horizontal shelves of the vertically-adjustable support will ride in between the horizontal shelves of the stationary support, so that when the truck-support is lowered its tier of pallets will be let down upon the stationary series of supports. The car is thus unloaded. The physical condition of this class of brick is such at the time they are to be carted that the greatest possible care must be used in raising and lowering them and in loading and unloading them. For this reason my invention has for its further object the provision of suitable guiding and sustaining mechanism for the vertically-adjustable support, whereby it may be raised and lowered with the least possible vibration.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an end elevation of two cars, one in the position of unloading and the other in its unloaded position ready to be removed. Fig. 2 is a side elevation of one of the cars. Fig. 3 is a top plan view of the car

truck and wheels with the vertically-moving support removed. Fig. 4 is a top plan view of the base of the vertically-moving support. Fig. 5 is an enlarged detailed view showing the method of supporting the main frame of the car to the axles. Fig. 6 is a section on line *x x*, Fig. 5. Fig. 7 is a section on line *w w*, Fig. 1, with the uprights and racks omitted. Fig. 8 is an enlarged top plan view of the sleeve, to which the uprights are secured and to which the raising and guiding bar are also secured. Fig. 9 is a central vertical section of a portion of the truck and jack support, showing the jack in side elevation. Fig. 10 is a side elevation of the jack with the cover-plate removed. Fig. 11 is a central vertical section of the jack. Fig. 12 is a section on line *v v*, Fig. 11.

1 represents the body of the truck, having the axles 2 and the wheels 3. The body of the truck is secured to the axles by means of the brackets 4. (Shown in Figs. 5 and 6.)

Projected upwardly from each end of the body of the truck are the bracket-arms 5, having the ears 6 at their upper ends, overhanging the body of the truck.

The ears 6 and the body of the truck have vertically-aligned bearings, as indicated in dotted lines, Fig. 1. The movable support is in the shape of an upright frame composed of a base 7. To the base is secured a series of uprights 8 9 upon the side of the frame nearest the arm 5. Bolted to the uprights 8 9 and extended horizontally toward the opposite side of the car is a series of bracket-arms 10. The bricks are laid on shelves, and these shelves are extended longitudinally of the car, resting upon the bracket-arms 10. Bolted to the outside upright 8 is a brace-sleeve 11, to which is secured a combined guide and brace rod 12, which has a bearing with the ear 6 and with the bearings formed through the body of the truck, the said rod projecting through the bottom of the base 7 and being projected downwardly so that the rod 12 slides in the bearing in the ears 6 and in the body of the truck when the upright support is raised or lowered. It is obvious that this rod also securely braces the movable structure. The inner end of the base 7 is provided with a depending rod 12^a, having a sliding engagement with the bearings 13. (Shown in Fig. 1.) The stationary coöper-

ating rack consists of the uprights 14, having the horizontal stationary shelves or cross-bars 15. The car with its load of brick rides to position indicated in Fig. 1, the supporting upright frame is depressed, and the shelves or cross-bars 10 lowered between the cross-bars 15, and the brick-containing pallets are deposited upon the stationary shelves 15, as indicated in the right-hand half of Fig. 1.

I will now describe the lifting mechanism or so much of it as concerns this invention. From the body of the truck is depended a platform 16. (See Figs. 1 and 3.) Upon this platform is secured a ratchet mechanism J of any ordinary type, but comprising the upwardly-projecting ratchet-bar 17, engaging under the base 7 of the movable support. It is to be understood that the jack mechanism feeds the rod 17 upward or downward in step movements.

18 represents the crank-shaft for operating the jack mechanism.

19 represents the crank-arm, and 20 the connecting-rods pivoted thereto, and 20^a represents the operating-levers pivoted to the ends of the truck and also to the rods 20.

Fulcrumed in the body of the truck is a shaft 21, having weighted arm 22, attached thereto radially, and a strut 23 also radially attached to this shaft. (See also Fig. 3.) The front of the frame has the slot 24, through which passes the arm 23. The position of this arm is such that the weight forces the end of the arm 23 yieldingly against the bottom of the base 7 of the movable support, as indicated in dotted lines in the right-hand half of Fig. 1. When this support is elevated, the shaft 21 turns, and the arm 23 follows the support 7 in its upward movement until it assumes a vertical position, shown in full lines in the left-hand half of Fig. 1, in which position it serves as a steady or brace for the movable support.

25 represents vertical cross-bars secured together and to the vertical members of the upright frame in a direction longitudinal of the car, as shown in Fig. 2, to give lateral rigidity to the support. This raising and lowering of the brick-support in step movements is quite important in a car of this character, because notwithstanding the varying condition of the tracks the support may be adjustably raised to position to engage between the stationary supporting-shelves.

This device is very easily and conveniently operated and forms a very rigid movable support for the brick. The construction is very simple and its utility in this class of work is apparent.

I will now describe so much of the jack mechanism as will serve to illustrate, broadly, the operation. This jack mechanism is contained upon the depending platform 16. (See Figs. 1, 2, and 7.) The details of the jack

mechanism are shown in Figs. 9, 10, 11, and 12, which consists in what is known as the "double-acting" jack.

53 represents the jack-frame in which reciprocates the ratchet-bar 17 and which contains the actuating mechanism.

Fixed on the rock-shaft 18 is the plate 50, to which is pivoted the pawl 51.

52 represents a pawl pivoted to the frame 53. When the rock-shaft 18 is turned in one direction, the pawl 51 raises the ratchet-bar 17 one notch, the pawl 52 dropping into position in the next notch and holding the ratchet-bar in its raised position. (See Fig. 11.)

To reverse, the mechanism shown in Fig. 10 is used, in which 54 represents an eccentric actuated by the rods 55.

57 represents a cam-plate actuated by eccentric 54 and pivoted at 58 to the frame.

59 is a lever pivoted at 60 to the pawl 52.

61 is a second lever connected by a laterally extended pivot-bolt 62 to the pawl 51.

63 represents a curved finger pivoted at 64 to the lever 59. The front end of this finger extends over the pivot-bolt 62. The rear end of this finger extends downward in position to be engaged by the extension 65 of the cam-plate 57. The lower end of the lever 61 is in position to be engaged by the boss 66 on the cam-plate 57. 67 represents a spring on the pivot-bolt 60, exerting tension between the lever 59 and the pawl 52, tending to hold the end of the pawl in engagement with the teeth of the ratchet-bar 17.

68 represents a similar coil-spring on the pivot-bolt 62 between the lever 61 and the pawl 51, holding the pawl 51 normally in engagement with the ratchet-teeth. In the raising movement the pivoted finger 63 can oscillate idly when the lever 61 is raised and lowered with the pawl 51, because the lower end of this finger 63 is not held by the cam projection 65, as shown in Fig. 10.

In the reversing movement the eccentric 54 is turned, which throws the cam 57 inward, bringing the projection 65 against the lower end of the finger 63 and bringing the boss 66 against the lower end of the lever 61, so that when the lever 61 is raised with the pawl 51 the pivot-bolt 62 raises the front end of the finger 63, and the rear end of this finger 63 being restrained from movement the lever 59 is oscillated on its pivot, which positively oscillates the pawl 52 in and out, so that the pawls 51 52 alternately engage into and out of the teeth of the ratchet-bar, allowing the same to descend by gravity one notch at a time. Thus it is obvious that by this mechanism the ratchet-bar 17 may be operated in step movements in either direction.

Having described my invention, I claim—

1. In combination with a car truck and wheels a vertically lifting and depressing mechanism supported by the body of the truck, a support seated upon the lifting mech-

anism above the truck, the said support consisting of an upright frame, a horizontal tier of shelves attached to said frame, the body of the truck being provided with an upwardly-extended side arm at each end having ears projecting transversely to the body of the truck, vertical bearings formed in the truck-body and in the said ears, rods securely attached to the said frame and engaging through the said bearings, forming a vertical guide for said support and adding rigidity to said frame, substantially as described.

2. In combination with a car truck and wheels, a depending platform suspended from the opposite sides of and swinging below the body of the truck, a jack mechanism seated upon said platform and comprising an upwardly-extended ratchet-bar, a support engaging the upper end of the ratchet-bar above the truck, vertical guide mechanism between the support and truck, and means for actuating the jack mechanism, substantially as described.

3. In combination with a car truck and wheels, a vertically lifting and depressing mechanism, a support having guideway connection with the truck and actuated by the said lifting mechanism, and a shaft having a radial strut engaging under the movable support and bearing toward the same, whereby the strut assumes the position of a vertical brace under the support at a predetermined height, substantially as described.

4. In combination with a car truck and wheels, a movable support having tiers of horizontal brackets with brick-supporting shelves adapted to engage between the series of stationary brackets, guide connections between the car-truck and movable support, adapted to permit movement of said support, substantially free from vibration, a jack mechanism on the truck, the vertically-mov-

able element of which engages the base of the upright support, a rock-shaft and lever mechanism for actuating the vertically-movable element of the jack in steps in either direction, whereby under varying conditions the movable brackets may be raised to varying levels by reciprocating the lever, substantially as described.

5. In a brick-car, a truck, a brick-support thereon having vertical guide connections with the frame, a platform suspended from the middle of the truck, a jack mechanism secured on the platform, the vertically-movable element of the jack engaging under the movable support for raising and lowering the same, a rock-shaft for actuating the jack, reversing mechanism for the jack, and a lever having connection with the rock-shaft for reciprocating the same in steps in either direction, substantially as described.

6. In combination with a car truck and wheels, a movable brick-support having vertical guide connections with the truck, a jack-support on the truck under the movable support, a jack mechanism secured on said support, having a vertical reciprocating ratchet-bar, connections between the movable support and the ratchet-bar for transmitting the vertical movement to the brick-support, and means for actuating this said ratchet-bar in step movements in either direction, whereby the brick-support may be raised or lowered in a series of step movements and so definitely adjusted vertically, substantially as described.

In testimony whereof I have hereunto set my hand.

FRANK HOWARD REID.

Witnesses:

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LUISE BECK.