Sept. 6, 1927. 1,641,703

W. P. STANTON

CONCRETE CONVEYING AND DISTRIBUTING CART

Filed July 23, 1924

Fig. 1.

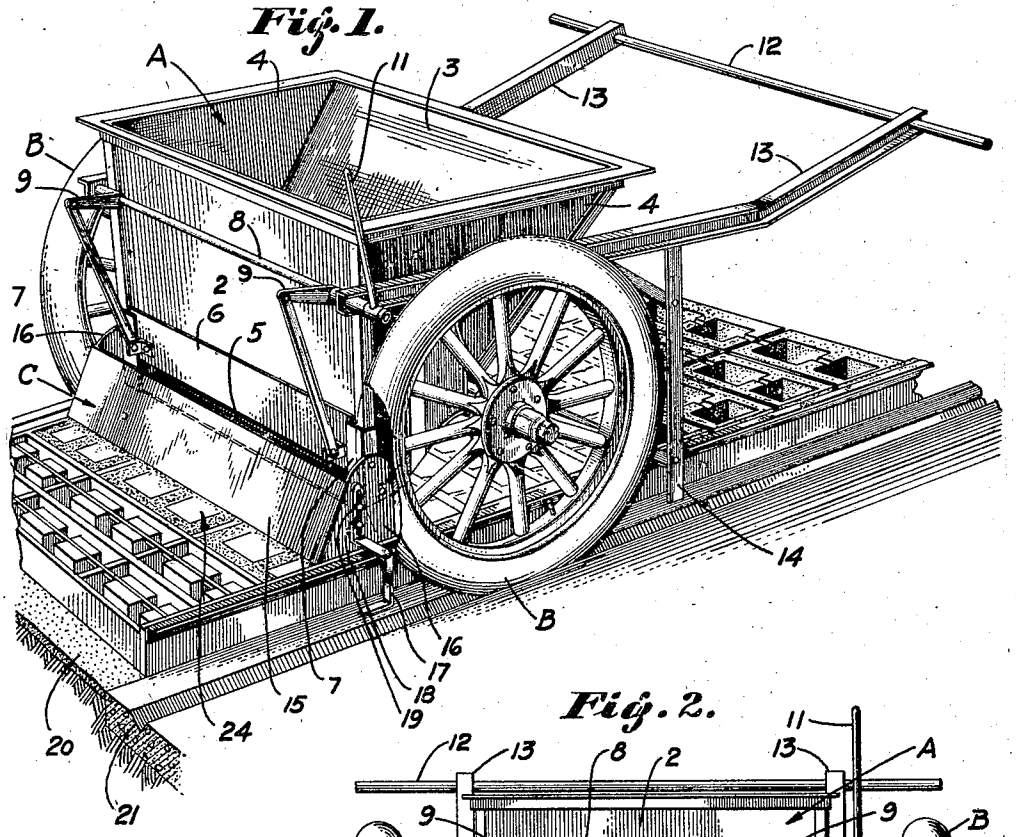


Fig. 2.

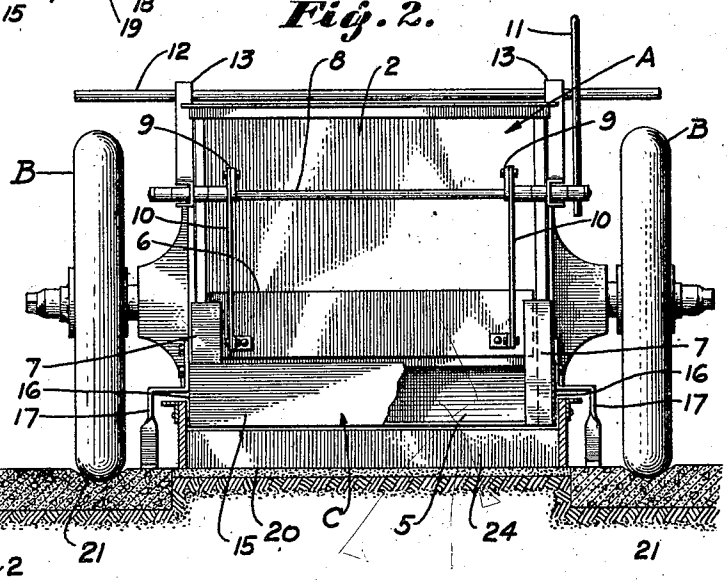
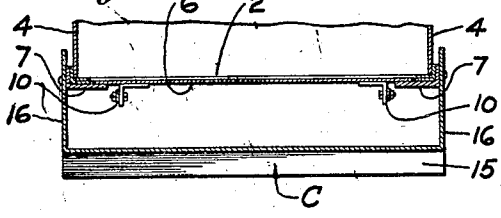


Fig. 3.



Inventor:
Wolcott P. Stanton.
By
Dewey, Strong, Jaenicke & Lofton
Attorneys.

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UNITED STATES PATENT OFFICE.

WOLCOTT P. STANTON, OF BERKELEY, CALIFORNIA.

CONCRETE CONVEYING AND DISTRIBUTING CART.

Application filed July 23, 1924. Serial No. 727,667.

This invention relates to a concrete conveying and distributing cart, and especially to a cart of this character which is particularly adapted for delivering, distributing and spreading wet concrete in a series of successively arranged molds.

The object of the present invention is to generally improve and simplify the construction and operation of carts of the character described; to provide a cart which is adapted to straddle a series of molds placed end for end in line formation and to be moved longitudinally thereof; a cart from which the concrete may be gradually discharged as it is being moved with relation to the molds, so that the successive molds may be filled; and further, to provide adjustable means whereby the flow of the discharging concrete may be regulated and the final height of the concrete in the molds determined.

One form which my invention may assume is exemplified in the following description and illustrated in the accompanying drawings, in which—

Fig. 1 is a perspective view of the concrete conveying and distributing cart.

Fig. 2 is an end view of the same, showing it in position with relation to a mold.

Fig. 3 is a cross-section of the vertical end of the concrete cart, showing the position of the gate and the guide flanges supporting the same.

Referring to the drawings in detail, and particularly to Figs. 1 and 2, A indicates in general a V-shaped hopper supported by wheels B. The hopper consists of a vertical end section 2, an inclined end section 3, and a pair of vertical side sections 4. The lower portion of the vertical end section 2 is cut away to form a discharge opening 5, and a gate 6 is vertically movable with relation thereto to close the opening or to partially or fully uncover the same when concrete is being dischaged. The gate 6 engages the forward face of the end section 2 and is held in sliding contact therewith, the gate being held in this position by a pair of vertical end flanges 7.

Means for raising and lowering the gate are employed. This means consists of a cross-shaft 8 suitably journalled with relation to the end section 2. A pair of crank arms 9 is secured to the shaft and these crank arms are connected through links 10 with the gate. Shaft 8 is also provided with a crank handle 11 which is manually controlled. This crank handle when pulled in one direction turns shafts 8 so as to raise the crank arms 9, the links 10 and the gate 6. Movement of the crank handle 11 in the opposite direction reverses the movement. The discharge opening may thus be closed or partially opened as desired by the operator.

The cart is otherwise provided with a push bar 12 secured to handle extensions 13. It is also provided with supporting legs 14, and it is furthermore provided with a combination levelling and spreading device generally indicated at C. The levelling and spreading device consists of a plate 15 disposed in front of the gate 6 and on an angle with relation thereto. The plate 15 is secured to the end sections 4 of the hopper by means of side plates 16. These side plates are in turn provided with supporting legs or shoes 17, which are adjustable with relation to the plates 16; that is, the upper ends of the shoes are slotted as shown at 18 and bolts 19 extending through the slots and secured in the plates 16 permit vertical adjustment of the legs.

The cart is particularly adapted for use in connection with a new method of molding concrete blocks and like devices, such as illustrated and described in my issued patent entitled "Method and apparatus for manufacturing hollow concrete building blocks" issued July 28, 1925, Patent No. 1,547,530. Briefly the method consists in placing a series of molds end for end in line formation on a suitable support, such as indicated at 20. Runways 21 are formed on each side of the support and V-shaped grooves or tracks are formed in the runways for the reception and guidance of the wheels B. The concrete wet-mix is formed in a suitable concrete mixer and the like and is dumped into the hopper of the cart. The cart is then advanced over the runways illustrated and is guided by the V-shaped grooves or tracks. The cart will thus straddle the molds indicated at 24 and each mold will be successively filled by opening the gate 6 as the cart is advanced. The amount of concrete discharged is regulated by the position of the gate and the levelling or spreading plate 15; that is, the concrete might have a tendency to bunch in places, but it is evenly spread out and a uniform height in the molds is obtained by the plate 15, as it serves as a levelling and spreading device; the

position of the plate 15 with relation to the molds being determined by the shoes 17, which are held in frictional contact with the runways as the cart is being advanced. If it is desired to spread the concrete, so that it will project one-fourth of an inch above the molds, it is only necessary to adjust the legs 17 so that when the card straddles the molds and is advanced with relation to the same, a clearance of one-fourth of an inch will be obtained when the legs 17 contact with the runways. A greater or less clearance may, of course, be obtained by changing the adjustment.

It has heretofore been common practice to employ an ordinary cart from which the concrete is dumped into the successive molds. This required spreading of the concrete by hoes or other implements and required both time and labor. In the present instance, the concrete is delivered uniformly to each mold and is spread and levelled so that any amount desired may be obtained; the work of filling the molds and levelling them being accomplished in one operation when the cart here shown is employed, and a saving in both time and labor is thus obtained.

While certain features of the present invention are more or less specifically illustrated, I wish it understood that various changes in form and proportion may be resorted to within the scope of the appended claims. I similarly wish it understood that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or various uses may demand.

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

1. A cart of the character described, comprising a concrete receiving hopper having a discharge opening formed in its lower end and extending substantially from side to side of the hopper, a sliding gate vertically movable with relation to the opening for closing said opening and for regulating the flow of concrete therethrough, a manually operated lever for transmitting sliding movement to the gate, a combination spreading and leveling plate carried by the hopper, and wheels supporting and permitting longitudinal movement of the hopper.

2. A cart of the character described, comprising a concrete receiving hopper having a discharge opening formed in its lower end, a gate movable with relation thereto, manually-actuated means for opening and closing the gate and for regulating the flow of concrete through the discharge opening, and a combination spreading and levelling plate disposed rearwardly of the discharge opening, said plate being disposed on a vertical inclination with its upper edge closest to the hopper.

3. A cart of the character described, comprising a concrete receiving hopper having a discharge opening formed in its lower end, a gate movable with relation thereto, manually actuated means for opening and closing the gate and for regulating the flow of concrete through the discharge opening, and a combination spreading and levelling plate disposed rearwardly of the discharge opening, said plate being disposed on a vertical inclination with its upper edge closest to the hopper, an end plate on each end of the spreader plate and a connection between each end plate and the hopper.

4. In a device of the character described, a hopper which is V-shaped in cross section, a substantially vertically disposed end plate in the hopper and having an elongated discharge opening formed in its lower end, a gate vertically slidable on the end plate for opening or closing the discharge opening and for regulating the discharge of concrete, and an inclined spreading and levelling plate carried by the hopper and disposed rearwardly of the discharge opening.

5. A wheel supported cart of the character described, embodying a hopper having a discharge opening formed adjacent its lower end, a gate cooperating with said opening for regulating the flow of concrete therethrough, a combination levelling and spreading plate disposed rearwardly of the gate, and a pair of adjustable shoes cooperating with the levelling and spreading plate.

WOLCOTT P. STANTON.