M. J. OWENS.

VALVE FOR BOTTOM DUMP CARS.

APPLICATION FILED DEC. 20, 1911.

1,026,824.

Patented May 21, 1912.

2 SHEETS—SHEET 1.

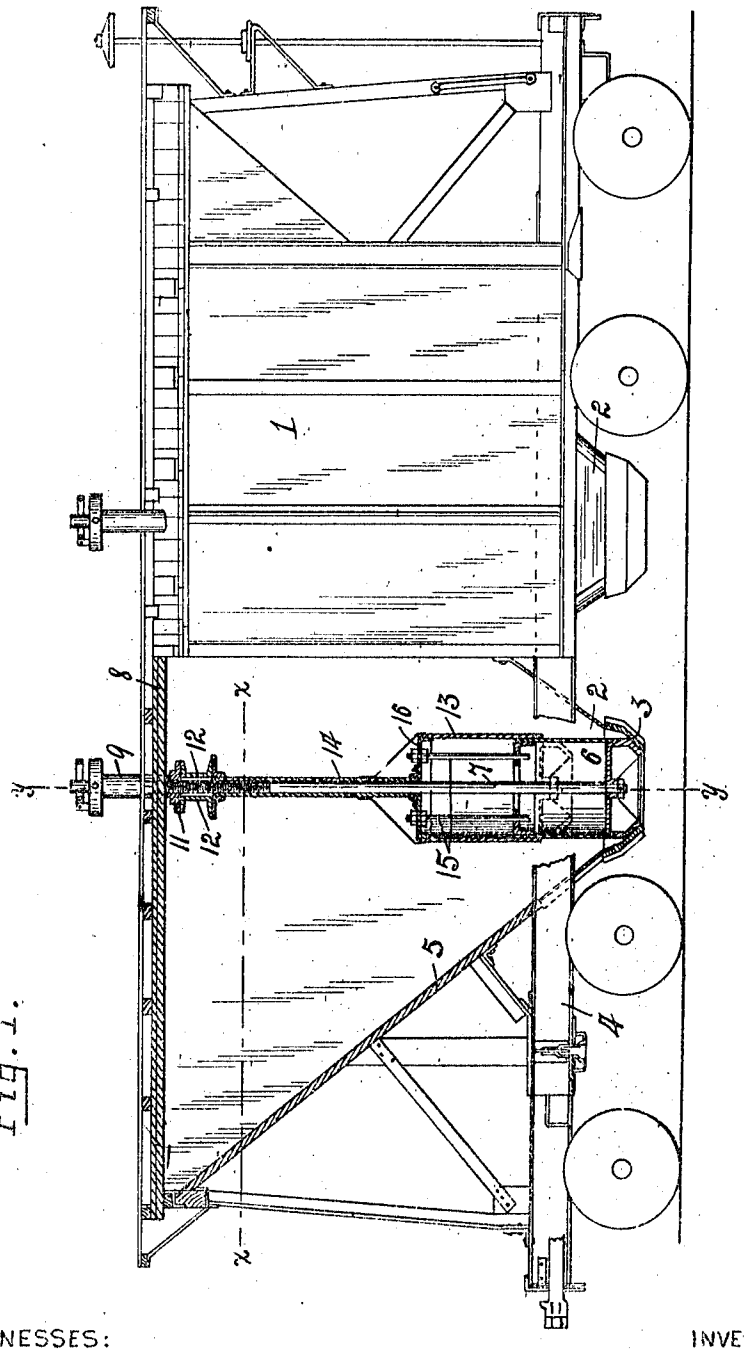

Fig. 1.

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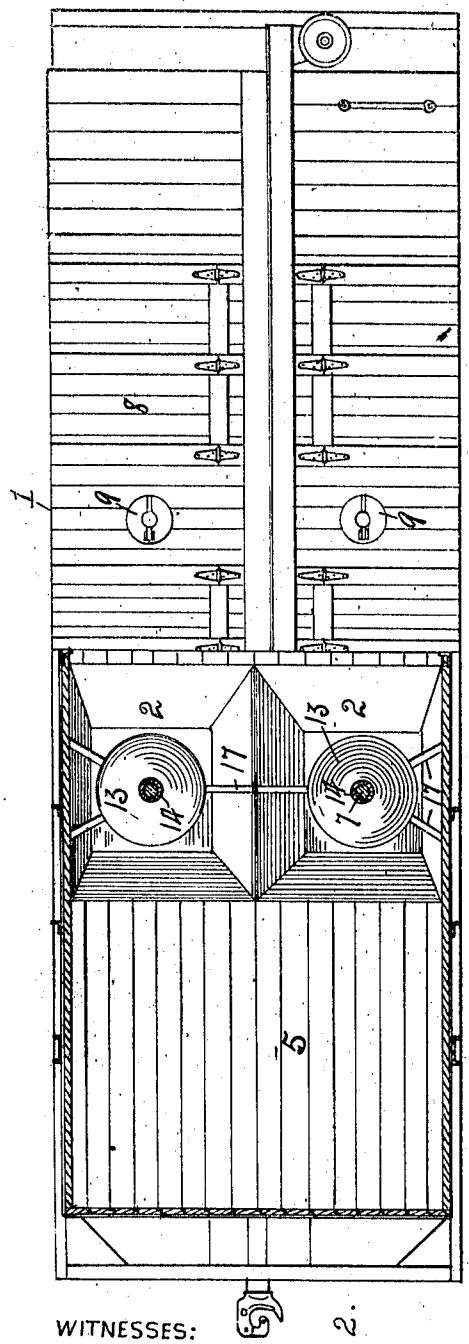

Fig. 2.

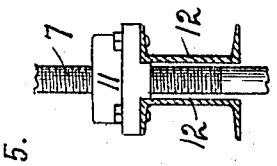

Fig. 5.

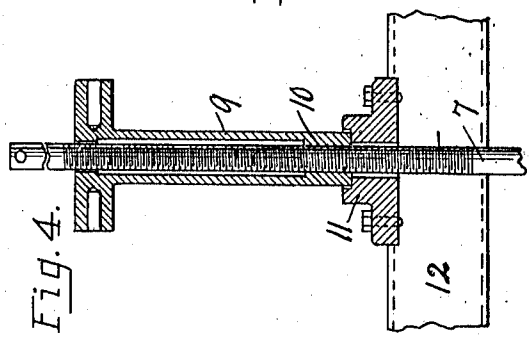

Fig. 4.

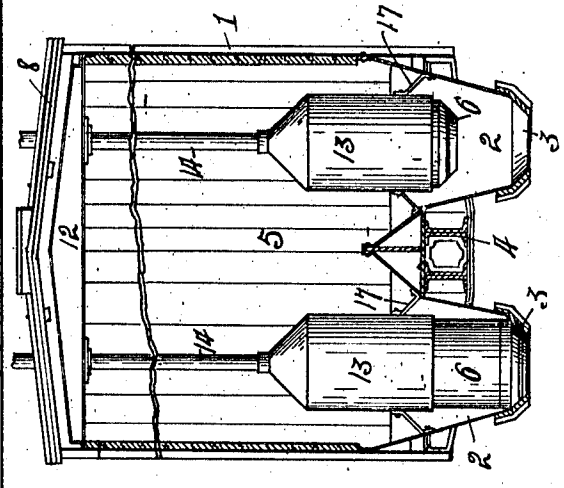

Fig. 3.

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UNITED STATES PATENT OFFICE.

MICHAEL J. OWENS, OF TOLEDO, OHIO, ASSIGNOR TO THE OWENS BOTTLE MACHINE COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

VALVE FOR BOTTOM-DUMP CARS.

1,026,824. Specification of Letters Patent. Patented May 21, 1912.

Application filed December 20, 1911. Serial No. 667,014.

To all whom it may concern:

Be it known that I, MICHAEL J. OWENS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Valve for Bottom-Dump Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates particularly to trucks or cars for the conveying of glass-works mixing materials, but is not restricted to such use as it can be used in any connection for which it is adapted or appropriate.

The object of my invention is the provision, in combination with a hopper type, bottom dump, car or truck of this nature, of a simple and efficient form of valve for controlling a bottom discharge opening thereof, such valve being operable from without the car and adapted to open upwardly within the car and the contents thereof.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of a car embodying my invention partly in section. Fig. 2 is a top plan view thereof with a portion in horizontal section on a line x x in Fig. 1. Fig. 3 is a vertical cross-section of the car on the line y y in Fig. 1 with the valves and their casings in full and one valve in open position, and Figs. 4 and 5 are different enlarged details of the valve adjusting mechanism.

Referring to the drawings, 1 designates a railroad car which has its bottom provided, in the present instance, adjacent to the longitudinal center thereof with a plurality of hopper-like discharge passages 2, the lower ends of which are open with the edges thereof contracted to form conical or tapered valve seats, as indicated at 3. These discharge passages are shown as being four in number, and are arranged in pairs on opposite sides of a transverse, oppositely-tapering, shallow partition forming parts thereof, with the passages of each pair disposed on opposite sides of the customary draft-beam 4 of the car. It is to be understood, however, that my invention is not limited to any particular number of such passages or to the construction or arrangement thereof. The opposite end portions 5 of the car are shown as tapering toward the adjacent discharge passages 2 to direct the contents of the car toward such passages.

Associated with each discharge passage 2 is a valve 6, which is vertically movable within the passage to open and close its discharge end. These valves are preferably, but not necessarily, of hollow or shell-like cylindrical form with the lower edges thereof of conical form to closely seat upon the conical lower end portions 3 of the passages, as shown.

A stem or rod 7 projects upward from each valve 6 above the car-top 8 and has the upper end portion thereof working through a bushing member 9 in which it is threaded, as at 10, thus adapting a relative turning of the valve rod and bushing to effect a raising or lowering of the associated valve. The bushing 9 is preferably projected through the car top, if such top be provided, and seats at its lower end upon a thrust-block or collar 11, which is supported within the upper portion of the car, in the present instance, by a pair of transverse channel beams 12, which have their ends mounted in the car sides and between which the associated rod 7 passes. A relative turning of the bushing 9 and valve-rod may be effected in any suitable manner, as by a turning of the bushing 9 upon its thrust-block.

To facilitate a raising of the valves 6 within the contents of a car a protecting shell or housing 13 is stationarily mounted above each valve in position for it to telescope therein when raised. A sleeve 14 encircles each valve rod 7 and rigidly connects the upper end of the associated shell 13 to the under side of the superimposed beams 12 to suspend the shell in proper position within the car. The shells 13 have conical tops to deflect matter therefrom, and are shown as having interior rods 15, which project downward from top portions 16 thereof and work through registering apertures in the top of the valves to assist in guiding the movements of the valves and to

prevent a relative turning of the valves and shells. A suitable space is provided between the lower edge of each shell 13 and the sides of the associated discharge passage 2 to permit a free flowing of the car contents through the passage when the valve is open, and the valve is of suitable length for its upper end to project a short distance within the shell when the valve is seated. The shells are braced relative to the respective passages by braces 17, which are disposed intermediate the shells and passage walls.

It is apparent that I have provided simple and effecient valve means for use in the discharge passages of cars adapted for the carrying of materials capable of flowing by gravity, and that such means is easily operable to open or raise within the car contents to open the discharge passages.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. In a car having a bottom discharge opening, a valve vertically movable within the car to open and close said opening, a stem projecting upward from the valve, a member threaded to said stem, and means carried by the car for resisting the lower end thrust of said member.

2. In a car having a bottom discharge opening, a vertically elongated valve movable within the car to open and close said opening and a stationary superimposed guard shell into which the valve moves when opened, said shell having its top adapted for the deflection of loose matter therefrom.

3. In a car having a bottom discharge opening, a valve vertically movable within the car to open and close said opening, a stem projecting upward from the valve, means operable to impart vertical movements to said stem, and a stationary guard shell encircling portions of said stem and valve and into which the valve works when raised and adapted to be entirely submerged in the car contents.

4. In a car having a hopper-like discharge passage, a valve capable of vertical movements in said passage to open and close its outlet, a stem projecting from the valve without the top portion of the car, and guard means incasing portions of the stem and valve and telescoping with the valve when raised.

5. In a car having a bottom discharge passage, a cylindrical valve vertically movable within the passage to open and close the same and having a stem projecting without the top portion of the car, rotatable means coöperating with said stem and operable to effect a raising and lowering thereof, and a stationary guard part with which the valve telescopes.

6. In a car having a bottom discharge passage, a valve disposed within the car and having relatively movable parts, one of said parts being vertically movable to open and close said passage and the other part being stationary and serving as a guard for the movable part, and means operable above the valve to move the movable part, said stationary part having its top disposed below the maximum contents height of the car and adapted to deflect matter therefrom.

7. In a car having tapering bottom portions terminating in a hopper-like bottom discharge opening having an internal conical valve seat, a valve for seating within said opening and vertically movable within the car, and a stationary guard shell into which the valve moves when raised from seating position, said shell having parts cooperating with the valve to prevent a relative turning thereof and having a conical top for deflecting matter therefrom.

8. In a car having a bottom discharge opening, a valve vertically movable within the car to open and close said opening, a valve-control stem projecting upward from the valve, a stationary guard shell into which the valve moves when raised, a hollow suspending stem projecting upward from said shell through which the valve stem works, and means supporting said hollow stem.

In testimony whereof, I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

MICHAEL J. OWENS.

Witnesses:
C. W. Owen,
E. E. Thomas.