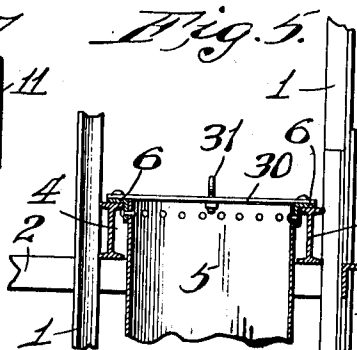
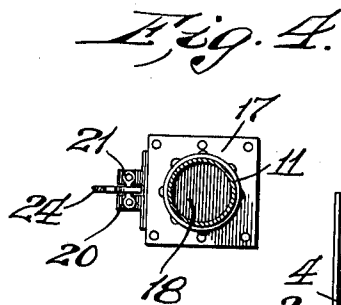
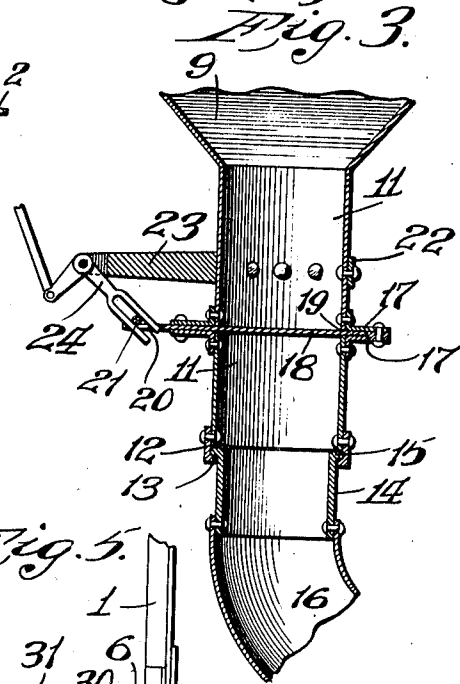
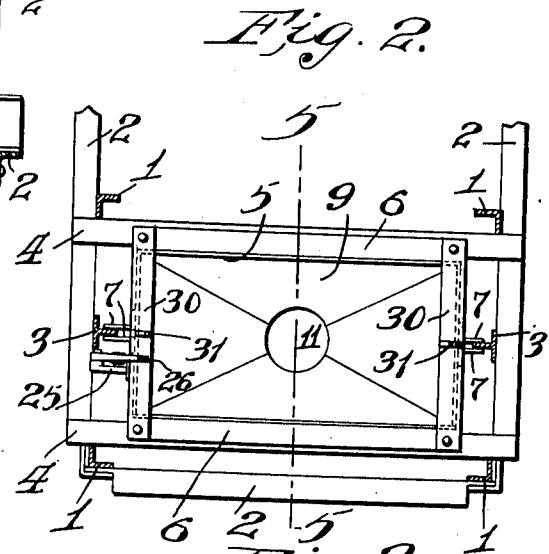
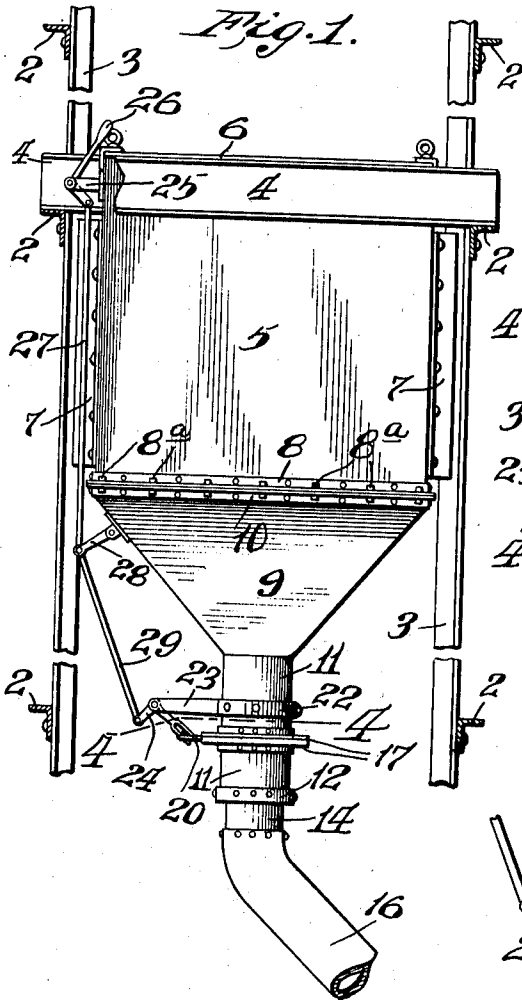


988,482.

Patented Apr. 4, 1911.



Attest:
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UNITED STATES PATENT OFFICE.

FRANK R. McCUNE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO GEORGE S. CORNELL, OF ST. LOUIS, MISSOURI.

HOPPER.

Specification of Letters Patent.

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988,482.

Application filed December 20, 1909. Serial No. 534,126.

To all whom it may concern:

Be it known that I, FRANK R. McCUNE, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Hoppers, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in hoppers, especially designed for use in towers and employed in receiving and distributing concrete for building purposes, the object of my invention being to construct a hopper of simple and durable construction which may be readily moved vertically in the tower and secured in various positions therein.

A further object of my invention is to construct an improved gate valve to be employed in the hopper and to provide means for readily operating the valve from the top of the hopper.

For the above purposes my invention consists in certain features of construction and arrangement of parts as will be hereinafter more fully set forth, pointed out in the claims and illustrated by the accompanying drawing, in which:

Figure 1 is a side elevation of the complete hopper showing a portion of the tower, a portion of one of the supporting beams being broken away; Fig. 2 is a plan of the complete hopper illustrating a portion of the tower; Fig. 3 is an enlarged, detail, vertical, sectional elevation illustrating my improved valve and a portion of the valve operating-means; Fig. 4 is a sectional plan taken on the line 4-4 of Fig. 1; and, Fig. 5 is a vertical, sectional elevation of the upper portion of the hopper illustrating the beams and a portion of the tower for supporting the hopper, taken on the line 5-5 of Fig. 2.

Referring by numerals to the accompanying drawing: 1 designates the uprights and 2 the ledgers of a metallic tower.

3 designates track rails extended vertically of the tower and secured to the ledgers. 4 designates I-beams supported upon the ledgers 2.

5 designates the body portion of my improved hopper which is suspended from the

I-beams 4 by means of the angle irons 6 secured to the upper margins of the hopper 5. Secured to the end walls of the hopper 5 are the angle plates 7 which embrace the track rails 3 to guide and direct the hopper in its movements relative to the tower. Secured to the hopper 5, adjacent its lower margins, are the angle plates 8.

9 designates the bottom of the hopper having converging walls the upper margins of which are reinforced by the angle plates 10, which angle plates are detachably secured to the angle plates 8, by means of bolts 8^a.

11 designates a cylindrical extension of the bottom 9 which is secured to and carried by the bottom 9. Secured to the lower extremity of the neck 11 is an annular collar 12 having an in-turned flange 13 and suspended from the flange 13 is a collar 14 having an out-turned flange 15. Arranged to engage with the flange 13 of the collar 12 and secured in any suitable manner to the collar 14 is the distributing spout 16.

By the arrangement of the collars 12 and 14 it is obvious that the spout may be turned relative to the hopper as required to position the discharging end of the spout at different points throughout a building in course of erection.

Embracing the neck 11 are the angle plates 17, the body portions of which are spaced a slight distance apart, and arranged to slide between the plates 17 is the gate valve 18. The neck portion 11 being divided at 19 to permit movements of the valve 18. The valve 18 is provided with a reduced portion 20 bifurcated at its free end, and spanning said bifurcated end is a strap 21. Secured to the neck 11 in a plane above the valve 18 is a collar 22 having an integral arm 23 and pivoted to the arm 23 is a bell crank lever 24, the long arm of which is bifurcated and embraces the strap 21. Secured to the body portion 5, adjacent its top and on one of its end walls, is a bracket 25 and pivotally mounted in the bracket 25 is a bell crank lever 26, and suspended from the short arm of the lever 26 is a rod 27. Pivotal to the bottom 9 of the hopper is a lever 28 which is connected with the rod 27, and connecting the rod 27 and lever 28 with the short arm of the bell crank lever 24 is a

rod 29. By this means the valve 18 may be opened and closed from the top of the hopper at which point an operator stands upon an improvised platform (not shown) but common to the art.

Connecting the angle irons 6, at the top of the hopper, are the reinforcing plates 30, each of which is provided with a suspending eye 31 which eyes provide means for attaching a hoisting cable (not shown) for moving the hopper in the tower.

In operation the concrete is supplied to the hopper 5 and the spout 16 is moved to the discharging point desired; which may be at any angle relative to the hopper, and the discharge is governed by means of the valve 18. When it is desired to elevate the entire hopper a cable or the like, from a suitable hoisting apparatus, is secured to the eyes 31 and the entire hopper is moved a distance sufficient to free the beams 4 which are moved upwardly to be positioned upon other ledgers 2. After the beams 4 have been placed in position the entire hopper is drawn up by the hoisting apparatus to a position above the beams and then lowered to rest upon said beams. By such a construction it is obvious that there is a great economy of time and labor required in

changing the position of the hopper relative to the tower.

I claim:

1. In combination with a hopper, having a divided, reduced neck, a pair of connecting collars embracing the reduced neck above and below the dividing line of the neck, a valve operating through said neck between said collars, a bearing secured to the reduced neck, a bell crank lever pivoted in said bearing and means for operating said bell crank lever from the top of the hopper.

2. In combination with a hopper, having a reduced neck portion consisting of two parts, a pair of connected collars secured to the parts of the neck, a valve operating between said collars and the divided ends of the neck, a bearing secured to the neck, a bell crank lever carried by said bearing, said bell crank lever being connected with said valve and means for operating said bell crank lever from the top of the hopper.

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

FRANK R. McCUNE.

Witnesses:

E. E. LONGAN,
E. L. WALLACE.