F. E. WALTERS.

APPARATUS FOR THE DISTRIBUTION OF CONCRETE OR THE LIKE.

APPLICATION FILED MAY 11, 1911.

1,009,117. **Patented Nov. 21, 1911.**

2 SHEETS—SHEET 1.

Fig. 1.

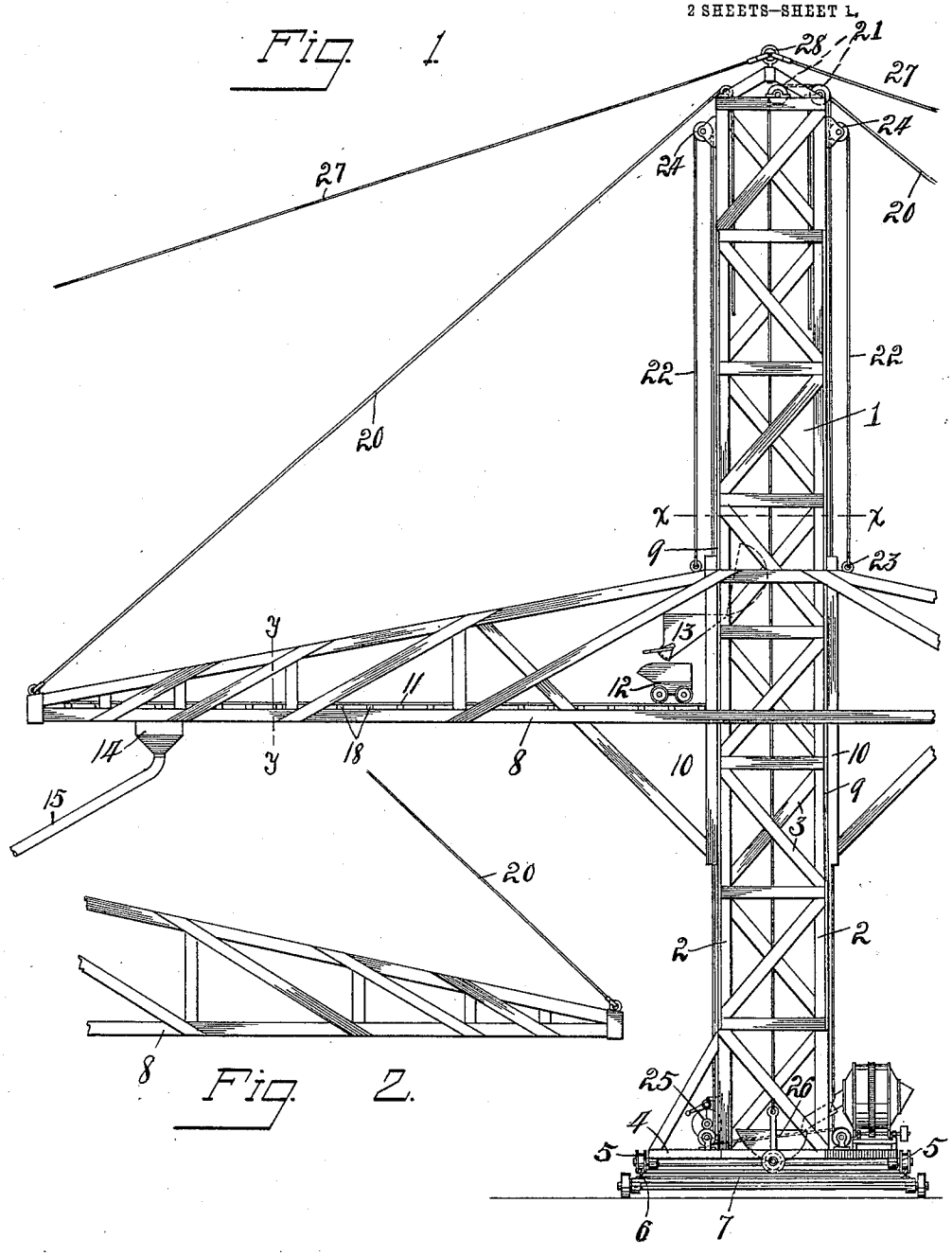


Fig. 2.

WITNESSES:

C. H. Bills.

E. E. Thomas.

INVENTOR.

Frank E. Walters,

By Owen & Owen

His attys.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

F. E. WALTERS.

APPARATUS FOR THE DISTRIBUTION OF CONCRETE OR THE LIKE.

APPLICATION FILED MAY 11, 1911.

1,009,117. **Patented Nov. 21, 1911.**

2 SHEETS—SHEET 2.

Fig. 3.

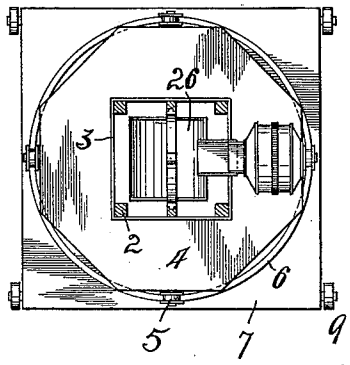


Fig. 4.

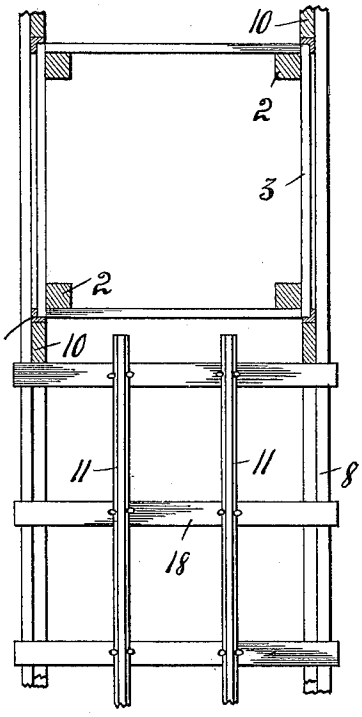
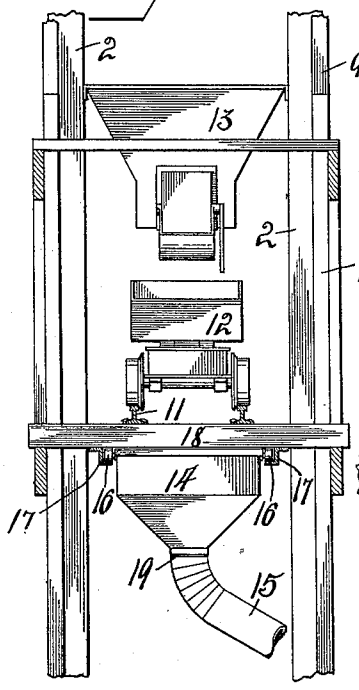


Fig. 5.



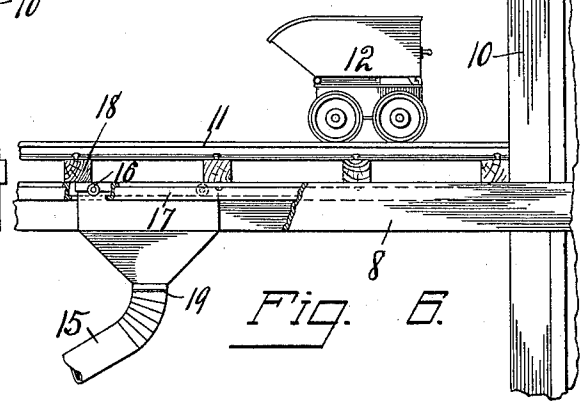


Fig. 6.

WITNESSES:

C. F. Bills.

E. E. Thomas.

INVENTOR

Frank E. Walters,

By Owen & Owen.

His attys.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK E. WALTERS, OF TOLEDO, OHIO.

APPARATUS FOR THE DISTRIBUTION OF CONCRETE OR THE LIKE.

1,009,117. Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed May 11, 1911. Serial No. 626,555.

To all whom it may concern:

Be it known that I, FRANK E. WALTERS, 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 Apparatus for the Distribution of Concrete or the Like; 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 to apparatus of the class more particularly intended for the handling and conveying of concrete or other material of a plastic nature used in building construction from the point of mixing to the point of use, but is not restricted to such use as it may be used for the handling of sand, iron ore, grain, and the like.

The object of my invention is the provision of an improved, simple and highly efficient apparatus of this class having a delivery boom, which is vertically and revolubly adjustable and which is provided with a delivery conduit or conveyer adapted to be shiftable longitudinally of the boom and also capable of revoluble movements relative thereto to adapt it to coöperate with the boom to deliver concrete or other matter to a desired point of discharge.

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 an elevation of an apparatus embodying my invention, with a portion of the boom broken away. Fig. 2 is an elevation of the portion of the boom which is not shown in Fig. 1. Fig. 3 is a plan of the base portion of a mast or derrick with the latter in cross-section. Fig. 4 is an enlarged cross-section of the mast on the line x, x in Fig. 1, with a portion of the mast associated therewith. Fig. 5 is an enlarged section on the line y, y in Fig. 1, with the delivery conduit moved inward from the position shown therein, and Fig. 6 is an enlarged side elevation of portions of the mast, boom, and delivery conduit.

Referring to the drawings, 1 designates a mast or derrick which may be of any suitable construction and is shown in the present instance as comprising the four parallel corner uprights 2, which are rigidly connected by bracing members 3 and rise from a platform or table 4. The platform 4 is carried by a set of wheels 5 disposed at different sides thereof and mounted to travel on a circular track 6 to render the mast capable of rotation about its vertical axis. The track 6 is in turn mounted on a wheeled truck 7 to permit an easy bodily transporting of the mast from one place to another, as is apparent.

8 designates a boom of any suitable construction such, for instance, as illustrated, which is mounted for vertical movements upon the derrick 1. To facilitate such adjustment of the boom the corners of the derrick are faced with angle iron strips 9 with which the vertical guide strips 10 and side bars of the boom slidingly coact. The boom 8 preferably, but not necessarily, has its ends projecting from opposite sides of the derrick so that one end will serve as a balance for the other, and one of such end portions is provided outward from the derrick to adjacent its end with a track 11 upon which a car 12 travels. This car is intended to receive its load from a bin 13 at the mast end of the boom and to discharge it into a hopper 14, which is carried at the under side of the boom and from the bottom of which a delivery conduit 15 laterally extends.

To facilitate an easy and quick adjustment of the hopper 14 longitudinally of the boom it is provided at its opposite upper side edges with rollers 16 which travel on tracks 17 arranged longitudinally of the mast on the under side thereof. For the purpose of permitting a discharge of the contents of the car 12 into the hopper at any position of adjustment of the latter relative to the mast, the bottom of the boom is formed by the spaced cross-beams 18 to which the tracks 11 and 17 are secured. The conduit 15, which projects from the hopper 14, is swiveled to the lower end of the hopper, as at 19, to permit a turning of the conduit as the desired point of discharge of matter therefrom may require.

The outer ends of the boom 8 are shown as having guy cables 20 extending upward therefrom over sheaves 21 at the top of the mast 1 and thence downward to a convenient point of access to permit a lengthening

or shortening of the same as a raising or lowering of the boom may require. The means shown in the present instance for raising or lowering the boom consists of cables 22 which attach to the boom, as at 23, thence pass upward over sheaves 24 at the top of the mast and down to a windlass or other suitable operating device 25. The concrete or other matter being handled is hoisted in a bucket 26 into position for its contents to be dumped into the bin 13, said bucket being operated in any suitable manner, as is common in apparatus of this class.

27, 27 designate guy cables for the mast and extend from a swivel eye 28 at the center portion of the upper end of the mast to any suitable points of anchorage.

It is apparent in the use of my improved apparatus that the combined action of the rotary mount for the mast, the raising and lowering feature of the boom, the car 12 mounted for longitudinal movements thereon, the hopper 14 which is adjustable longitudinally of the boom, and the conduit 15 which is revoluble relative to the hopper, enables concrete or other matter to be distributed to any point of a building under construction with ease and rapidity, and obviates the use of a plurality of distributing units which are now commonly used in the construction of concrete buildings and also the movement of the usual distributing derrick from one point to another in order to reach points which are within the radius of the boom 8 and distributing conduit 15 and easily reached thereby. The simplicity of adjustment and the ease with which concrete or other matter may be distributed to any point within a radius of the boom 8 and delivery conduit 15 without moving the derrick from anchored position admirably adapts my improved distributing apparatus for concrete construction work.

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 an apparatus of the class described, a derrick, a boom vertically shiftable thereon, a conveyer extending from said boom and revolubly and longitudinally adjustable relative thereto, and means traveling on the boom to deliver matter from the derrick to said conveyer.

2. In an apparatus of the class described, the combination of a derrick mounted for rotary movements, a boom vertically shiftable on said derrick, a conveyer extending from said boom and revolubly adjustable relative thereto, and means for conveying matter longitudinally of the boom to said conveyer.

3. In an apparatus of the class described, a derrick, a boom carried by said derrick, a conveyer carried by said boom and adjustable longitudinally thereof, and means associated with the boom for delivering matter to said conveyer in whatever position of adjustment it may be.

4. In an apparatus of the class described, the combination of a derrick, a boom carried by said derrick, a hopper carried by the boom and shiftable longitudinally thereof, and a conduit leading from said hopper and capable of revoluble movements relative to the boom, and means for conveying matter to said hopper.

5. In an apparatus of the class described, the combination of a derrick, a boom vertically shiftable on said derrick, a hopper carried by said boom at its under side and capable of movements longitudinally thereof, a conduit extending laterally from said hopper, and means for conveying matter longitudinally of the boom and depositing it in said hopper.

6. In an apparatus of the class described, the combination of a rotatable derrick, a boom carried thereby, a hopper carried by the boom for movements longitudinally thereof and having a shiftable discharge conduit, and means for conveying matter from the derrick end of the boom to said hopper.

7. In an apparatus of the class described, the combination of a rotatable derrick, a boom carried thereby for vertical shifting movements, a hopper carried by the boom at its under side and movable longitudinally thereof, a delivery conduit swiveled to said hopper, and a car carried by the boom for movements longitudinally thereof and capable of conveying matter from the derrick end of the boom to and discharging it into said hopper.

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

FRANK E. WALTERS.

Witnesses:
C. W. OWEN,
E. E. THOMAS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."