

A. L. SMITH.
 DEVICE FOR DISTRIBUTING CONCRETE.
 APPLICATION FILED FEB. 23, 1909.

948,746.

Patented Feb. 8, 1910.

3 SHEETS—SHEET 1.

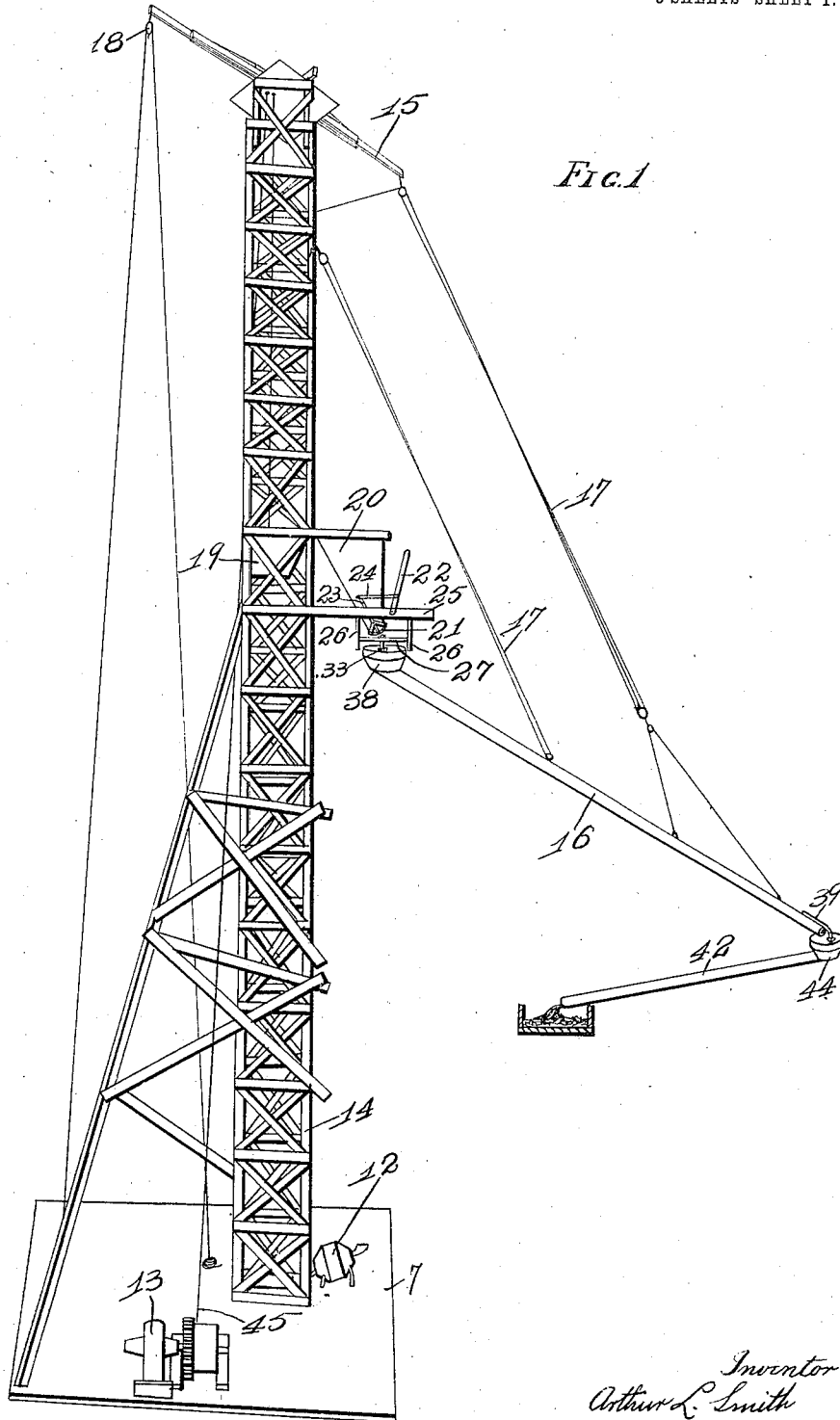


Fig. 1

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 L. A. & M. J. Dwyer

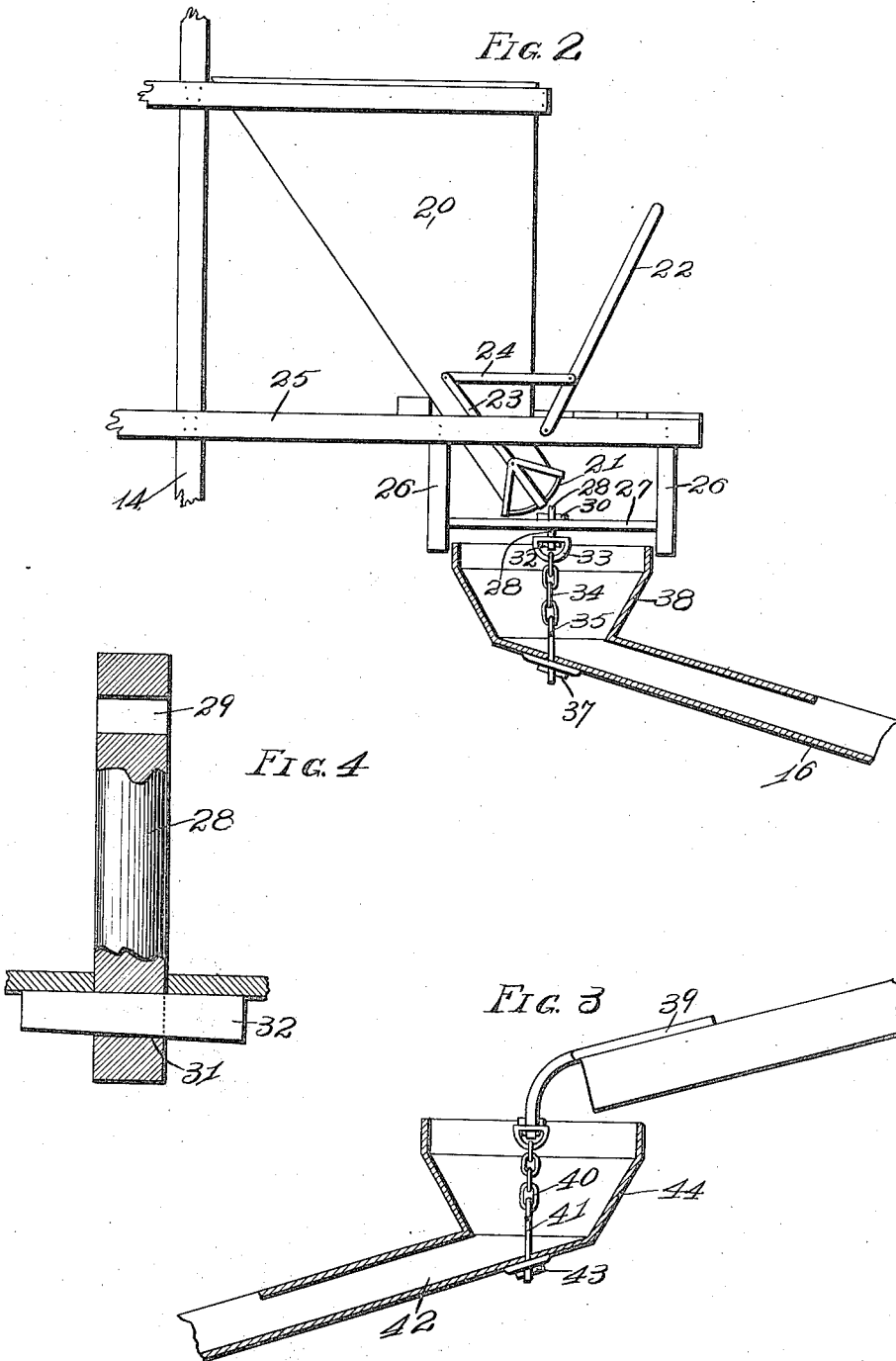
Inventor
 Arthur L. Smith
 by Hopkins & Ewels Attys

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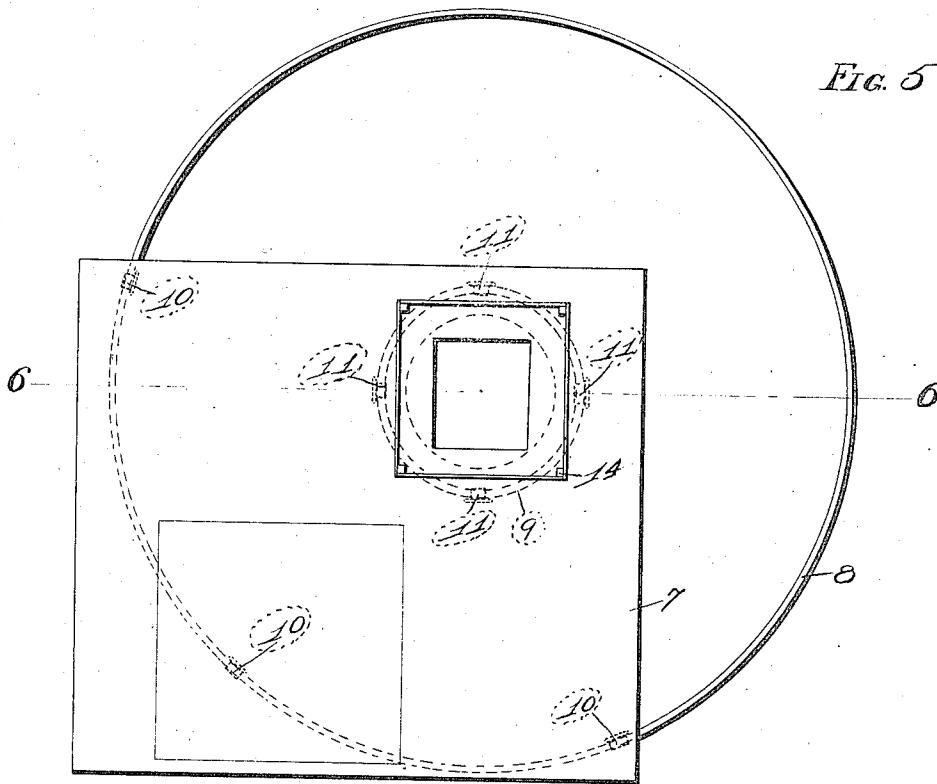


FIG. 5

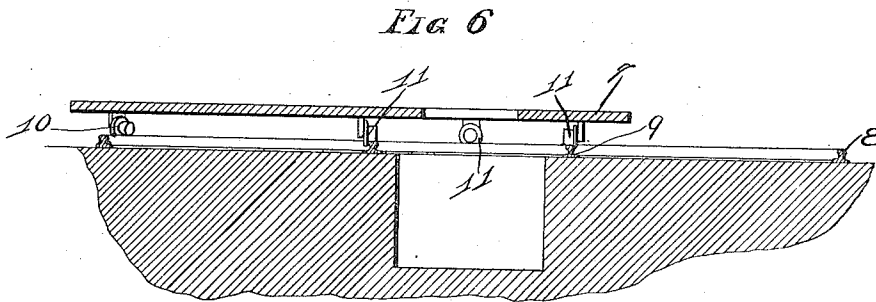


FIG. 6

Witnesses
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UNITED STATES PATENT OFFICE.

ARTHUR L. SMITH, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
CONCRETE APPLIANCES COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF
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DEVICE FOR DISTRIBUTING CONCRETE.

948,746.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed February 23, 1909. Serial No. 479,479.

To all whom it may concern:

Be it known that I, ARTHUR L. SMITH, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Devices for Distributing Concrete, of which the following is a specification.

My invention relates to an improved device for distributing concrete, and has for its object to provide means whereby concrete, during the process of concrete building construction, is distributed from a single source to many different points of deposit.

In the drawings—Figure 1 is a perspective view of a device embodying my invention. Fig. 2 is an enlarged side plan view of the distributing hopper employed in my invention and its connections. Fig. 3 is a side plan view of the lower end of the first distributing pipe employed in my invention, showing its mode of adjustment to the second distributing pipe. Fig. 4 is an enlarged plan view of the pin employed as a fastener in suspending the upper end of the first distributing pipe; showing the upper and lower ends of said pin in section. Fig. 5 is a top plan view of the turntable and track employed in my invention. Fig. 6 is a transverse vertical view in section of the same taken along the line 6—6 of Fig. 5.

As illustrated in the drawings, the device of my invention employs a platform 7 rotatably mounted upon the track 8 and inner concentric track 9 by means of the wheels 10 and 11. Upon the platform 7 the concrete mixer 12 and the motor 13 are mounted; the platform 7 carrying the derrick 14. The derrick 14 is provided with the boom 15 at its top, said derrick and boom serving to suspend the first distributing pipe 16 by means of suitable block-and-tackle connections indicated in the drawings by the numeral 17; the position of the boom 15 being controlled by the block 18 and its connections.

The concrete mixed in the mixer 12 is conveyed in a bucket 19 elevated by means of the rope 45 to the point where the hopper 20 is mounted upon the derrick 14. The bottom of the hopper is provided with the closure 21 operated by the lever 22 through the connecting members 23 and 24; the lever 22 being pivotally mounted on the beam 25. From the beam 25 the suspending members 26—26 extend to a point beneath the mouth

of the hopper 20 and carry the cross bar 27 which is perforated to admit the upper end of the pin 28. The pin 28 is provided with the slot 29 which is adapted to receive the key 30; the object of this construction being to avoid the use of a bolt and nut, the action of the concrete in time rendering it impossible to remove the nut from the bolt. The lower end of the pin 28 is provided with a slot 31 to receive the key 32 by means of which the yoke 33 is retained in position. The chain 34 serves to hold the pin 35 which passes through the lower wall of the distributing pipe 16 and is secured in place by means of the key 37 passing through the slot in its lower end. The pipe 16 is provided with a hopper 38 at its upper end, and at its lower end is provided with the arm 39 supporting a chain 40, by which the pin 41 is supported, the pin 41 passing through the bottom of the second distributing pipe 42 and being secured in place by a key 43. The pipe 42 is provided at its upper end with the hopper 44. It will thus be seen that the lower distributing pipe 42 is so suspended with reference to the mouth of the upper distributing pipe 16 that it can be revolved throughout a radius of 360°; while the upper distributing pipe 16 may be similarly revolved with reference to the bottom of the hopper 20.

In the use of my invention, the tracks 8 and 9 are laid as nearly as practicable at the center of the building to be erected. The concrete is then mixed, elevated and distributed through the pipes 16 and 42 to the various forms or molds to be filled; the hopper 20 being carried by the derrick 14 at a point above the plane of the highest point to which concrete is to be distributed. The rate of flow of the concrete from the hopper 20 to the point of distribution is governed by the consistency of the concrete and the angles at which the pipes 16 and 42 are respectively mounted.

When desired, a third or any desired number of additional distribution pipes may be added, the first of the pipes so added being suspended from the mouth of the pipe 42 and the others added to connect therewith in their order. But I have found in practice that the structure shown with but two distributing pipes is operative on a scale sufficiently large for the construction of buildings of any usual size.

Having fully described my invention, what I claim as new and desire to have secured to me by the grant of Letters Patent, is:

5 1. In a device for distributing concrete, means for elevating the concrete to a point above the plane of the work to be performed; a hopper adapted to receive the concrete so elevated; a primary distributing pipe revolubly mounted beneath the
10 hopper; and a secondary distributing pipe revolubly mounted beneath the mouth of the first-named distributing pipe, substantially as described.

15 2. In a device for distributing concrete, means for elevating the concrete to a point above the plane of the work to be performed; a hopper adapted to receive the concrete so elevated; a primary distributing pipe revolubly mounted beneath the
20 hopper; a secondary distributing pipe revolubly mounted beneath the mouth of the first-named distributing pipe, and means for controlling the flow of concrete from the
25 hopper to the first-named distributing pipe, substantially as described.

3. In a device for distributing concrete, a concrete elevator; a revolubly mounted distributing pipe adapted to be fed by said elevator; a second distributing pipe revolubly
30 mounted at the mouth of the first-named distributing pipe, and means for controlling the angle at which said distributing pipes are mounted, substantially as described.

4. A plant for concrete construction comprising an elevator provided with means for receiving and raising concrete, a chute adapted to receive the concrete raised by the elevator and to deliver the same by gravity, said chute being inclined and being movable
40 horizontally to shift the point of delivery of the concrete, the lower end of said chute being provided with a horizontally rotatable delivery pipe.

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

ARTHUR L. SMITH.

Witnesses:

WALTER C. STEIN,
L. A. L. McINTYRE.