J. F. WEBB & G. C. CRANE.

MOLD FOR COMPOSITION BUILDINGS.

APPLICATION FILED DEC. 23, 1912.

1,126,323.

Patented Jan. 26, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

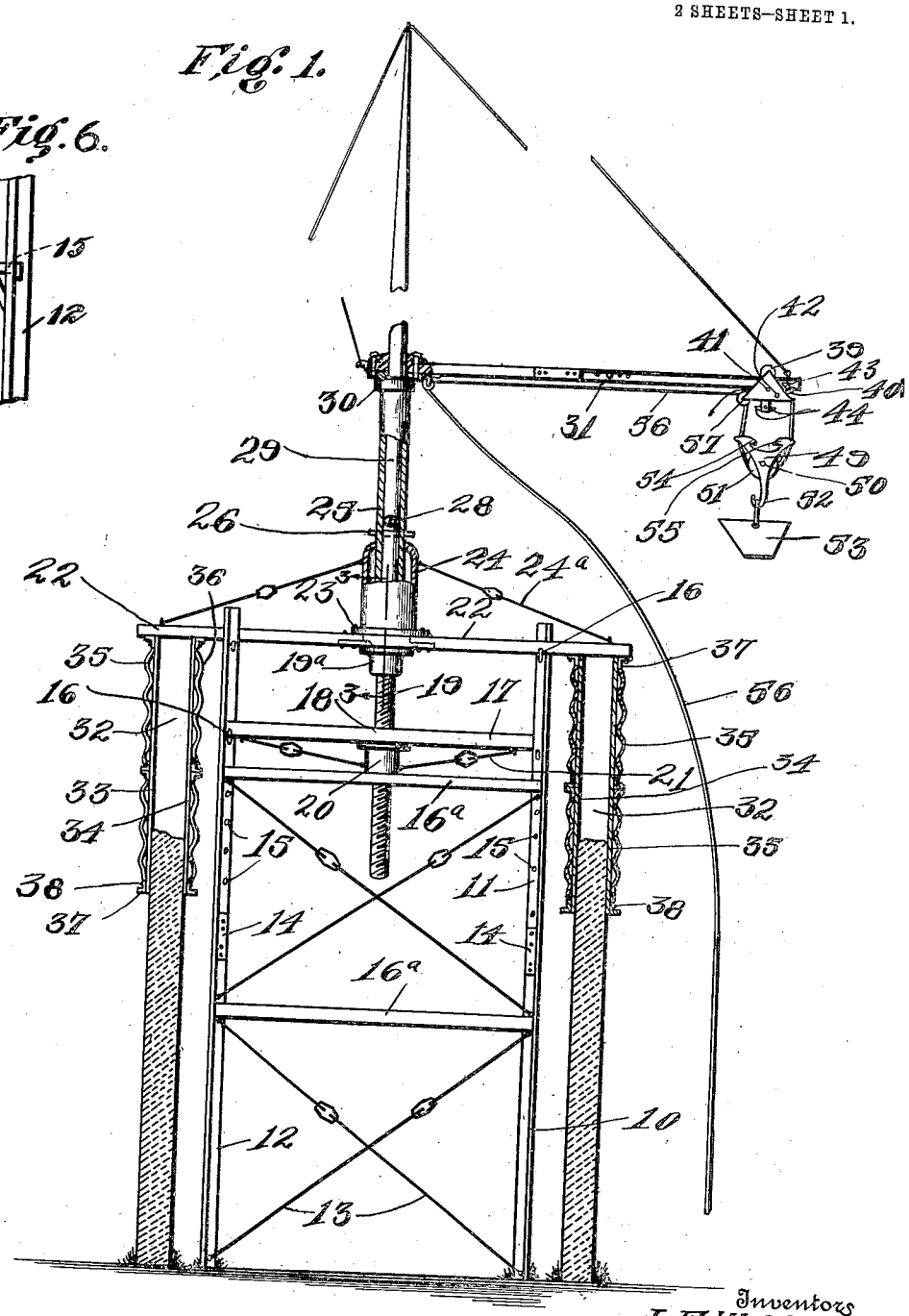


Fig. 6.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

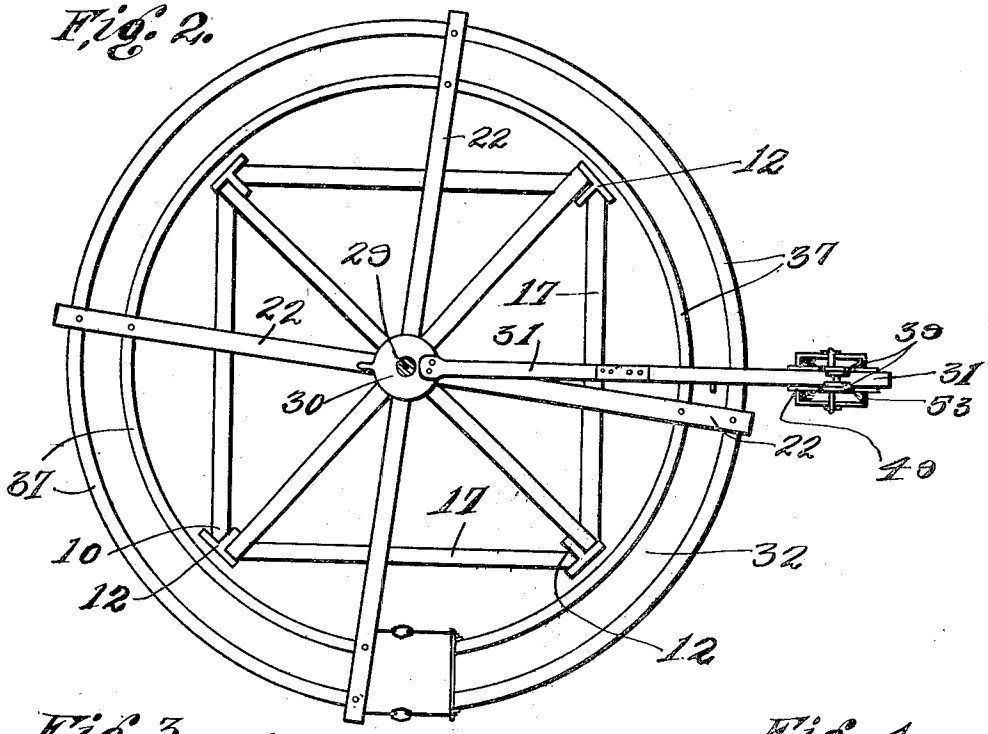


Fig. 3.

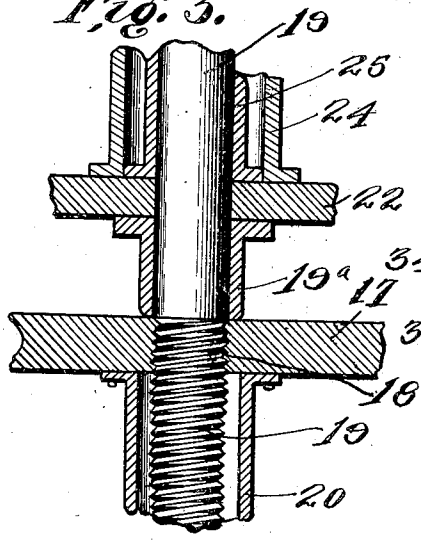


Fig. 5.

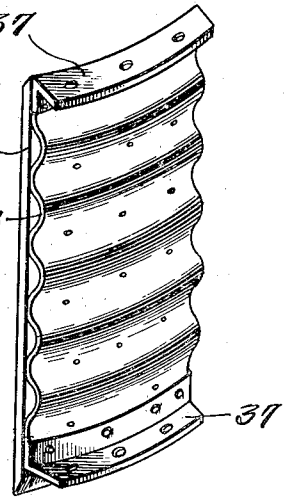
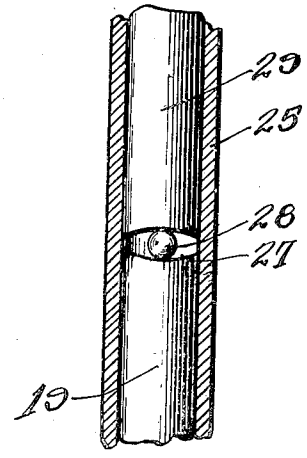


Fig. 4.



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UNITED STATES PATENT OFFICE.

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MOLD FOR COMPOSITION BUILDINGS.

1,126,323. Specification of Letters Patent. Patented Jan. 26, 1915.

Application filed December 23, 1912. Serial No. 738,269.

To all whom it may concern:

Be it known that we, JOSEPH F. WEBB and GEORGE C. CRANE, citizens of the United States of America, and residents of Ann Arbor, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Molds for Composition Buildings, of which the following is a specification.

This invention relates to means for pouring and shaping plastic compositions and it has relation particularly to means for shaping silos by the pouring of said plastic composition in superposed layers, means being provided for elevating the molds step by step for supporting the said mold in different positions of adjustment during the progress of the formation of the building.

A still further object of this invention is to provide a novel mold having reinforcing jackets exteriorly of the walls of the mold, novel means being also provided for coupling the sections together and for attaching the mold to its supporting device.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a sectional view of a fragment of a building with the invention in operative position thereon; Fig. 2 illustrates a top plan view of the apparatus; Fig. 3 illustrates an enlarged detail sectional view of a fragment of the said apparatus on the line 3—3 of Fig. 1; Fig. 4 illustrates an enlarged detail sectional view of a portion of a sleeve with a fragment of a mast shown associated therewith; Fig. 5 illustrates a perspective view of a fragment of the mold; Fig. 6 illustrates a view in elevation of a fragment of a frame with the bracket applied thereto.

In these drawings, we show a rectangular frame arranged in sections 10 and 11, it being understood that more of such sections are utilized according to the height of the building being constructed. Each section comprises a series of T-shaped posts 12, the diagonally opposite posts of each frame being connected by guys 13 to the said sections of the frame being attached by fish plates 14. The webs of the posts are apertured as shown at 15 for the reception of brackets 16 which are designed for the support of the beams 16^a which form with the posts a substantially square or rectangular frame according to the length of the beams.

The webs of the posts have, as stated, a plurality of apertures and therefore a plurality of brackets 16 may be used and the purpose of having a plurality of brackets is not only for the support of the beams 16^a but furthermore for the support of a spider 17 which is provided with a threaded opening 18 for the passage therethrough of the screw 19. The spider 17 has a thimble 20 secured to its under surface with guys 21 extending therefrom and connected to the under surface of the spider 17 for the purpose of strengthening the spider and supporting it centrally where the strain is greatest.

As shown in the drawings, brackets such as 16 are provided for supporting the mold carrying arms 22, the said mold carrying arms being attached to the flange 23 of the hollow post 24 and the said hollow post 24 contains a sleeve 25 to which the upper end of the screw 11 is secured by a cross pin 26, the upper end of the shaft 11 being provided with a convexed surface 27 forming a seat for a ball 28 which ball supports the mast 29 which is rotatable in the sleeve 25. The structure is strengthened by the use of guys 24^a extending from the hollow post 24 to the arms near their outer ends. The screw is connected to a flanged member 19^a, the flange of which bears against the hollow post. The upper end of the sleeve terminates in a flange 30 to which the arm 31 is connected, or disconnected the said arm 31 forming a track and support for the carrier and its mechanism (to be presently explained). As shown in the drawing the arm 31 is in two pieces connected together in any appropriate manner to be presently explained.

The arms 22 have at their outer ends a mold 32 here shown as of circular formation and preferably comprising two concentric cylindrical members 33 and 34 form-

ing the faces of the mold and spaced apart a distance equal to the thickness of the wall which is to be formed. The cylindrical members 33 and 34 are strengthened by the corrugated plates 35 and 36 respectively, which are attached to the cylindrical members with the right angular flanges 37 by means of rivets or other appropriate fastening devices 38.

The carrying device or apparatus for the plastic composition comprises a truck 39, the walls of which are adapted to travel on the arm 31. The truck has an approximately sigmoidal lever 40, mounted on the pivot 41 carried by the truck, the said lever being limited in its movement in one direction by the stop pin 42. The upper end of the lever 40 has a lug 42^a adapted to engage the abutment 43 through which means the lever operates to retain the truck in position near the outer end of the arm until the said lever is tripped by means to be presently explained. The inner or lower end of the lever 40 has sliding latches 44 arranged therein. The conveyer is further provided with a hanger having cheek plates 49 for the support of a pin 50 on which the pulley 51 is mounted, the said hanger terminating in a hook 52 for the support of a bucket or container 53. The hanger has lugs 54 and 55 spaced apart so as to clear the lower end of the arm 40, the said lugs being preferably inclined toward each other on their upper surfaces so as to form cams to engage the lower edges or surfaces of the latches as the said hanger is elevated through the medium of a cable or other flexible connection 56 which has one end anchored to the truck and is run under the pulley 51, over a pulley 57 suitably journaled on the truck so that the said cable forms a sling for the hanger and serves to elevate or lower the said hanger according to the manipulation of the said cable. It will be obvious that as the lugs 54 and 55 are elevated into contact with the latches, the latches are forced inwardly, thus allowing the lugs to pass above the upper edges of the latches which upon being released by the said lugs are projected by the springs under the said lugs and form supports therefor and for the hanger. The impact of the lugs on the latches serves to tilt the lever 40 on its pivot 41 and disengage the lug or nose 42 of the lever 40 from the abutment 43 permitting the truck to move on the arm or track 31. After the receptacle has been carried by means of the truck to suitable position with relation to the mold, the contents of the bucket is removed by the dumping of the same by hand or otherwise and the said truck is then caused to travel toward the outer end of the arm or track by gravity and a repetition of the operation may ensue.

In the construction of a building with the apparatus just described, it will be apparent that the ground frame is first set and the parts of the apparatus with which the mold and other parts heretofore described are associated are caused to be supported by the said ground section of the frame. The mold is then filled and when the material has sufficiently set, the second section of the frame is placed in position and secured to the first frame by means of the fish plates 14, previous to which the screw 19 has been manipulated to elevate the spider 17 to its uppermost limit of movement attainable by the manipulation of the screw. After the second or succeeding section of the frame has been set in place, brackets 16 are applied to the new section of the frame in position to support the spider. The screw is then manipulated or rotated in a direction opposite to that which it traveled in elevating the spider and as the said spider is held stationary, the movement of the screw serves to lift the arms 22 carrying the mold and the superposed structure for carrying material to the molds, so that the said mold is elevated a predetermined distance equal to the height of the next section of the building to be poured. The operations heretofore described are repeated until the building is completed.

As heretofore stated, the arm 31 is in two pieces and that portion which extends from the plate outward may be disconnected from the inner part, so that the said inner part may be turned, independently of the outer part for the purpose of operating the screw for lifting the mold section, and for other purposes described. Again in the operation of the device the fastenings or pins which connect the arm 31 to the flange 30 are removed, the said arm may be swung to any position around the mold to bring the hoisting or carrying mechanism into such relation to that portion of the mold to be filled as will be convenient, and this adjustment can take place without turning the screw, so long as the pins or fastenings are omitted.

We claim—

1. In a mold for composition buildings, a sectional frame, means for securing the sections together, a spider with a threaded aperture, means for supporting the spider at different positions on the frame, a screw threaded in the aperture of the spider, arms mediately supported by the screw, and a mold carried by the arms.

2. In a mold for composition buildings, a sectional frame, means for securing the sections of the frame together, a member having a screw threaded aperture, means for securing the said member at different positions on the frame, a screw threaded in the aperture, a mold carrying member supported by the screw, molds attached to the

mold carrying member, a hollow post connected to the mold carrying member, a sleeve therein to which the upper end of the screw is connected, a mast rotatable in the sleeve, and a carrying device supported by the mast.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses.

JOSEPH F. WEBB.
GEORGE CHESTER CRANE.

Witnesses:
JOHN W. DWYER,
CORA WEBB.