

W. E. NELSON.
 APPARATUS FOR MOLDING HOLLOW CONCRETE WALLS.
 APPLICATION FILED JUNE 17, 1909.

943,991.

Patented Dec. 21, 1909.
 2 SHEETS—SHEET 1.

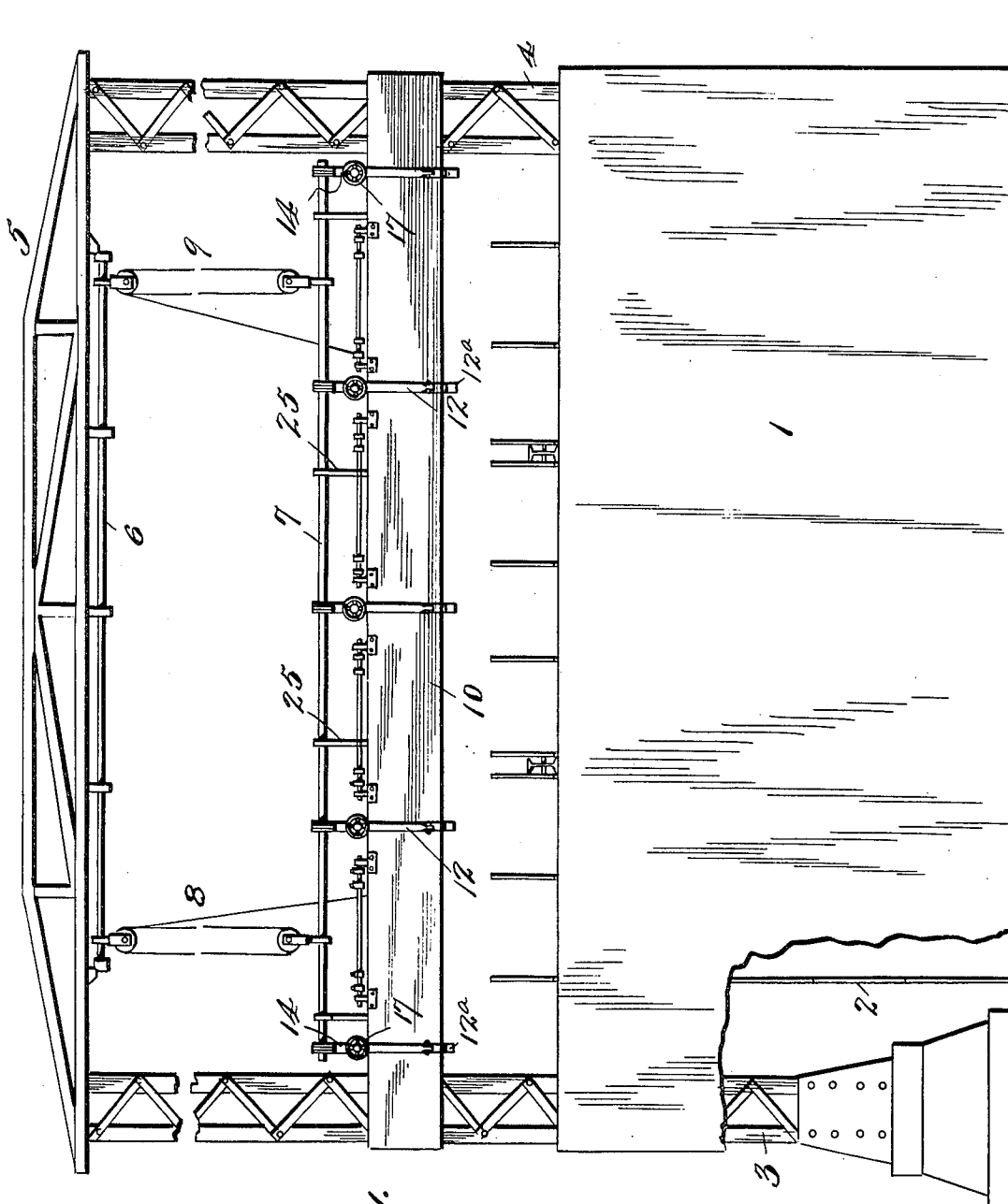


FIG. 1.

WITNESSES

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 B. P. Fishburne

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 INVENTOR

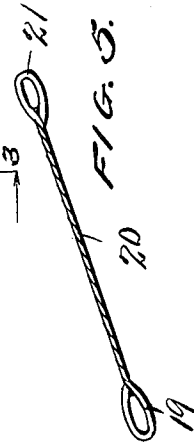
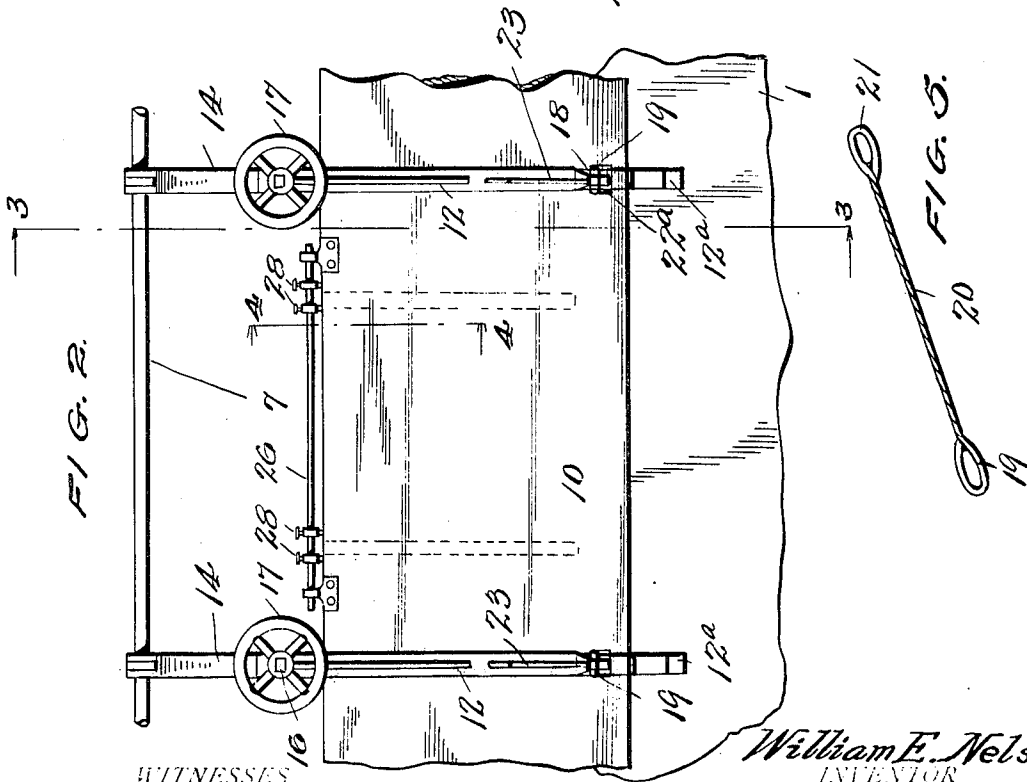
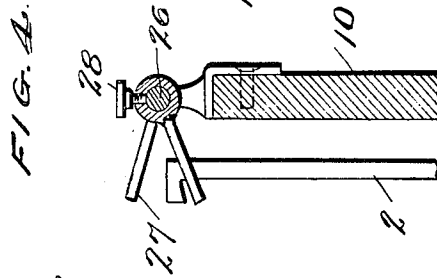
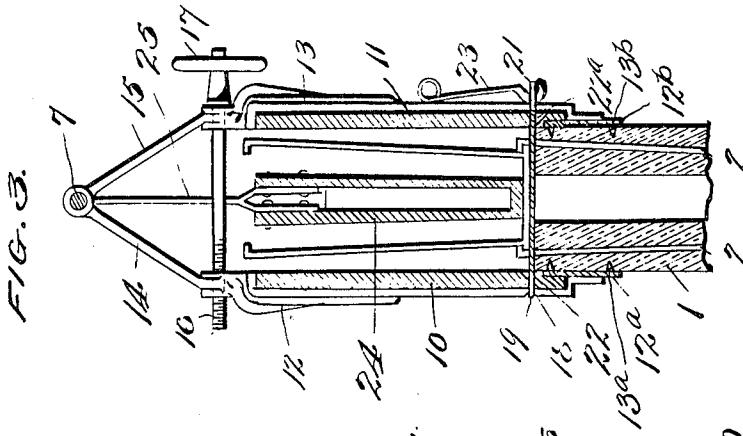
C. L. Parker.
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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MOLDING HOLLOW CONCRETE WALLS.

943,991.

Specification of Letters Patent.

Patented Dec. 21, 1909.

Application filed June 17, 1909. Serial No. 502,643.

To all whom it may concern:

Be it known that I, WILLIAM E. NELSON, a citizen of the United States, residing at San Angelo, in the county of Tom Green and State of Texas, have invented certain new and useful Improvements in Apparatus for Molding Hollow Concrete Walls, of which the following is a specification.

My invention relates to the apparatus for molding and centering hollow plastic walls.

My invention consists generally of a vertically adjustable mold having two outer sides and a central core adapted to form the hollow space within the wall, the sides and the core being pivotally connected to a shaft vertically adjustably suspended from a second shaft, each of said shafts being arranged above and in a vertical plane passing through the central longitudinal axis of the wall under construction.

An object of my invention is to provide an apparatus for constructing a plastic wall in successive vertical sections.

A further object of my invention is to provide an apparatus for constructing a plastic wall in the manner described and for maintaining the exact vertical centering of the wall and the hollow space therein.

The final object of my invention is to provide an apparatus of simple construction and which may be readily operated by the average workman.

In the accompanying drawings forming a part of this specification, Figure 1 is a side view of my apparatus complete, showing the same suspended above a previously completed section of the wall, said wall having a portion thereof broken away to show the metallic reinforcing yokes therein. Fig. 2 is an enlarged fragmentary side view of a portion of my apparatus and the wall under construction. Fig. 3 is a transverse vertical section taken upon the line 3—3 of Fig. 2, and looking in the direction of the arrows. Fig. 4 is a fragmentary transverse vertical section taken on the line 4—4 of Fig. 2 and looking in the direction of the arrows. Fig. 5 is a perspective view of one of the similar members employed to hold the lower portions of the sides of the mold in their proper position, when material is being placed within the same.

In the drawings, 1 designates a previously completed section of the wall, provided with the metallic reinforcing yokes 2 and the metallic posts 3 and 4 embedded therein.

Arranged above and supported by the posts 3 and 4 is the horizontal supporting frame 5, having the shaft 6 suitably secured to the lower portion thereof, said shaft 6 being arranged in a vertical plane passing through the central longitudinal axis of said wall. A second shaft 7 is adjustably suspended from the shaft 6 by means of the blocks and tackles 8 and 9, or by any other suitable means. From the shaft 7 my mold is suspended in a manner hereinafter to be described. My apparatus comprises similar side members 10 and 11, which I preferably construct of about the same length as the wall to be constructed. Each of the sides 10 and 11 are provided respectively with a plurality of supporting arms 12 and 13 arranged upon the outer surface of said sides and in alined pairs. Each of the arms 12 and 13 have upwardly and inwardly projecting extensions 14 and 15 respectively, which engage one another, forming a hinged connection by virtue of the shaft 7 passing through them, and loosely associated therewith, as shown in Figs. 2 and 3. The arms 12 and 13 have the lower portions thereof bent inwardly over the lower edges of the sides 10 and 11 respectively, and extend downwardly therebeyond, as clearly illustrated in Fig. 3.

A plurality of plates 12^a and 12^b provided with the inwardly extending lugs 13^a and 13^b respectively for penetrating the previously finished and hardened section of the wall, and tending to prevent the said sides 10 and 11 from vertical displacement, are arranged upon the inner surfaces of the lower portions of the sides 10 and 11 respectively, the said plates being flush with the inner surfaces of the said sides, and extending downwardly therebeyond to engage the arms 12 and 13 respectively, to which they are suitably secured. An adjusting pin 16 having an operating wheel 17 secured at one end, passes through each of the arms 13 and has its other end screw-threaded to engage the opposing arm 12. Thus when a section of the wall has been completed the sides 10 and 11 may be loosened from the same, to allow said sides to be elevated. Each of the arms 12 is provided with a notch 18, within which is arranged the looped end 19 of a flexible metallic cable 20, passing through the aperture 22 upon the side 10. The cable 20 extends transversely through the wall and is provided with a looped end

21 adapted to pass through the aperture 22^a upon the side 11 and be locked in position by means of a key 23, extending within said loop 21. By this means the sides 10 and 11 are reinforced along their lower edges at spaced intervals, thus preventing the said sides from being forced out of their vertical position when material is placed between the same. It is also apparent that the cable 20 may be readily disengaged from the key 23 and withdrawn through the apertures 22^a and 22, and the sides 10 and 11 will be free to be adjusted as before described.

My apparatus is especially adapted to mold hollow walls, having metallic reinforcing means consisting of yokes 2, as shown in Fig. 3. I therefore provide a hollow core 24 tapering slightly outwardly toward the upper portion and which is somewhat shorter in its vertical extension than the sides 10 and 11. The core 24 has secured to the upper portion thereof a plurality of supporting members 25 which are loosely mounted upon the shaft 7 independently of the arms 12 and 13, as shown in Fig. 1. It is apparent that the core 24 will hang in a vertical position by virtue of its weight, and therefore be equidistantly spaced from the sides 10 and 11 and that the core 24 may be readily withdrawn from the wall, by virtue of its tapering shape. As before stated the core 24 is shorter in its vertical dimension than the sides 10 and 11. This is necessary in the construction of a hollow wall, within which I embed the metallic yokes 2. The sides 10 and 11 must extend below the junction of the previously finished section of the wall with the successive layer in order to make a net connection of the same. It is also necessary to have the yoke extend above the previously finished section of the wall, so that a new yoke may be attached to it. The above explanation will be readily understood by referring to Fig. 3.

Upon the upper edge of the side 10, I provide a rod 26 suitably secured thereto and spaced therefrom. Slidably and swingingly mounted upon the rod 26 are the fingers 27 provided with screws 28 for locking the same within a fixed position upon said rod 26. The object of the adjustable fingers 27 is to engage the yokes 2 and to prevent the same from slipping when the material is being thrown in around them.

From the foregoing description it is

thought that the operation of my apparatus is obvious. I wish, however, to state that separate supports may be employed to support the frame 5, but for the sake of convenience I have utilized the posts 3 and 4, as a supporting means for said frame 5.

Having fully described my invention, I claim:

1. A device of the character described, adapted to mold a hollow plastic wall in successive vertical layers, comprising an adjustably supported single shaft arranged above the said wall and in a vertical plane passing through the central longitudinal axis of said wall, side walls pivotally suspended from said shaft by means of upwardly and inwardly extending members which engage each upon said shaft and form a hinged joint, means arranged upon said members below the hinged joint therefor for holding said side walls in a vertical position, a core suspended from said shaft to assume a vertical position between said side walls, and means for vertically moving said single shaft without moving the same out of said vertical plane passing through the central longitudinal axis of said plastic wall.

2. A device of the character described, adapted to mold a hollow plastic wall in successive vertical layers, comprising an adjustably supported single shaft arranged above said wall and in a vertical plane passing through the central longitudinal axis of said wall, side walls pivotally suspended from said shaft by means of upwardly and inwardly extending members which engage each other upon said shaft and form a hinged joint, means arranged upon said members below the hinge joint thereof for holding said side walls in a vertical position, a core suspended from said shaft to assume a vertical position between said side walls, inwardly projecting lugs arranged upon the lower portions of said side walls for aiding in the support of the same, and means for vertically moving said single shaft without moving the same out of said vertical plane passing through the central longitudinal axis of said plastic wall.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. NELSON.

Witnesses:

W. T. BARTHOLOMEW,

W. V. CONGER.