J. G. JOHNSON.

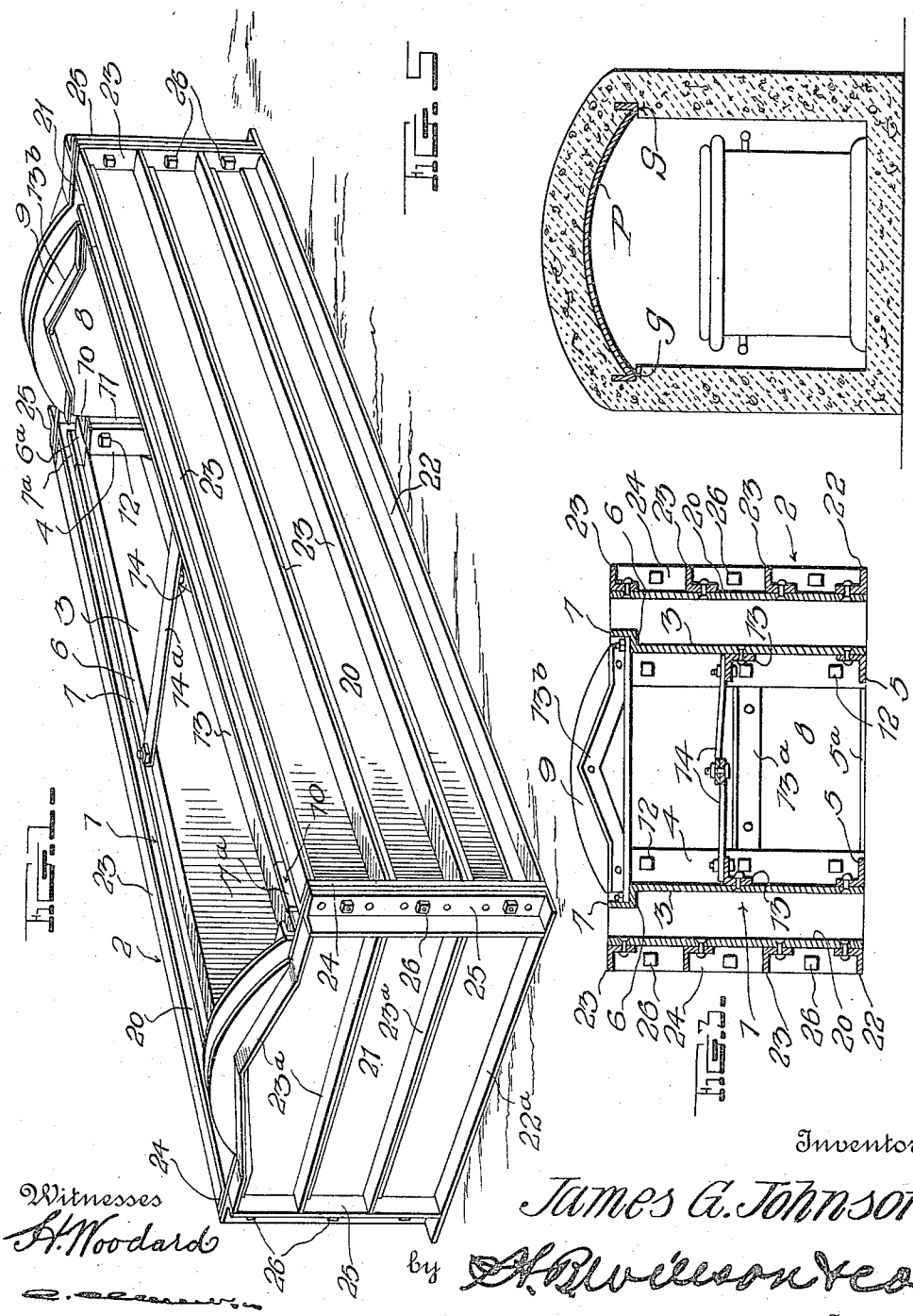
CONCRETE MOLD FOR CONSTRUCTING BURIAL VAULTS AND THE LIKE.

APPLICATION FILED APR. 12, 1915.

1,167,568.

Patented Jan. 11, 1916.

2 SHEETS—SHEET 1.



Witnesses

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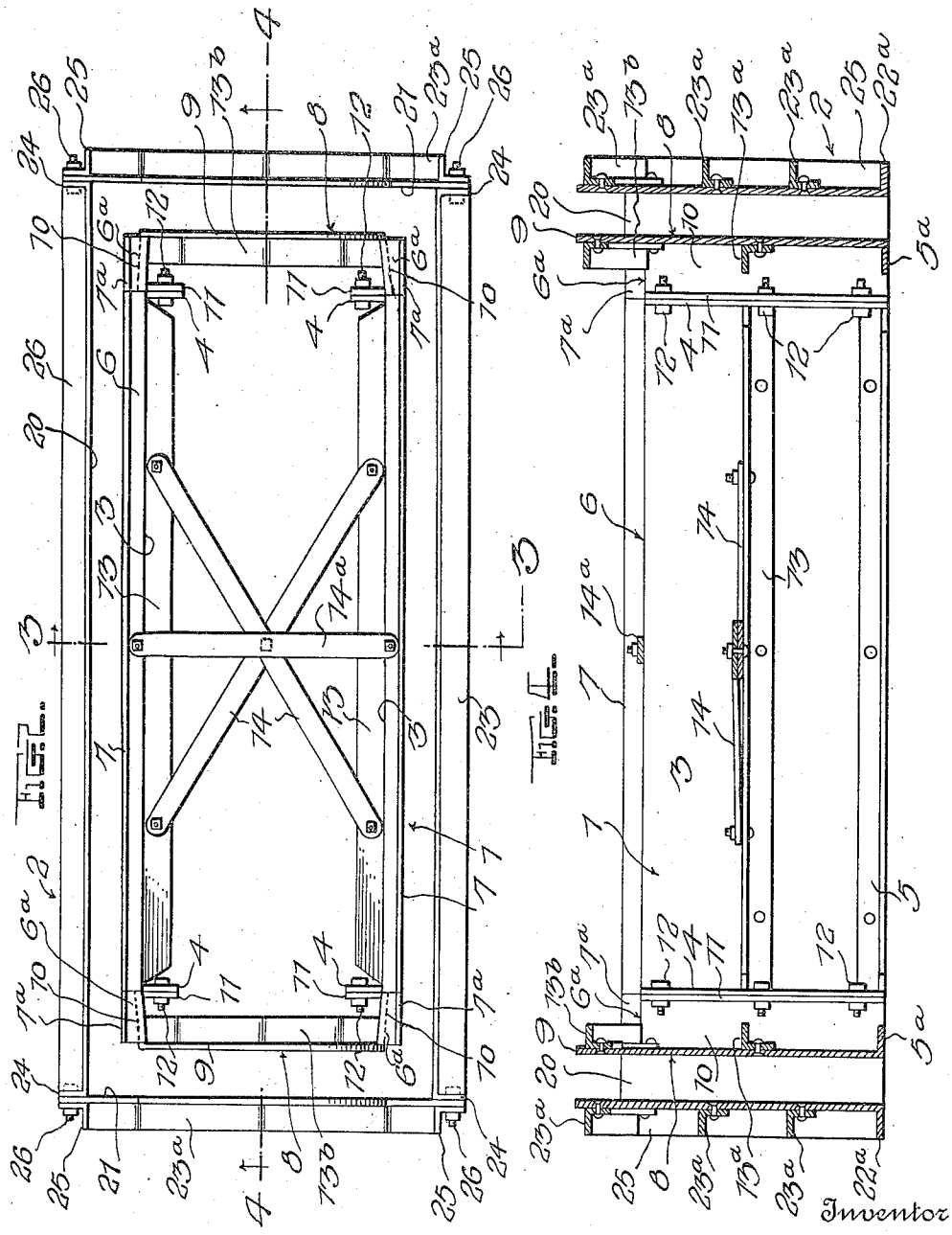
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# UNITED STATES PATENT OFFICE.

JAMES GUTHRIE JOHNSON, OF CARTHAGE, ILLINOIS.

## CONCRETE-MOLD FOR CONSTRUCTING BURIAL-VAULTS AND THE LIKE.

1,167,568. Specification of Letters Patent. Patented Jan. 11, 1916.

Application filed April 12, 1915. Serial No. 20,895.

*To all whom it may concern:*

Be it known that I, JAMES GUTHRIE JOHNSON, a citizen of the United States, residing at Carthage, in the county of Hancock and State of Illinois, have invented certain new and useful Improvements in Concrete-Molds for Constructing Burial-Vaults and the like; and I do 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.

My invention relates broadly to improvements in plastic working apparatus and more particularly to molds for the construction of concrete burial vaults and the like.

The object of the invention is to provide extremely simple and inexpensive construction for producing the required results, yet construction which will be very efficient in operation and will possess a number of highly advantageous features.

With this main object in view, the invention resides in certain novel features of construction and in combinations of parts hereinafter described and claimed.

In describing the invention, I shall refer to the accompanying drawings wherein like reference characters designate corresponding parts throughout the various views and wherein:

Figure 1 is a perspective view of a mold constructed in accordance with my invention; Fig. 2 is a top plan view thereof; Figs. 3 and 4 are respectively transverse and longitudinal sections as seen along the planes indicated by the lines 3—3 and 4—4 of Fig. 2; Fig. 5 is a vertical transverse section of the vault constructed by the use of the invention.

In these drawings, constituting a part of the application the mold is illustrated as comprising inner and outer forms 1 and 2 respectively, the side and end walls of these two forms being spaced from each other a distance equal to the required thickness of the wall of the completed vault.

The inner form 1 comprises a pair of upright rectangular side walls 3 having their opposite ends extended inwardly to provide upright attaching flanges 4, while their lower edges are provided with inwardly extending angle-iron base flanges 5 adapted to prevent the walls 3 from sinking into a body of green cement upon which they are placed at times. The upper edges of the two side walls 3 are bent outwardly to constitute horizontally disposed flanges 6, while the outer edges of these flanges are in turn bent upwardly thus providing longitudinally disposed upright flanges 7. The flanges 6 and 7 constitute longitudinally extending projections on the exterior of the side walls 3 and adapted to form internal shoulders in the side walls of the completed vault cast around the inner form in a manner to be more clearly described.

Spaced from the ends of the side walls 3, are the end walls 8 which are here shown as being of substantially rectangular construction, although their upper edges are arched at 9, their lower edges being provided with inwardly extending flanges $5^a$ corresponding to the previously described flanges 5. The upright edges of the end walls 8 are continued laterally to constitute side wall continuations 10 whose free upright edges are bent inwardly and form upright flanges 11 abutting the flanges 4 on the side walls 3, bolts or the like 12 being then passed through these abutting flanges, whereby to detachably connect the end and side walls. Although the side wall continuations 10 might extend from the end walls 8 at right-angles thereto, they preferably project from said end walls obliquely at obtuse angles thereto, thus causing the completed vault to be provided with beveled corners. Since it is desirable to form the internal shoulders before mentioned throughout the length of the sides of the completed vault, it likewise becomes expedient to provide means constituting continuations of the flanges 6 and 7, thus allowing this end to be accomplished. This means might be in a number of forms, but is preferably embodied as shown in the drawings, in which the upper edge of the side wall continuations 10 are bent outwardly and then upwardly to provide respectively horizontal flanges $6^a$ alining with the flanges 6 and upright flanges $7^a$ alining with the aforesaid flanges 7. Needless to say, this is very simple construction for accomplishing the desired result, as is likewise all of the structure previously described.

In addition to the parts hereinbefore set forth, the side walls 3 are provided on their inner sides with central angle-iron reinforcing bars 13 to the opposite end portions of which the ends of crossed bracing bars 14 are detachably secured by any pre-

ferred means, while the end walls 8 are equipped with central reinforcing angle-iron bars 13[a] having beveled ends abutting the side wall continuations 10, whereby to effectively reinforce the latter and present the weight of the cement or concrete bearing against the exterior thereof, from forcing them inwardly. Furthermore, the arched upper ends of the walls 8 are reinforced by arched angle-iron bars 13[b], while the upper edges of the side walls 3 are rigidly spaced by the detachable transverse bar 14[a] bolted at its ends to the centers of the flanges 6. It will be obvious that the bars 14 and 14[a] not only prevent the sides 3 from bowing inwardly but prevent all sides of the form from having any parallelogrammatic movement.

In applying the construction so far described, to use, it may be inserted in a grave or within the exterior form 2. If the vault is to be cast within the grave, the bottom of the latter is first provided with a layer of green cement or concrete after which the assembled form 1 is placed upon this layer which constitutes the bottom of the vault. Green cement or concrete is now poured around the mold 1 to a level even with the upper edges of the flanges 7 and 7[a], and additional plastic material is then placed between the arched upper edges of the end walls 8 and the end walls of the grave, this additional material being troweled until flush with said arched ends. During this operation, it will be noted that the flanges 6, 6[a], 7 and 7[a] form internal shoulders S in the inner faces of the side walls of the vault, at the upper edges thereof. This is essential, since when the cement or concrete is hardened to the necessary amount, the form 1 is disassembled and removed therefrom, after which the casket is lowered into the vault and a plurality of arched plates P is supported by the side walls of the vault, the ends of the plates P being preferably bent upwardly as shown in Fig. 5 and disposed in the shoulders S. These plates P are then covered with green cement or other material used and such material is extended outwardly to allow it to adhere to the upper edges of the sides and end walls of the vault, thus providing a hermetically sealed vault which will effectively protect the remains therein indefinitely. Needless to say, the arched plates P remain permanently within the vault and support the green cement top thereof while the grave is being filled with earth.

From the foregoing description, taken in connection with the accompanying drawings, it will be evident that although very simple construction has been provided, the complete inner mold will be very efficient in operation and will possess a number of advantageous features. Particular emphasis is laid upon the provision of the longitudinally disposed external projections formed on the upper edges of the side walls and the continuations of said side walls, due consideration being given to the novel construction of these features; upon the construction of and bracing means for the side wall continuations, and upon the bracing and reinforcing means in conjunction with the side walls.

In some instances, it is desirable to construct the vaults in the shop of the undertaker or at any other preferred point above the ground. It therefore becomes expedient to provide a simple type of external mold, such for instance as that indicated at 2 in the drawings. This mold comprises side and end walls 20 and 21 respectively, these walls having their lower edges provided respectively with angle-iron and integral outwardly extending flanges 22 and 22[a]. It is expedient in connection with the side and end walls 20 and 21 to provide efficient means for reinforcing the same against outward bulging, and it is necessary to provide some construction for detachably connecting the abutting ends of said side and end walls. It therefore becomes highly essential to provide structure whereby the reinforcing members likewise constitute means assisting in bracing the connecting means at the corners of the mold. To accomplish this result, the outer sides of the side and end walls 20 and 21 are provided with horizontal vertically spaced angle-iron reinforcing bars 23 and 23[a] which terminate at points spaced from the ends of said walls as clearly shown in Fig. 1, the uppermost bars 23[a] being arched to reinforce the arched upper ends of the end walls 21. As likewise disclosed in Fig. 1, and also shown clearly in Fig. 2, the ends of the side walls 20 are bent laterally outward, thus providing upright flanges 24 which abut and are therefore braced by the ends of the reinforcing bars 23 as well as by the base flanges 22 while the projecting ends of the end walls 21 are provided with upright angle iron flanges 25 which are riveted thereto and disposed in contact with the opposite ends of the reinforcing angle bars 23[a]. Bolts or the like 26 are then passed through the flanges 24 and 25, and through the intervening ends of the walls 21, thus rigidly but detachably connecting the corners of the outer mold.

The preceding description of the outer mold, will undoubtedly be sufficient to enable those skilled in the art to which the invention relates to gain a full and clear understanding thereof, and to set forth the advantageous features possessed by such mold. It is to be noted, however, that both the inner and outer molds are provided with arched end walls, this being highly essential in order that the ends of the complete

casket may be properly shaped. In so far as I am advised, a mold has not heretofore been constructed having both its inner and its outer ends arched, this construction being therefore deemed a rather novel feature of the invention.

I claim:—

1. A form comprising side walls, end walls spaced from the ends thereof, side wall continuations carried by the end walls and abutting the ends of the side walls, and alining longitudinally disposed external projections on the upper edges of the side walls and side wall continuations.

2. A form comprising side walls, end walls spaced from the ends thereof and having obliquely disposed side wall continuations on their opposite edges abutting the ends of said side walls, and reinforcing bars secured to the inner sides of the end walls and having beveled ends contacting with the side wall continuations, whereby to reinforce the latter.

3. A form of the class described comprising a pair of side walls having their ends bent laterally outward to provide upright attaching flanges, horizontal reinforcing bars secured to the outer sides of said side walls and abutting the aforesaid flanges at their opposite ends, end walls having their upright end portions disposed in contact with the aforesaid upright flanges, upright angle-iron reinforcing flanges secured to the outer sides of the end walls at the said end portions thereof, fasteners passing through the angle-iron flanges, through the first named flanges, and through the intervening end portions of the ends walls, and horizontal reinforcing bars secured to the outer sides of the end walls and abutting the angle-iron flanges on the ends thereof.

4. A form comprising side walls, end walls spaced from the ends thereof and having side wall continuations on their opposite edges abutting the ends of said side walls, and reinforcing bars secured to the inner side of the end walls and having their ends disposed in contact with the side wall continuations, whereby to brace the latter.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES GUTHRIE JOHNSON.

Witnesses:

S. H. FERRIS,

C. B. NEWCOMER.

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