No. 852,534. PATENTED MAY 7, 1907.

D. O. WILSON.

MOLD FOR HOLLOW WALL CONSTRUCTION.

APPLICATION FILED MAR. 27, 1907.

3 SHEETS—SHEET 1.

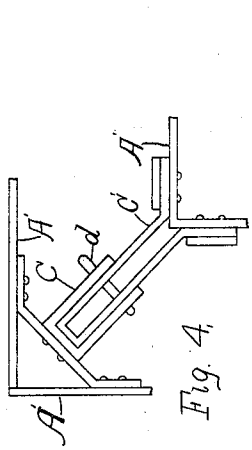


Fig. 4.

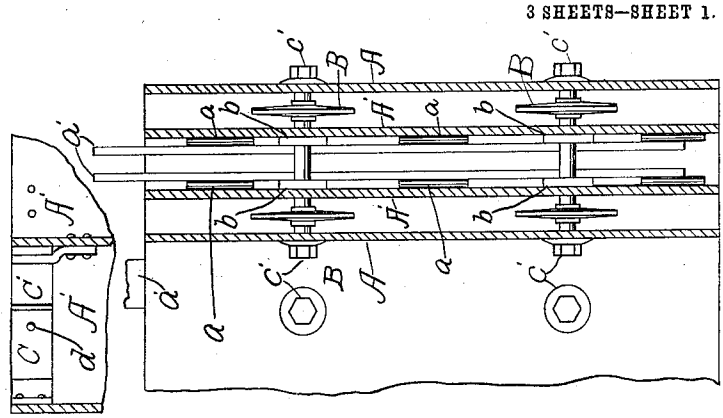


Fig. 3.

Fig. 5.

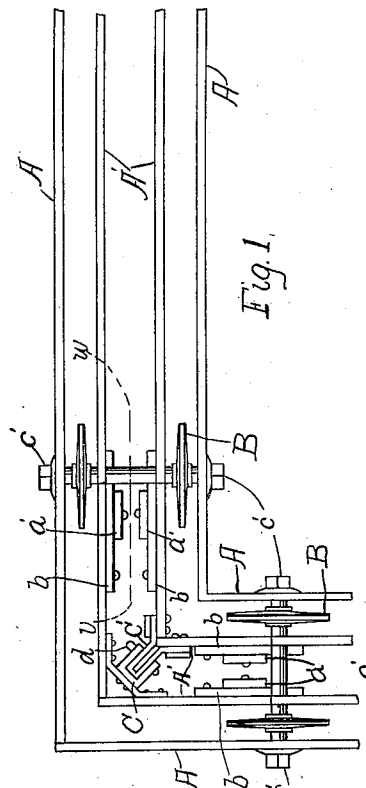


Fig. 1.

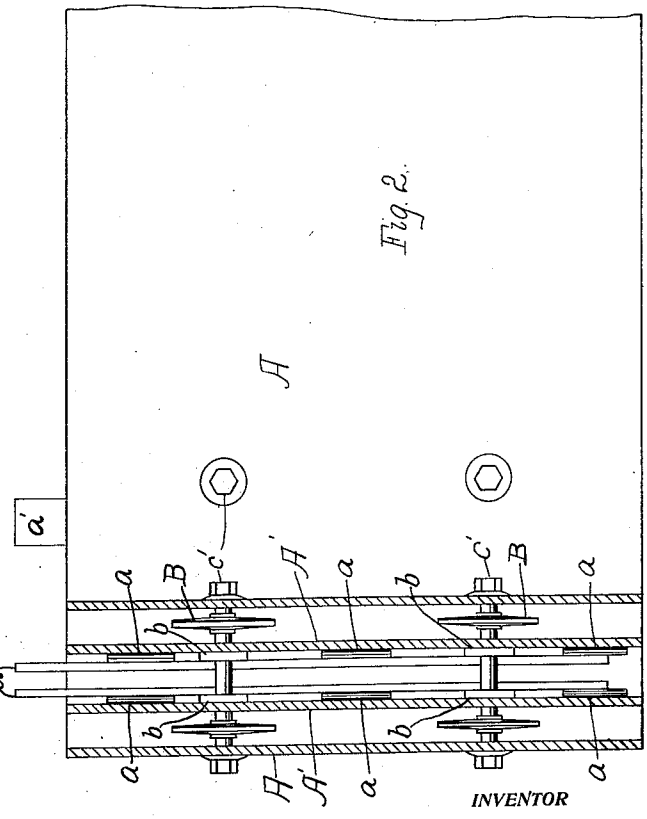


Fig. 2.

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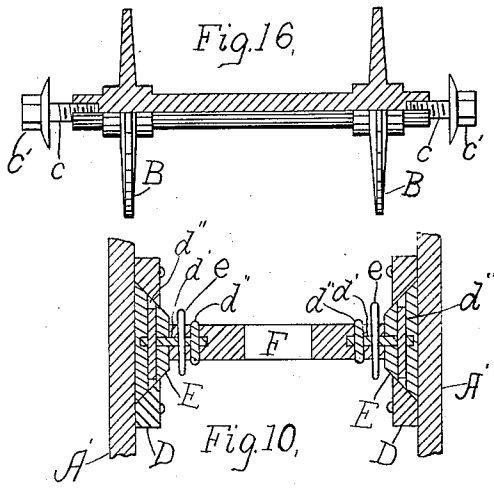


Fig. 10.

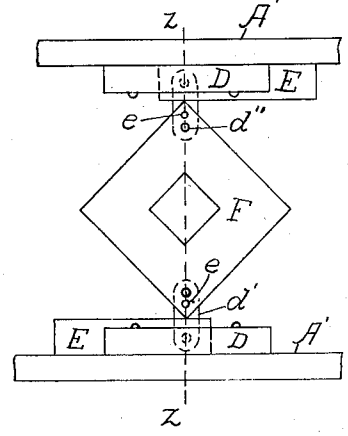


Fig. 9.

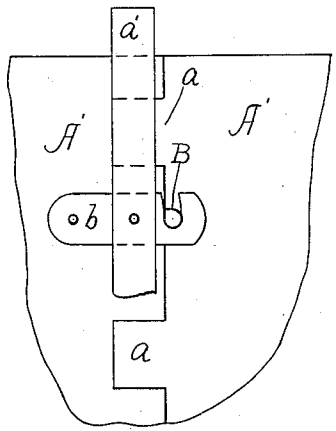


Fig. 6.

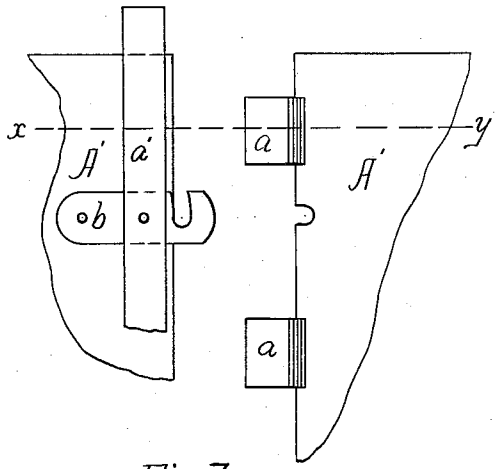


Fig. 7.

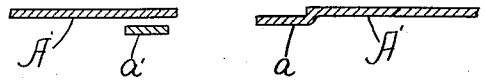


Fig. 8.

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3 SHEETS—SHEET 3.

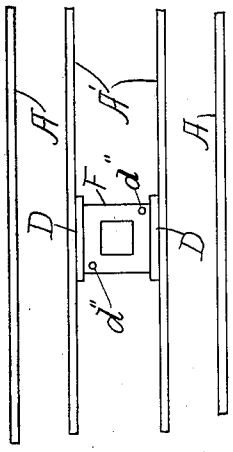


Fig. 11.

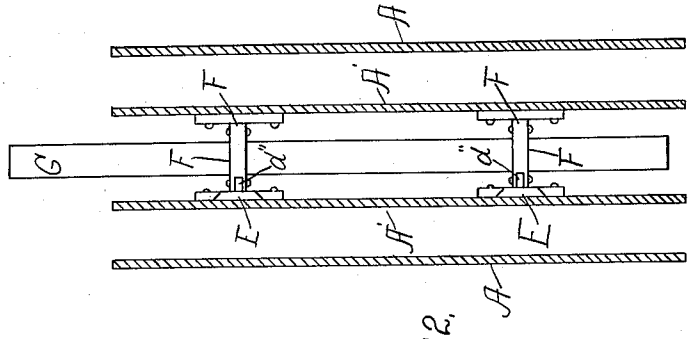


Fig. 12.

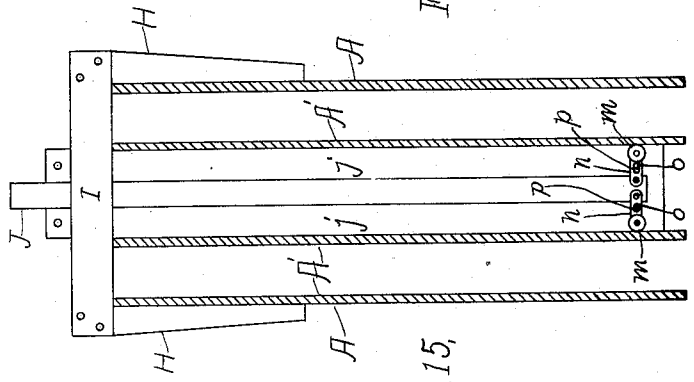


Fig. 15.

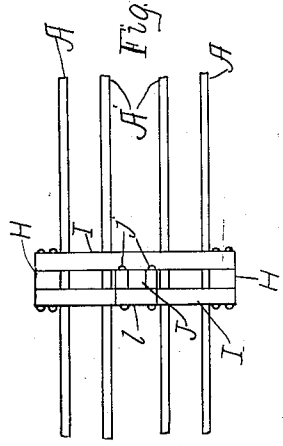


Fig. 13.

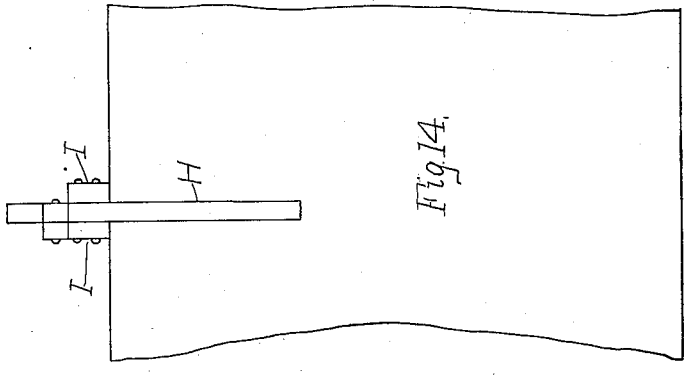


Fig. 14.

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MOLD FOR HOLLOW-WALL CONSTRUCTION.

No. 852,534. Specification of Letters Patent. Patented May 7, 1907.

Application filed March 27, 1907. Serial No. 364,837.

To all whom it may concern:

Be it known that I, DWIGHT O. WILSON, a citizen of the United States, residing at Yankton, in the county of Yankton and State of South Dakota, have invented new and useful Improvements in Molds for Hollow-Wall Construction, of which the following is a specification.

My invention relates to hollow wall construction and the object of the invention is the construction of a mold to be used in building walls of concrete and cement.

The invention consists, in general, of a frame in which the plastic material is held until it hardens, means for supporting the frame and means for reinforcing and permanently strengthening the walls.

I have illustrated my invention in the accompanying drawing, in which

Figure 1 is a plan view of frame and the permanent supports for the walls. Fig. 2 is a front view of Fig. 1, and Fig. 3 is a side view of the same. Fig. 4 is an enlarged plan view, showing in detail the support for the corner of the frame and Fig. 5 is a front view of Fig. 4. Fig. 6 is a front view on line *v*—*w* Fig. 1, and Fig. 7 is the same as Fig. 6, only the parts of the frame are detached. Fig. 8 is a cross-sectional view on line *x*—*y*, Fig. 7. Fig. 9 is an enlarged detail view showing a section of frame and a plan of gage used while the walls are building. Fig. 10 is a cross-section on line *y*—*z*, Fig. 9. Fig. 11 is a plan of section of frame showing the gage in the position for removal. Fig. 12 is a vertical section of frame showing the gage and the timber used as a key for its operation. Fig. 13 is a plan view of brace used to support the frame after the gage is removed and while the walls are hardening. Fig. 14 is a side view of Fig. 13, and Fig. 15 is a vertical section of the same. Fig. 16 is an enlarged detail view showing, partly in section, the spool-shaped device used for reinforcing the walls and seen in Figs. 1, 2 and 3.

Referring to the illustrations in which like parts are designated by similar letters of reference, A, A, are the outside walls of the frame or mold, and A′, A′, the inside walls. The frame is made of boards, planks or other suitable material. The plastic material is adapted to be placed between the walls A and A′, forming a double wall of the concrete. The respective joints of the walls A′ of the frame are held together by lugs *a*, *a*, which overlap between the frames A′ and a vertical strip *a*′ which is pivotally secured near the center of lateral hooks *b*, which in turn are pivoted at the ends to the frame A′. The hooks furnish temporary supports for the spool-shaped devices B, B, which are left in place to reinforce the permanent walls. The axes of the spools are supported in the hooks, the spools, which are made of iron or steel, extending across the walls at intervals. The ends of the spool axes are hollow and threaded, as seen in Fig. 16, and bolts *c*, with bushing and squared heads *c*′, are inserted to hold the outer frame A in place, and they, at the same time, are used to regulate the width of the permanent walls by the length the bolt is inserted in the axis of the spool. After the walls are completed and it is desired to remove the frame A′, the hooks are released from the axes of the spools by pushing down on the strips *a*′.

The corners of the frame A′ are supported by the double braces C and C′, which are bolted to the corners of the frame, telescoped together and secured by removable pins *d*. The braces maintain the corners in a rigid position during the building and when the frame is removed the pins are knocked out, permitting the braces to be taken down.

In Figs. 9 to 12 is shown a gage used during the process of building in keeping the central walls A′ from crowding together by force of the plastic material between these walls and the outer frame A. At intervals on the inside walls of each of the frames A′, are secured blocks D, having central longitudinal grooves open at the ends, the openings facing in opposite directions. Wedge shaped slides E, E, are adapted to fit these grooves and are pivotally connected to a central block F by means of links *d*′, *d*′, and pins *d*″, *d*″. The slides are pivoted to opposite corners of the block F, Fig. 9, so that when they are inserted in the blocks E, E, the block F extends its longest distance between the slides. Pins *e*, *e*, are adjusted in the block F and links to prevent the blocks from turning. The blocks F, have square central openings and when the permanent walls are built, a square timber G is inserted in the openings, the blocks turned as seen in Fig. 11, when the slides are removed from the blocks D, and the whole rendered free of the frames A′.

In Figs. 13, 14 and 15, is shown a yoke or support for the walls to be used after the gage above described is removed and the walls are in process of hardening. The yoke consists

of two vertical beams H, H, connected by double cross beams I, I. The yoke fits over the top of the frames and prevents the frame A, A, from spreading at the top.

In the central part of the yoke between the frames A′, a small frame is inserted, consisting of two parallel beams *j*, *j*, united at the bottom and at the top connected by a cross-piece I. Between the parallel beams a beam J is inserted. To the lower end of this beam, rollers *m*, *m*, are pivotally connected by strips *n*, *n*, one end of the strips being pivoted to the beam, the other end to the rollers. In the strips are central slots *o*, *o*, and pins *p*, *p*, are secured to each of the beams *j*, and project through the slots in the strips. The beams *j* overcome the inward pressure of the concrete upon the frames A′. The rollers are adapted to extend somewhat beyond the beams when the strips are at right angles to beam J, and by slightly raising or lowering the beam so that the strips are brought at right angles to the beam, the rollers are given an outward pressure against the frames A′.

In the construction of my mold the description here given may be varied to suit special conditions, and some details may be departed from or omitted, according to the requirements of each case.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is,—

1. In a mold for hollow wall construction, the combination of an outer frame, an inner frame jointed at intervals, having projections overlapping the joints, hooks pivotally secured to the inner frames opposite the projections and extending beyond the joints, strips pivotally secured at right angles to the hooks and extending above the frames, spool-shaped devices extending across the frames temporarily supported in said hooks and adapted to permanently reinforce the walls, bolts for adjustment in the ends of the axes of said spools, adjustable supports for the corners of said inner frames, and removable gages at intervals between said inner frames to resist the inward pressure of the walls, substantially as described.

2. In a mold for hollow wall construction, the combination of an outer frame, an inner frame jointed at intervals and means for securing said joints, adjustable supports for the corners of the inner walls, with supports to resist the inward pressure of the permanent walls and consisting of blocks having longitudinal grooves secured to the inner walls of said inner frames, slides for adjustment to said grooves, pivotally secured to a central block, and means for turning said block and removing said slides when the walls are completed, substantially as described.

3. In a mold for hollow wall construction, the combination of an outer frame, an inner frame jointed at intervals and means for securing said joints, adjustable supports for the corners of said inner walls and supports at intervals between said inner frames to resist the inward pressure of the permanent walls while in process of construction, with supports for said frames during the process of hardening the walls and consisting of a yoke extending over the top and sides of said outer frames, beams extending vertically through said yoke between said inner frames and means secured to said beams for pressing outwardly against said inner frames, substantially as described.

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

DWIGHT O. WILSON.

Witnesses:
JOHN B. GOETZ,
JULIUS GOETZ.