

H. A. TAYLOR.
MOLD FOR CONCRETE WALLS.

(Application filed May 10, 1902.)

2 Sheets—Sheet 1.

(No Model.)

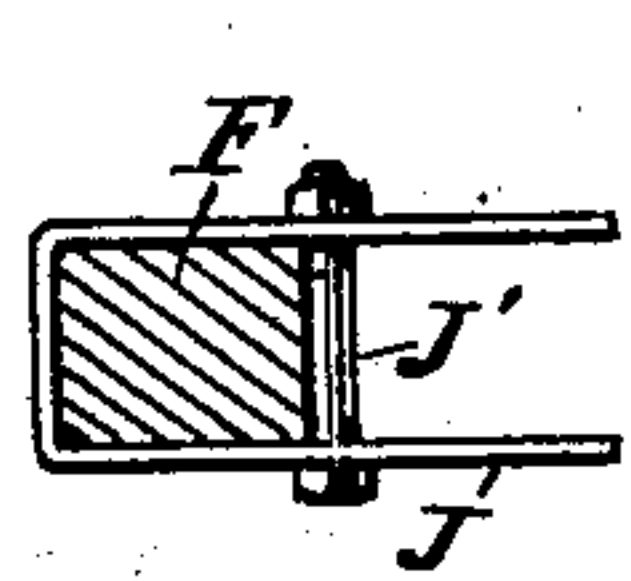


Fig. 6.

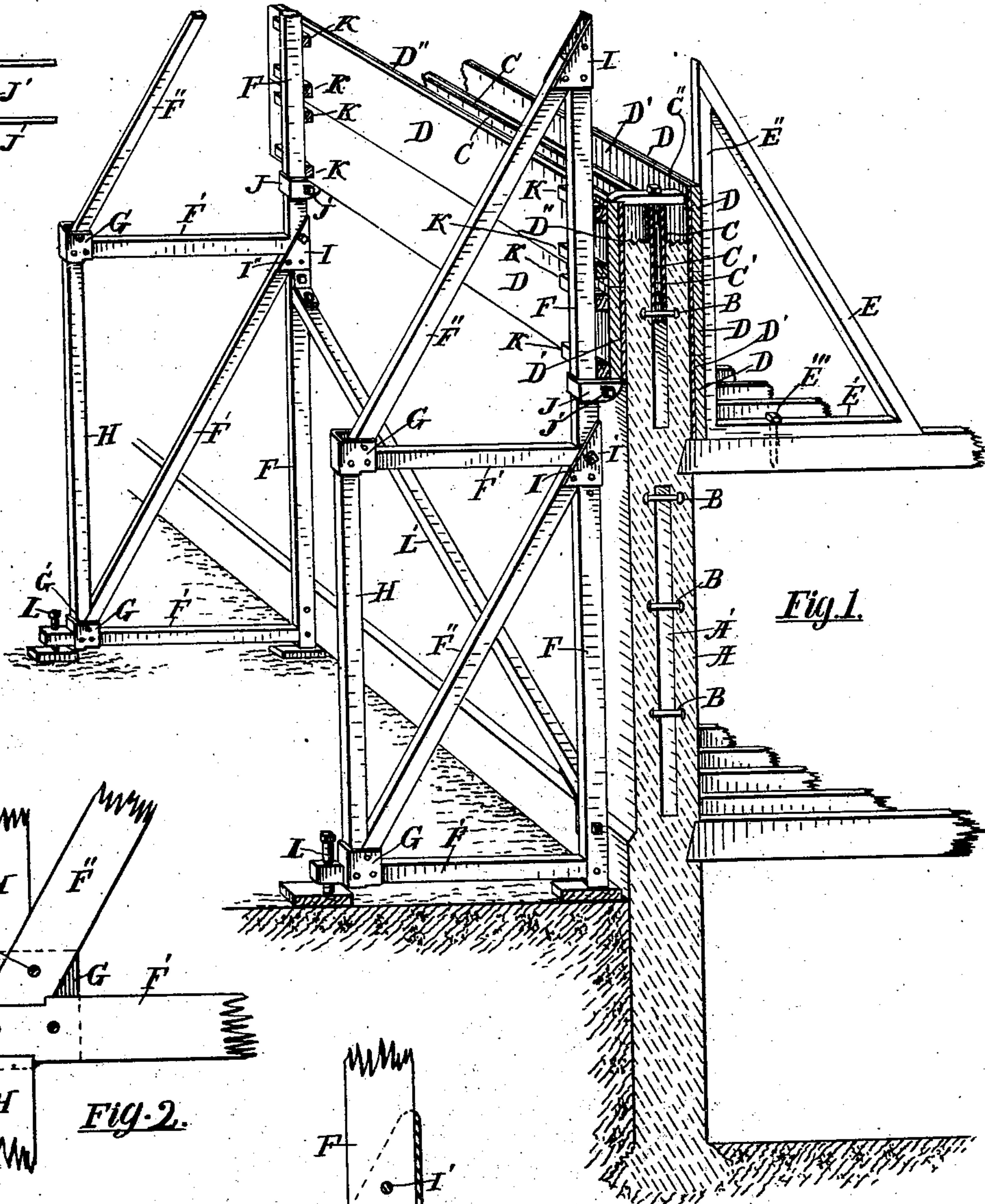


Fig. 1.

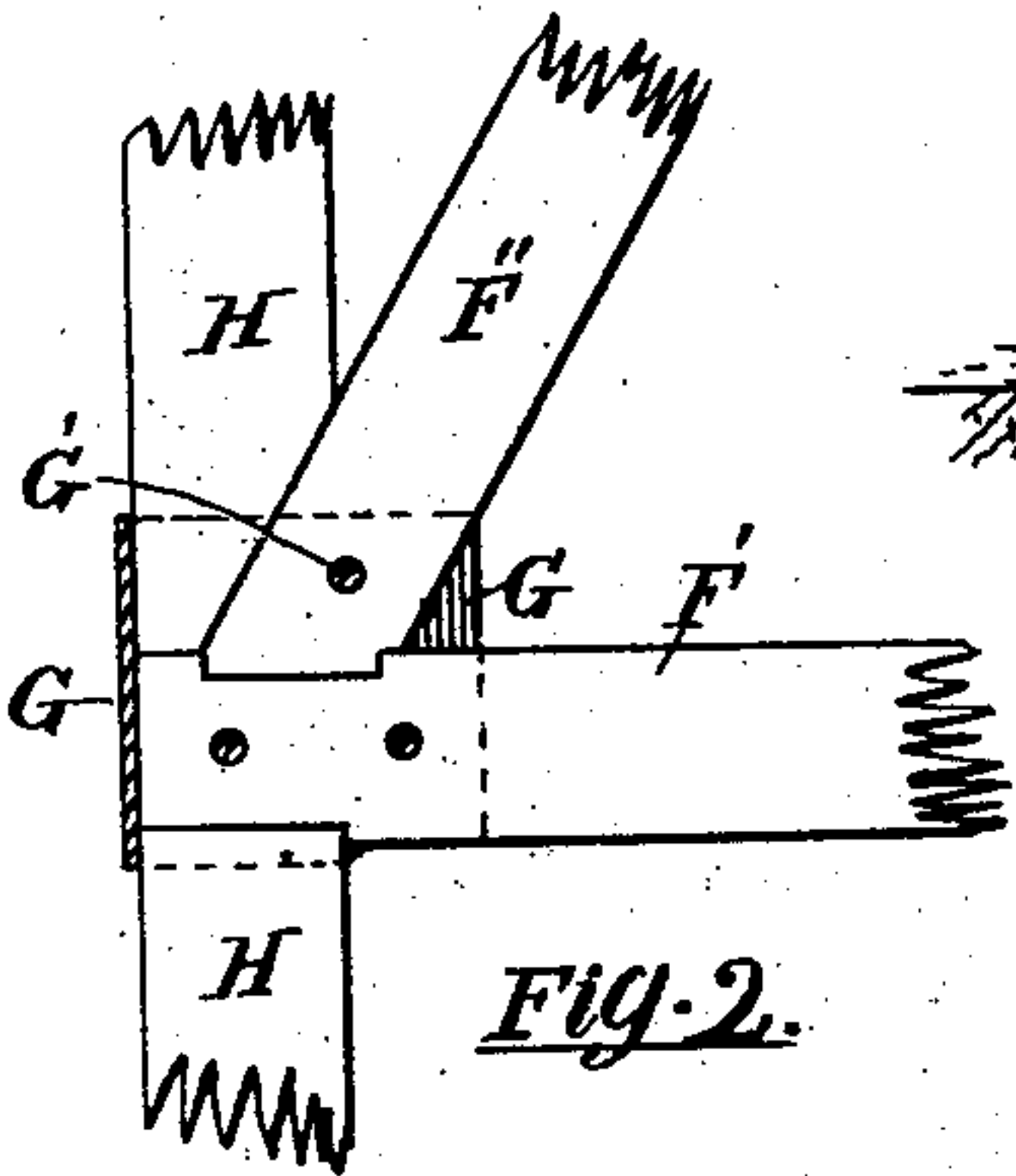


Fig. 2.

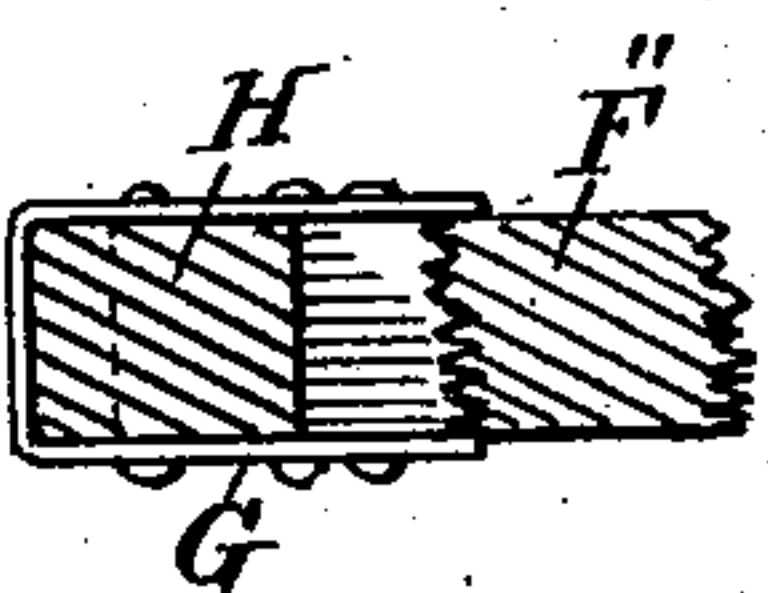


Fig. 3.

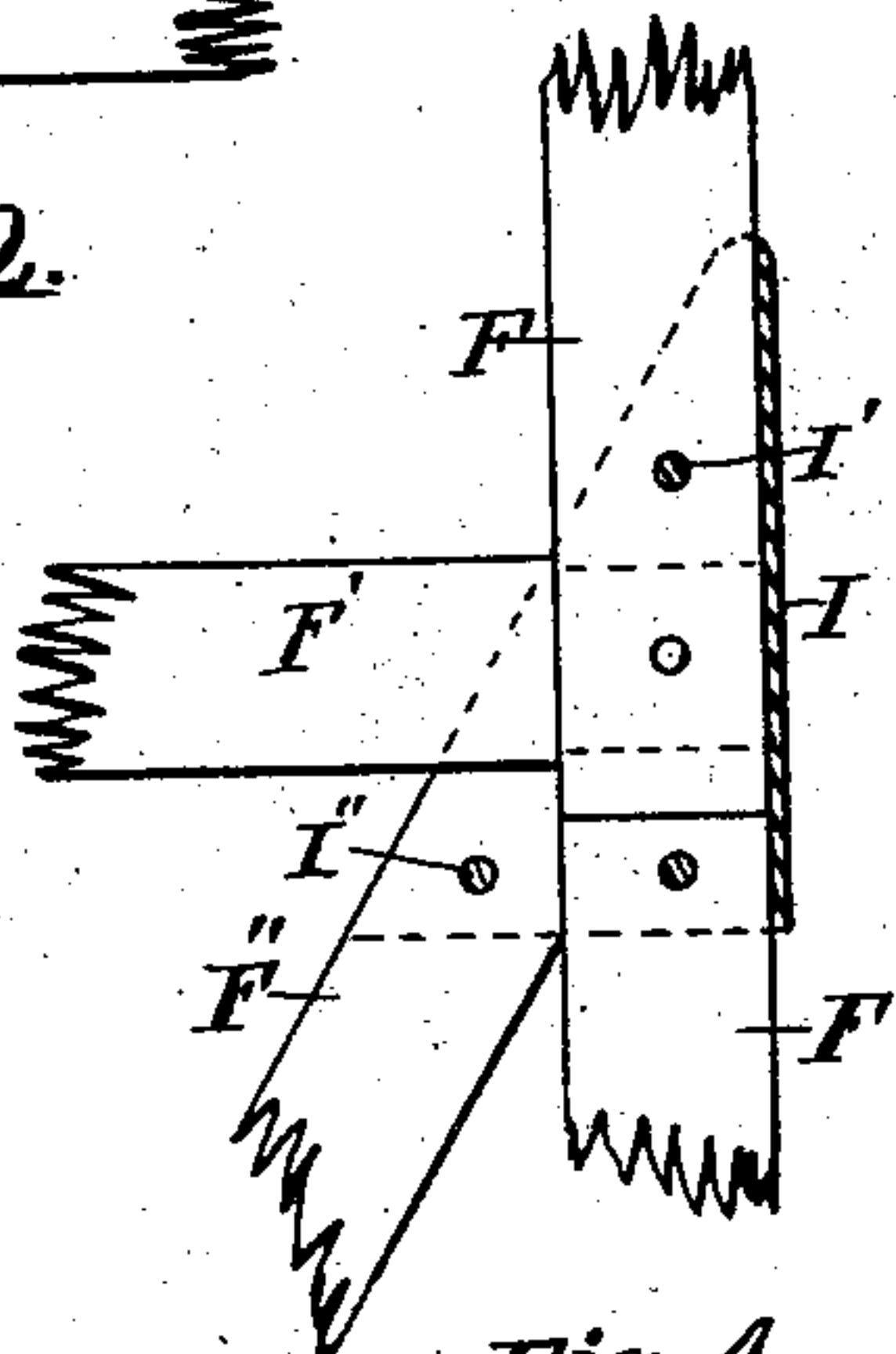


Fig. 4.

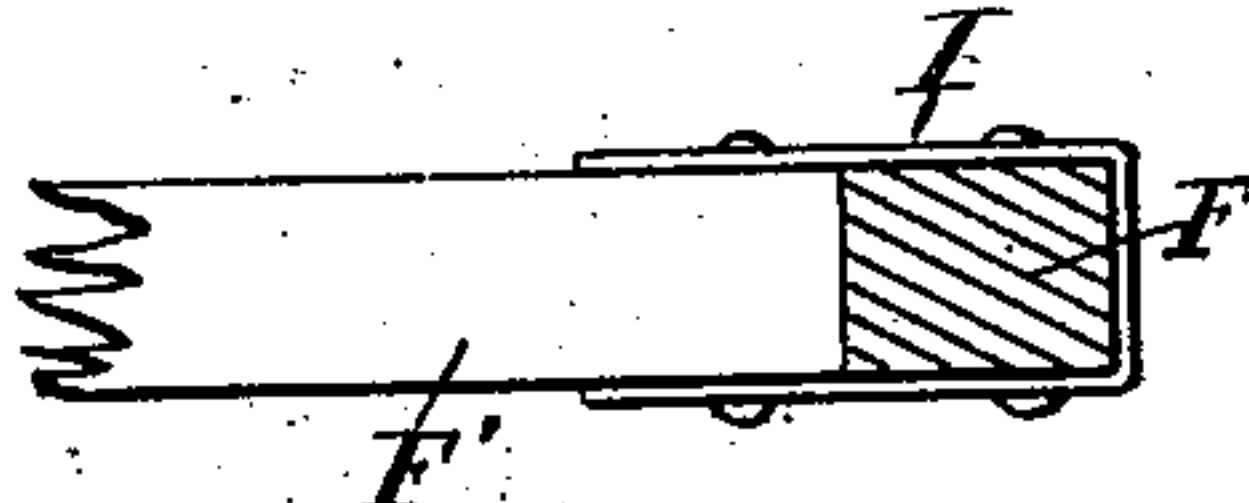


Fig. 5.

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UNITED STATES PATENT OFFICE.

HARRY A. TAYLOR, OF JACKSON, MICHIGAN, ASSIGNOR OF ONE-HALF TO
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MOLD FOR CONCRETE WALLS.

SPECIFICATION forming part of Letters Patent No. 713,173, dated November 11, 1902.

Application filed May 10, 1902. Serial No. 106,739. (No model.)

To all whom it may concern:

Be it known that I, HARRY A. TAYLOR, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Molds for Concrete Walls; and I do hereby 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 to improvements in molds for making concrete walls, and more especially to molds for making concrete walls for dwelling-houses and like structures; and its object is to provide convenient and ready means for molding said walls either plain or in imitation of stone or other masonry, to provide improved means for forming flues or chambers in said walls; to provide ready means for adjusting the mold to form tapered or inclined walls, and to provide the device with certain new and useful features herein-after more fully described, and particularly pointed out in the claims.

My invention consists, essentially, in the improved framework to support the molds, together with the improved inner mold for forming the chambers or flues, and in certain details of construction, as will more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a sectional perspective of a wall in process of construction, together with a device embodying my invention; Fig. 2, an enlarged detail of the outer angle of one of the outer triangular frames; Fig. 3, a plan of the same; Fig. 4, an enlarged detail of the upper angle of said frame; Fig. 5, a plan of the same; Fig. 6, a detail in plan of the adjustable bracket to support the outer wall of the mold; Fig. 7, a perspective of an adjustable frame for inclined wall-surfaces; Fig. 8, an enlarged detail of the upper angle of the same; Fig. 9, the same of the outer angle of the same; Fig. 10, the same of the inner angle of the same; Fig. 11, the same of the extension-brace of the same; Fig. 12, an enlarged detail of the molds in vertical section; Fig. 13, details of the inner mold in plan view with

parts broken away, and Fig. 14 a vertical section on the line 14 14 of Fig. 10.

Like letters refer to like parts in all of the figures.

A represents a wall in process of construction; A', air chambers or flues therein; B, ties connecting the respective portions of the wall opposite the chambers or flues. To form these flues or chambers, I provide plates C C, preferably of sheet metal. To these plates are attached angle-bars Q, arranged horizontally on the plates and at such intervals as may be necessary to properly support the plates. The angle-bars overlap and slidably engage each other and at suitable intervals are provided with transverse slots Q', through which slots are inserted vertical rods C'. Rigidly attached to these rods and at suitable places to engage and support the angle-bars Q are cams R, which cams serve also to space apart the plates C C when turned with their longer axes at right angles thereto. Rigidly attached to the upper ends of the rods C' are cross-bars C'', adapted to engage the outer walls of the mold and support and locate the plates C C between the same and also to serve as a lever to turn the rods C' and cams R. When these cross-bars are turned parallel with the plates, the cams are also turned with their longer axes in the same direction and the plates are then free to move toward each other and are thus released from contact with the wall and easily raised out of the flue or chamber and reset.

The inner and outer walls of the mold are preferably of sheet-metal plates D' and D'' and are supported in place by plank backing D, as shown. These plates may be made heavy enough to dispense with the planks, if preferred, and one or both plates may be stamped to form a wall-surface in imitation of brick or stone mason-work of any preferred design, as indicated at D''. To permit ready release of the plates from the walls, I provide blocks or wedges K between the planks and the supporting-frame, which blocks are first removed to release the mold from the wall-surface.

The inner wall of the mold is preferably supported by triangular frames composed of

a sill E', a post E'', and a brace E, securely fastened together and detachably secured to the joists of the building by any suitable means, lag-screws E''' being shown herein.

5 These inner frames and molds are preferably high enough to construct one story of the building at a time, being moved up and set again as each story is completed. To support the outer walls of the mold, I provide triangular frames composed of posts F, sills F', and braces F'', rigidly secured to each other, as shown, and adapted to be superposed one above the other. To level the lower frame, I provide an adjusting-screw L, which screw supports and vertically adjusts the outer angle of the lower frame to bring the post vertical. To secure the outer angle of each frame and to provide suitable sockets for the outer posts H, which posts are adjustably inserted therein to support the superposed frames, I provide a socket consisting of a suitable piece of sheet metal folded twice at right angles and embracing the outer angle of the frame, as shown in Figs. 2 and 3. This socket is secured in place by suitable bolts G' and extending above and below the sill F' forms suitable sockets for the ends of the posts H. The upper angles of each frame in like manner are provided with a sheet-metal socket I, embracing the upper angle of the frame and secured thereto by suitable bolts. The post F of each frame extends below the sill F' and rests on the post below, and the end of the brace F'' extends into the angle formed by the sill and post, as shown in Fig. 4. It is also further secured by a removable bolt I'. On the posts F are vertically-adjustable brackets J, formed of U-shaped irons, embracing the posts and adjustably secured in place thereon by bolts J' and having their sides extended from the posts to engage and support the outer molds, which are horizontally movable on the brackets when the blocks or wedges K are removed. To secure the frames against lateral displacement, I provide suitable braces L', detachably connected to the frames by angle-plates and bolts.

To provide for inclining the outer surface of any one section of the wall, I provide adjustable triangular frames, as shown in Figs. 50 7 to 11, inclusive, in which the brace F'' is rounded and pivoted at its respective ends on the bolts G' and I'', as shown in Figs. 8 and 9, and the post F pivoted near the bottom on a bolt G'' and between plates P', attached to the inner angle of the frame. The brace F'' is also made longitudinally adjustable, as shown in Figs. 7 and 11, by providing it with an overlapping and adjustable middle portion, on one part of which is journaled a pinion O, mounted in slidable hangers P and operated by a crank O'. This pinion engages a rack N in the other part of the brace, and this serves to adjust the total length of the brace, and thus adjust the inclination of the post of the frame. To rigidly secure the brace after adjustment, clips M, having bind-

ing-screws, are provided, which embrace and bind the overlapping parts of the same.

To adapt the inner mold to be used with outer walls of unequal heights, I provide the bar C'' with a shouldered end to engage the top and inner surface of the lowest wall and abut it against the highest wall at the other end.

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

1. In a mold for concrete walls, vertical posts, brackets vertically adjustable on the posts, a mold having facings, adapted to form the concrete in imitation of masonry or with other molded surface; said mold also being horizontally movable on said brackets, and removable blocks between the mold and posts, substantially as described.

2. In a mold for hollow concrete walls, outer walls to the mold, means for supporting said walls, a middle member to the mold supported between the said walls, and a cross-bar to support the middle member, and having a shouldered end to engage the top and inner surface of one wall, and adapted to abut against the other wall at the other end, substantially as described.

3. In a mold for concrete walls, an inner wall to the mold, triangular frames to support the same, means for detachably securing said frames to the joists of a building, an outer wall to the mold, vertical posts near the same, adjustable brackets on the posts on which brackets the outer wall of the mold is horizontally movable, and removable blocks between the mold and posts, substantially as described.

4. In a mold for concrete walls, an inner wall to the mold, triangular frames to support the said wall, means for detachably securing the frames to the joists of a building, an outer wall to the mold and having a surface adapted to form the concrete in imitation of masonry, vertical posts near said outer wall, adjustable brackets on the posts, on which brackets the wall is horizontally movable, and removable blocks between the wall and posts, substantially as described.

5. In combination with the outer wall of a mold, triangular frames, means for securing the respective upper and lower angles of said frame to each other, sockets on the outer angle of the frames, and detachable posts adapted to engage said sockets at their respective ends, substantially as described.

6. In combination with the outer wall of a mold, frames each consisting of a post, a sill, and a brace, arranged in the form of a right-angled triangle, a socket at the top of each post to receive the lower end of a post, sockets at the outer end of each sill to receive the respective ends of a post, and detachable posts to connect the outer ends of the sills, substantially as described.

7. In combination with the outer wall of a mold, triangular frames each consisting of a

post, a sill, and a brace, and forming a right-angled triangle, and the post extending below the sill, the brace extending above the top of the post at one end, and at the other
 5 end engaging the sill near the end thereof, a plate bent twice at right angles, and embracing the ends of the sill and brace, and forming sockets to receive the respective ends of the posts, and a plate bent twice at right
 10 angles and embracing the upper ends of the post and brace and extending above the same, and detachable posts adapted to engage the sockets on the sills substantially as described.

15 8. In combination with the outer wall of a mold, frames having the form of right-angled triangles and adapted to be superposed in series, detachable posts to connect the outer angles of the frames, sockets at the upper
 20 angles of the frames to receive the right angles of the superposed frames, sockets at the outer angles of the frames to receive the respective ends of the detached posts, and vertically-adjustable brackets on the frames
 25 to support the wall of the mold substantially as described.

9. The combination of a mold consisting of two parallel walls and a middle member supported between the walls by transverse bars
 30 engaging the walls, triangular frames to support the inner wall, means for detachably securing said frames to the joists of a building, triangular frames having sockets at their upper angles to receive the lower angles of the
 35 superposed frames, sockets on the outer angles of the frame to receive the respective ends of the posts, detached posts adapted to engage said sockets, and adjustable brackets on the frame, substantially as described.

10. In a mold for concrete walls a pair of 40 plates, angle-irons attached to said plates and having transverse slots, rods extending through said slots, and cams on said rods to space apart and support the plates, substantially as described. 45

11. In a mold for concrete walls, parallel plates, angle-irons attached to the respective plates and slidably overlapping each other, transverse slots in the angle-irons, rods rotative and movable in the slots, cams on the
 50 rods to space apart and support the plates and cross-bars attached to the rods, substantially as described.

12. In combination with a mold for concrete walls, a triangular frame having pivots at its
 55 respective angles, and a longitudinally-adjustable brace member forming one side of the frame, substantially as described.

13. In combination with a mold for concrete walls, a triangular frame pivotally connected
 60 at its respective angles and having an adjustable and overlapping brace member, a clip embracing the overlapping portions of said brace member and provided with a screw to secure the same, substantially as described. 65

14. In combination with a mold for concrete walls, a triangular frame pivoted at the respective angles and having an overlapping and longitudinally-adjustable brace member, a rack and pinion to adjust the brace mem-
 70 ber, and clips embracing the overlapping portions of the same, substantially as described.

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

HARRY A. TAYLOR.

Witnesses:

H. R. HALL,

ROBERT L. KENNEDY.