W. C. HOLDEN.

MOLD FOR MAKING CONCRETE ARCH BLOCKS.

APPLICATION FILED OCT. 27, 1909.

1,002,583.

Patented Sept. 5, 1911.

2 SHEETS—SHEET 1.

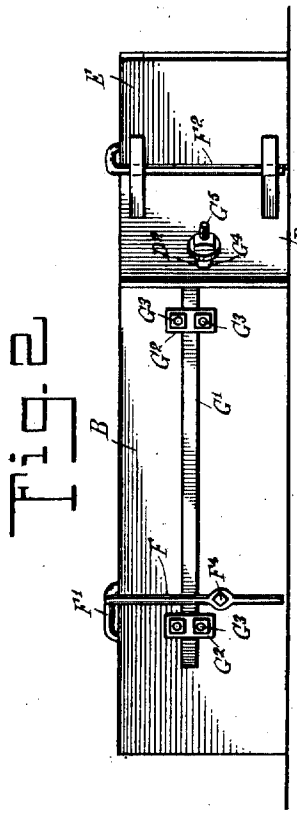

Fig. 2

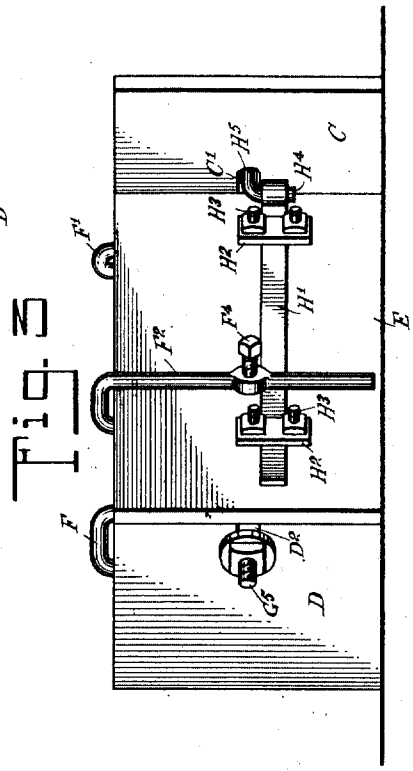

Fig. 3

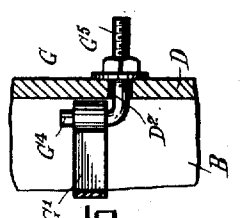

Fig. 5

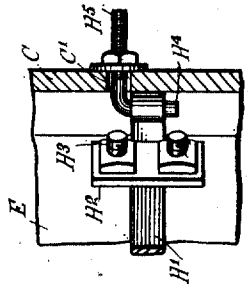

Fig. 4

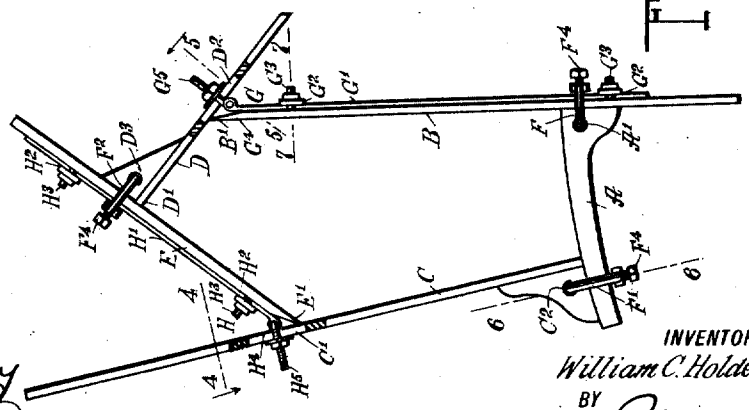

Fig. 1

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 6

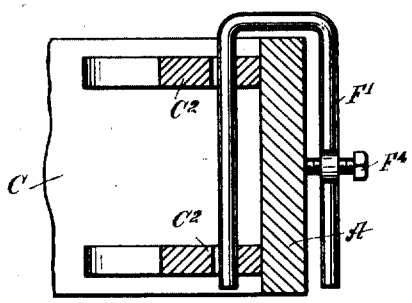


Fig. 7

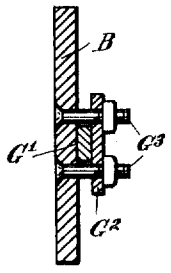


Fig. 8

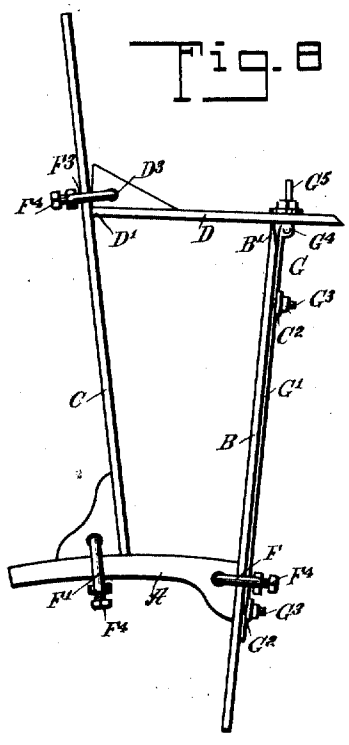
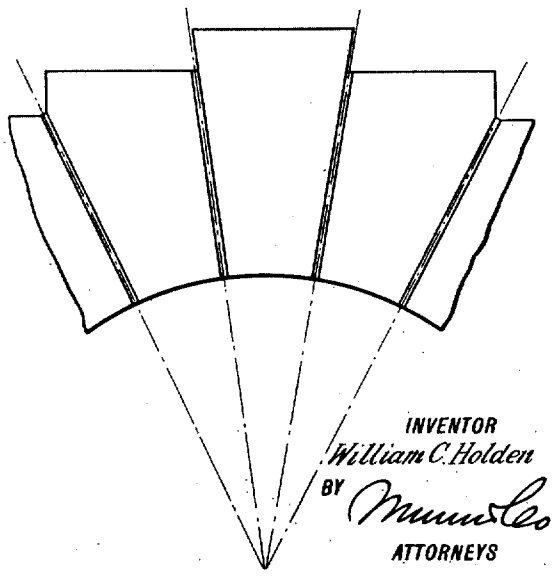


Fig. 9



WITNESSES

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MOLD FOR MAKING CONCRETE ARCH-BLOCKS.

1,002,583. Specification of Letters Patent. Patented Sept. 5, 1911.

Application filed October 27, 1909. Serial No. 524,855.

To all whom it may concern:

Be it known that I, WILLIAM C. HOLDEN, a citizen of the United States, and a resident of Scarboro-on-the-Hudson, in the county of Westchester and State of New York, have invented a new and Improved Mold for Making Concrete Arch-Blocks, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved mold, more especially designed for making arch blocks, and arranged to permit convenient adjustment of the mold parts for making blocks of different sizes for arches of different spans. For the purpose mentioned use is made of an arch plate, and sides, of which one is removably and adjustably attached to the face of the arch plate and the other is adjustably and removably attached to one end of the arch plate, the sides being connected with each other by two end plates for forming the ordinary arch blocks, and connected by a single end plate when forming key-stones.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the mold, arranged for making arch blocks except the key-stone; Fig. 2 is a side elevation of the same; Fig. 3 is an enlarged elevation of the forward end of the mold; Fig. 4 is an enlarged cross section of the mold on the line 4—4 of Fig. 1; Fig. 5 is a similar view of the same on the line 5—5 of Fig. 1; Fig. 6 is a like view of the same on the line 6—6 of Fig. 1; Fig. 7 is a similar view of the same on the line 7—7 of Fig. 1; Fig. 8 is a plan view of the mold arranged for making the key-stone of an arch; and Fig. 9 is a side elevation of part of the arch built from blocks made by the mold.

The mold in its entirety consists of the arch plate A, the sides B and C and end plates D and E, of which the end plate E is omitted when using the mold for forming a key-stone, as shown in Fig. 8. The inner face of the arch plate A is curved according to the radius of the arch, and the side B engages with its inner face one end of the arch plate A, while the other side C rests with one end on the face of the arch plate A, as plainly indicated in Figs. 1 and 8. The arch plate A and the side B are adapted to be fastened together after the side B is adjusted lengthwise on the end of the arch plate A, by the use of a U-shaped clamp F, and a similar clamp F′ is used for fastening the side C to the arch plate A after the side C is adjusted on the inner face of the arch plate A. The side B and the end plate D are connected with each other by a pivotal connection G adjustable on the side B and the end plate D, as hereinafter more fully explained, and a similar pivotal connection H connects the side C with the end plate E. The inner face of the end plate D fits against the sharp-edged terminal B′ of the side B, and the sharp edge E′ of the end plate E abuts against the inner face of the side C, and the blunt end D′ of the end plate D abuts against the inner face of the end plate E, and the said end plates D and E are fastened together after proper adjustment is made by a clamp F^2, similar to the clamps F and F′. When making key-stones the end plate E is omitted, as previously mentioned, and the blunt end D′ of the end plate D then abuts against the inner face of the side C, as shown in Fig. 8, and a clamp F^3 is used to fasten the end plate D and the side C together.

The pivotal connection G, consists of an eye plate G′, adjustably secured lengthwise of the side plate B at the outer face thereof by the use of clamping plates G^2 and bolts G^3 held on the side B, as will be readily understood by reference to Figs. 1 and 2. The eye of the eye plate G′ is engaged by a pivot G^4 extending vertically from a bolt G^5 (see Fig. 5), adjustably held on the end plate D and passing through an elongated slot D^2 therein. By the arrangement described, the pivotal connection is adjustable relative to both the side B and the end plate D, to allow of adjusting the said end plate to any desired angle relative to the side B and also relative to the end plate E and the side C, according to the size and shape of the block to be made. It is understood that on loosening the bolts G^3, the clamping plates G^2 are released to allow of shifting the eye plate G′ to bring the pivotal center nearer to or farther from the edge B′, according to the angle to be had between the side B and the end plate D, and, on loosening the bolt G^5, the end plate D can be adjusted farther in or out, according to the width of the block to be made.

The pivotal connection H is similar to the pivotal connection G, and consists of the eye

plate H′ held adjustable on the end plate E by clamping plates H^2 and bolts H^3, and the eye of the plate H is engaged by a pivot H^4 depending from a bolt H^5, extending through a slot C′ formed lengthwise in the side C. By the arrangement described, the bolt H^5 can be adjusted on the side C and the eye plate H′ can be adjusted on the end plate E, to suit requirement as to size and form of the arch block to be molded.

Each of the clamps F, F′, F^2 and F^3 is of U-shape, one arm engaging a bearing A′, C^2 or D^3 on the corresponding arch plate A, side C or end plate D, and the other arm carrying a set screw F^4 screwing against the side B, arch plate A, end plate E or side C, respectively.

The inner faces of the sides B and C are not set to radial lines, but inward about one-eighth of an inch and parallel to the radial lines for the joints of the arch blocks, as will be understood by reference to Fig. 9, so that the blocks made by the mold leave about one-quarter of an inch space at each joint for mortar or other binding material.

When using the mold, the arch plate A, the sides B, C and the end plates D, E are set up on a table, platform or the like, and then the mold is filled with the concrete or other plastic material and the latter is tamped in the usual manner. After the material has set and hardened the clamps F, F′, F^2 and F^3 are removed to allow of disconnecting the mold parts to release the arch block.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A mold for making concrete arch blocks, comprising an arch plate, sides adjustably secured to the arch plate, one of the sides being slotted, end plates one of which is slotted, pivotal connections between the end plates and sides, each connection consisting of an eye plate secured to one part and a bolt having a pivot engaging the eye plate and adjustably secured in the slot of the other part, whereby the angle between each end plate and the side plate to which it is pivoted may be varied and whereby the effective length of one of these plates may be varied, such angle variation and plate length variation being independent of one another, and means for securing the end plates together.

2. A mold for making concrete arch blocks, comprising an arch plate, sides one adjustably secured to the end of the arch plate and the other upon the face of the arch plate, one of the sides being slotted, end plates one of which is slotted, pivotal connections between the sides and end plates, each connection consisting of an eye plate secured to one part and a bolt having a pivot engaging the eye plate and adjustably secured in the slot of the other part, whereby the angle between each end plate and side plate to which it is pivoted may be varied, and whereby the effective length of one of these plates may be varied, such angle variation and plate length variation being independent of one another, and means for adjustably securing the end plates together with the end of one abutting against the face of the other.

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

WILLIAM C. HOLDEN.

Witnesses:
GEORGE C. HOLDEN,
L. F. FROELICH.