

No. 896,330.

PATENTED AUG. 18, 1908.

C. J. SCHEELKY.

MOLD FOR CONCRETE BUILDING BLOCKS.

APPLICATION FILED NOV. 6, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

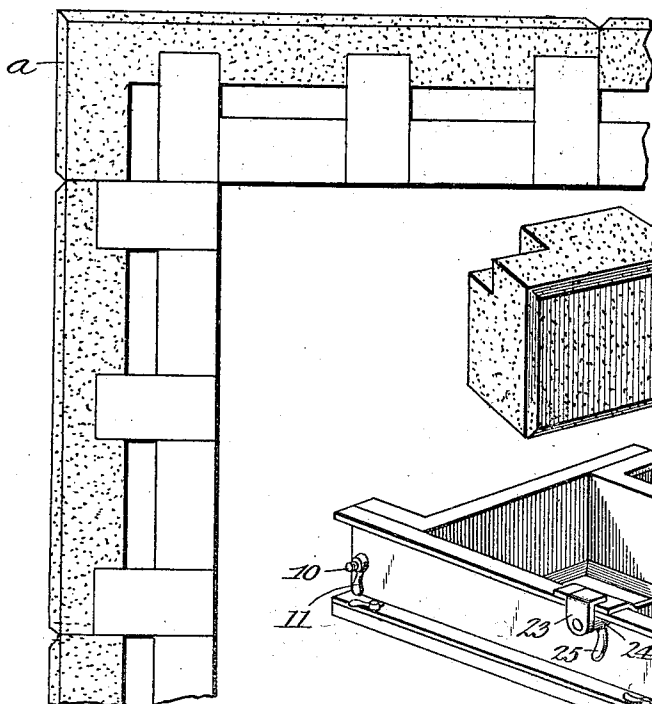


Fig. 2.

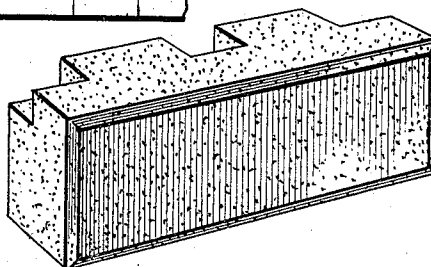


Fig. 4.

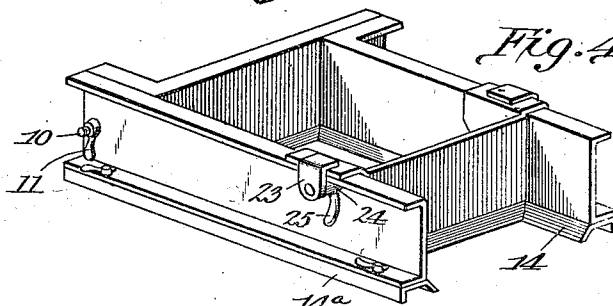


Fig. 3.

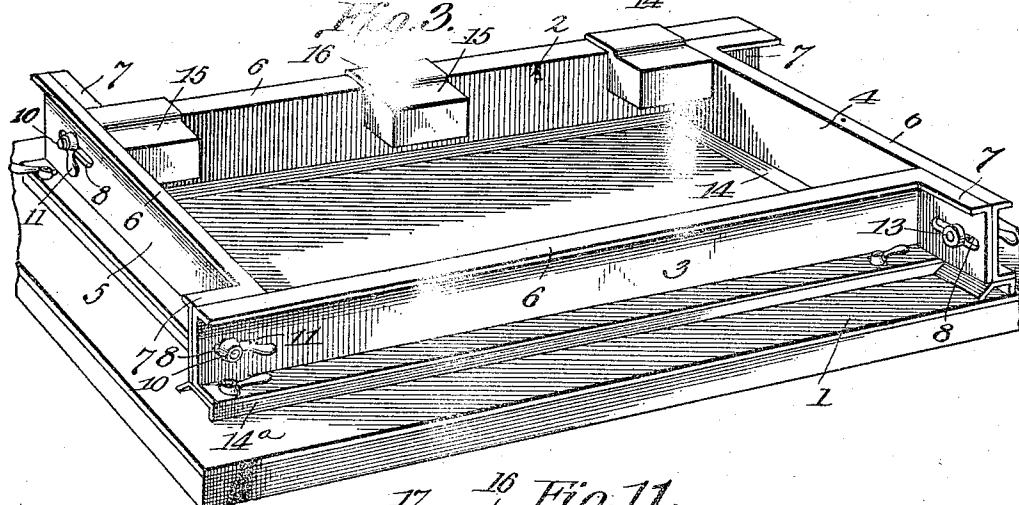
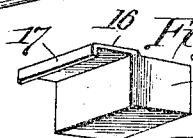


Fig. 11.



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No. 896,330.

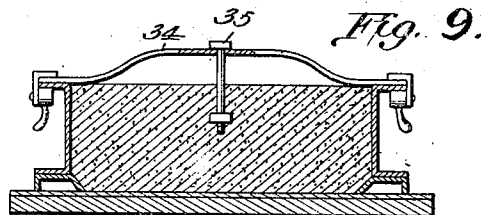
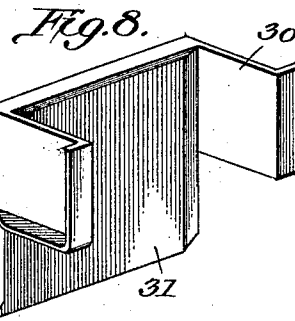
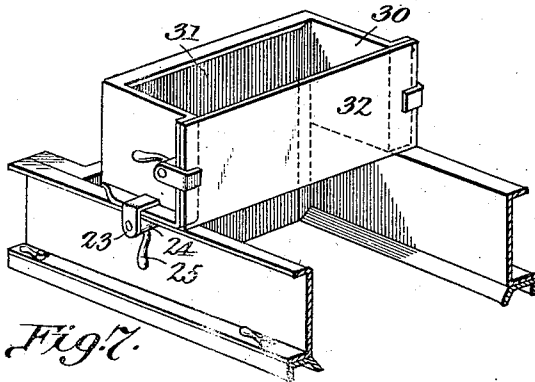
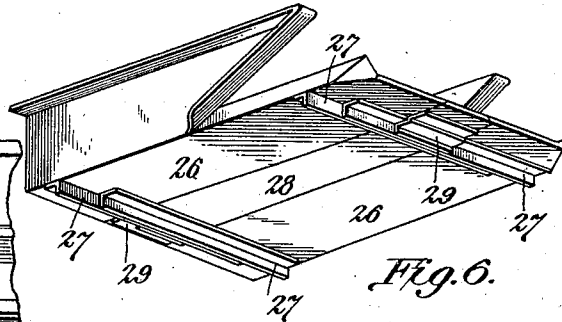
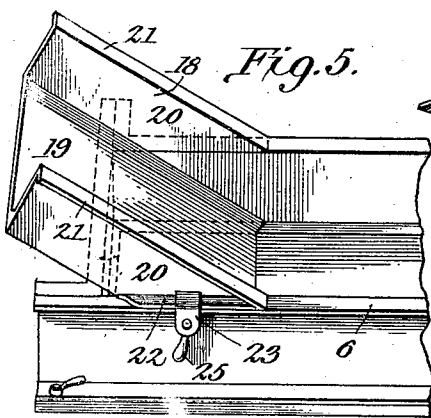
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MOLD FOR CONCRETE BUILDING BLOCKS.

APPLICATION FILED NOV. 6, 1906.

3 SHEETS—SHEET 2.



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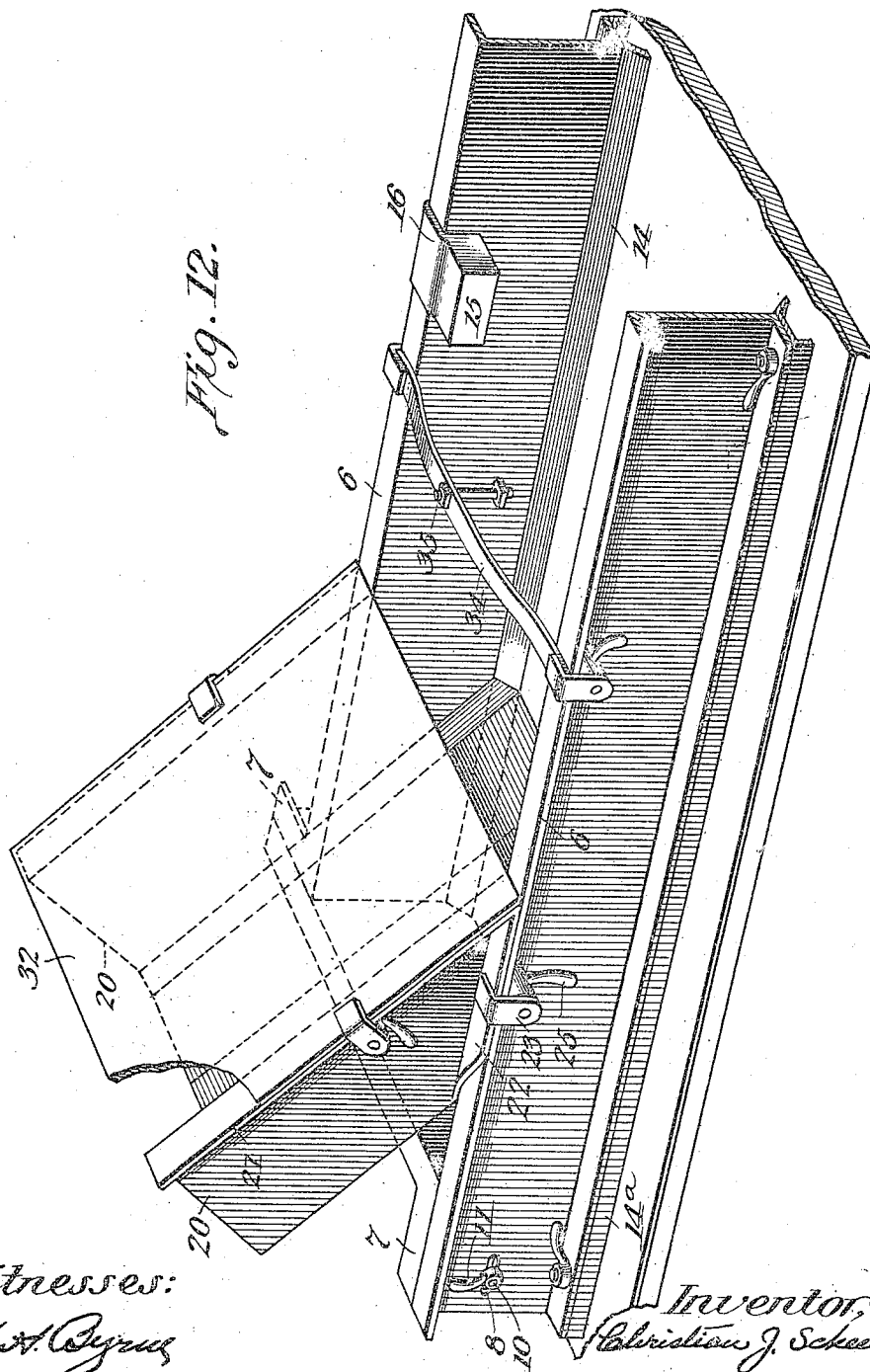
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APPLICATION FILED NOV. 6, 1906.

3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

CHRISTIAN J. SCHEELKY, OF NEWPORT NEWS, VIRGINIA.

MOLD FOR CONCRETE BUILDING-BLOCKS.

No. 896,330.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed November 6, 1906. Serial No. 342,284.

To all whom it may concern:

Be it known that I, CHRISTIAN J. SCHEELKY, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have invented new and useful Improvements in Molds for Concrete Building-Blocks, of which the following is a specification.

This invention has relation to the manufacture of building blocks of artificial stone or cement, generally known as hydraulic building blocks and specifically called granolithic veneering and building blocks, and has for its object the production of blocks of that class having peculiar and novel characteristics by means of molds of peculiar and simple construction, whereby blocks of different configuration or size can be made in a single mold, either by the adjustment of the parts of the mold upon a permanent base, or by the addition of readily adjustable parts to a single mold, or by the combination of an adjustable mold with removable and adjustable additional parts, thus obviating the use of a large number of molds to produce blocks of different sizes or configuration, thereby reducing the cost of construction of a building; since in many cases, where a multiplicity of blocks of a common size or shape are required, and but a few blocks of different or peculiar shapes are needed, it would be a very decided additional expense to provide separate molds for the few differently shaped blocks required.

My invention, therefore, consists in the provision of a mold for hydraulic blocks provided with novel means for adjusting or regulating the size of the same.

My invention still further consists in the provision of a mold for hydraulic blocks adjustable as to size and provided with removable and adjustable pieces whereby the shape of the block may be varied as well as its size.

My invention still further consists in the provision of a mold for hydraulic blocks provided with removable and interchangeable pieces provided with means for adjusting the same to different sized molds.

My invention still further consists in the construction, combination and arrangement of parts more fully described hereinafter and specifically pointed out in the claims.

In the accompanying drawing which forms a part of this specification: Figure 1 is

a portion of a wall to illustrate the use of my improved block to form a facing or veneer for the outer portion thereof, Fig. 2 is a perspective view of a rectangular block made according to my invention, Fig. 3 is a perspective view of an adjustable mold, Fig. 4 is a perspective view of an adjustable mold with a removable mold piece clamped thereon, Fig. 5 is a view of a mold provided with my improved removable and adjustable end or angle piece, Fig. 6 is a perspective view of an angle piece adjustable to different molds showing more clearly the means for retaining the several parts thereof in their proper relative position, Fig. 7 is a perspective view of a mold having an adjustable end piece for right-angle corner blocks, Fig. 8 is a detail view of the end-piece shown in Fig. 7, Fig. 9 is a cross-sectional view to show the bolt on tie support. Fig. 10 is a detail view of a mold clamp. Fig. 11 is a detail view of a recess block. Fig. 12 is a view of the mold showing the various auxiliary parts attached thereto.

The mold consists of a base plate 1 of a rectangular form and of a size sufficiently large to accommodate the largest sized frame designed to be used thereon.

2, 3, 4 and 5 represent the face and back plates and the two end pieces of the mold frame. Each of these parts 2, 3, 4 and 5 is made of a single piece of metal, preferably of cast or rolled iron, having its upper edge 6 flanged outwardly at right angles to its side and one of its ends 7 bent at a right angle to the face so as to provide a means for adjusting or regulating the size of the molds. The part 7 is provided with a slot 8 extending practically throughout its entire length and at the other end of the piece is another opening. A bolt 10 provided with a nut 11 passing through this hole, its squared shoulder sliding in the slot 8 and its head 13 abutting against the side of the bent end 7 permits of the ready adjustment of the pieces to form a mold of different sizes from a simple set of mold pieces. The four pieces of the mold are formed or provided with an inwardly turned bead or flange 14 at their lower edges so as to form a proper finish to the block, and preferably, I propose to use a separate piece 14^a to form this lower head, so that I may vary the size or configuration of the resulting block. Where this is done it may be attached to the sides and ends of the mold by bolts or

screws, or it may be made as a separate auxiliary frame placed on the base plate and the mold frame placed above it and supported in position by its own weight, and where it is desired to make a block of more than ordinary height this auxiliary frame may be of any desired size so as to materially alter the height of the mold. The means for forming the recesses in the blocks consist of rectangular lugs, blocks or frames 15 having extensions 16, provided with depending edges or lips 17 to clasp the upper and outer edges of the front and back plates. If desired these blocks may be provided with suitable means for rigidly attaching them in position, but under usual conditions they will not require means for attaching them and as they will easily slide on the frame their position can be changed with great readiness, so as to form the recesses in the blocks in any desired position.

When it is desired to form an angle block it is necessary to utilize one of the removable or auxiliary pieces which is of the desired angle. These auxiliary pieces 18 (see Fig. 5) are either made of a single piece of metal, rolled or cast to the desired configuration or they may be made of several pieces rigidly attached together as, except where my adjustable piece is used, they are made of a predetermined width, but are adjustable relatively to the length of the mold so as to form blocks of different lengths, and by the use of different angle pieces blocks of different angles and by the use at either end, of the mold of differently shaped pieces, blocks can be formed with ends of totally different shapes and angles. These angle pieces 18 are formed with a bottom 19, and side pieces 20, having flanges 21 on their edges, and flanges 22 on their lower ends which slide and rest upon the flanges 6 of the mold. The bottom 19 extends inside the mold to the base plate and is chamfered at the lower edge to the proper angle to make a close joint with the base plate. The angle pieces are held in position on the mold by means of clamps 23 embracing their lower flanges 22 and the flanges 6 of the mold, these clamps 23 being fastened by means of a cam 24 journaled in the depending end of the clamp 23, and provided with a handle 25 for turning the cam and fastening the clamp in position.

The adjustable piece illustrated in Fig. 6 is of the general configuration of the other form of angle pieces before described, but instead of being made in a single piece it is made in two like sections attached together by suitable cleats and permitting of the insertion in the bottom of additional bottom plates so as to accommodate it to molds of different widths. As shown in Fig. 6 the two sections 26—26 of the adjustable angle piece, have each attached to the lower side of their bottom plates and near

each end thereof, a length of angle iron 27, forming a cleat and so placed that when the two sections 26—26 are in position the faces of the cleats on one section will abut against the faces of the cleats on the other section and thus hold the two sections together. When it is desired to widen the angle piece, a center plate 28, of any desired width is inserted between the two side sections. These center plates 28 are provided on their lower sides with lugs 29, adapted and designed to embrace the cleats 27 on the sections 26 and to permit the side pieces to be drawn together to embrace the central plate, the edges of the bottoms of the side sections and of the center plate being properly chamfered off so as to make as close a joint between them as possible.

In Fig. 4 is shown an angle piece or end plate designed to be used where blocks of less length than the maximum length of the mold are to be formed, this end plate being perpendicularly arranged and upheld by suitable supporting flanges resting upon the flanges of the mold members to which it is secured by clamps similar in construction to those shown in Figs. 5 and 6.

In Fig. 7 is shown an angle piece for forming corner blocks, such for example as shown at *a* in Fig. 1, the short right angle limb of the block being formed by means of a pocketed angle piece 30 which has a depending rear wall 31 and a removable front wall 32, the entire angle piece being adjustably mounted on the sides of the mold and fixed in position by means of cam clamps similar in construction to those described above.

In Fig. 9 is shown a convenient means for securing and molding a bolt or tie into a block, this means comprising a strut or bar 34 clamped by cam clamps to the sides of the mold and provided at its arched center with an aperture to receive the tie bolt 35. It will be seen that by this construction the bolt 35 will be held perpendicularly in position and the material molded around it so that when set the bolt will project centrally of the finished block in proper position to engage the block supports or frame to which they are secured in the laid-up wall.

The operation of my device is as follows: The bed plate 1 being placed in position on a table firm enough to permit of the proper tamping of the material for forming the blocks, the pieces of the mold 2, 3, 4 and 5 are laid thereon, and by means of the bolts 10 and nuts 11 they are attached together so as to form the predetermined sized block. The lugs 15 for forming the recesses in the blocks are placed in position and the composition of sand, cement and gravel, properly mixed and moistened is placed in the mold and tamped down during the operation care being taken to insure that all the voids are properly filled with cement and that no

air remains in the mixture, as either of these will cause defects in the blocks which may show during the curing or setting, or perhaps may not show on the surface of the block but will cause the blocks to crack or disintegrate after they are in position in the building. When the mold is filled the upper surface is leveled off with a pallet or trowel and returned to the hatch, the mold is then lifted from the base plate and, with the blocks carried to the drying floor, where it is reversed, the screws loosened and by a slight tap on the sides and ends the block is detached from the mold. When it is desired to form a block with angle ends, an angle piece of the proper shape is placed in one or both sides of the mold and fastened in position by means of the clamps the material to form the block tamped into the molds and angle pieces, but before removing the block the angle pieces must be carefully removed and the block laid on its side to remove the mold frame. In using the adjustable angle piece, it is first determined what width of mold is to be used and by inserting the proper sized center plate a perfectly fitting angle piece will be provided. In all cases, before reversing the mold to remove the blocks, the frames or lugs which form the recesses in the block must be removed from their places by raising them out of the mold. It is, of course, understood that the recesses formed in the blocks are for the purpose of providing means for tying or binding the blocks to the building, a brick or other suitable means being inserted in the recess and its end being used as a tie. This is absolutely necessary where the blocks are used as a veneer or front facing of buildings constructed of brick or other material.

Having thus described my invention and its mode of operation, what I declare as new and desire to secure by patent is:

1. In a mold for hydraulic blocks, having adjustable end and side pieces and means for fastening the same together, the combination therewith of an independent adjustable and removable angle piece designed and adapted to be adjusted to molds of different widths as set forth.

2. In a mold for hydraulic blocks the combination with a base and side and end pieces, of an adjustable angle piece designed to be attached to molds of different widths and adapted to be moved lengthwise thereof.

3. In a mold for hydraulic blocks, the combination with a permanent base and adjustable side and end pieces, of an angle piece composed of side and bottom portions and a removable center plate whereby the same may be adjusted to the widths of different molds.

4. A removable and adjustable angle piece for hydraulic molds consisting of side and bottom portions provided with cleats on

their lower sides and a detachable bottom plate having lugs which embrace said cleats and fasten the angle pieces together.

5. A mold for hydraulic blocks consisting of a base plate and adjustable side and end pieces, each formed with a flange on its upper edge, said flanges adapted to hold recess forming blocks, said recess forming blocks having lips adapted to overhang and engage with said flanges and means whereby said side and end pieces may be adjustably fastened together, to form the frame of the mold.

6. In a mold for hydraulic blocks, the combination with a base and side and end pieces, of an angle-piece adapted to be moved lengthwise thereof.

7. In an adjustable mold for hydraulic bricks the combination with the adjustable side and end pieces 2, 3 4 and 5 of the adjustable angle piece composed of the side pieces 26—26, the center plate 28, and fastening devices 27 attached thereto and embraced by lugs 29 attached to the center plate 28 as set forth.

8. In a device of the class described comprising adjustable side and end pieces, each formed with a flange on its upper edge; an adjustable arched strut spanning said sides and resting upon the flanges thereon, and adapted to support and center a tie bolt to be molded into place, and means for clamping said arched strut to said flanges.

9. In combination with a mold, an angle forming member cooperating therewith, said member comprising back and side walls, said back wall projecting downwardly between the sides of said mold, and means for securing said angle forming member and mold together.

10. In combination with a mold, an angle forming member cooperating therewith, said member comprising back and side walls, said back wall extending approximately to the bottom of the mold, said member adapted to be adjusted longitudinally thereof.

11. In combination with a mold, an angle forming member cooperating therewith, said member comprising back and side walls, said back wall extending approximately to the bottom of said mold, a removable front wall for said angle forming member, and means for locking the several parts together.

12. A block forming mold comprising a main mold, an attachable angle forming member having back and side walls, said back wall extending to the bottom of said main mold, the sides of said member adapted to rest upon the sides of the main mold to support said member, a removable front wall for said angle forming member, and means for locking the several parts together.

13. In combination with a mold, an auxiliary mold arranged at an angle therewith and adapted to be moved longitudinally

thereof, said auxiliary mold comprising a back and side walls, said back wall extending approximately to the bottom of said mold, and a means for locking said auxiliary mold
5 in position.

14. In combination with a mold, an angle forming member cooperating therewith, said member comprising back and side walls, said back wall extending to the bottom of said
10 mold, said mold and angle forming member having flanged sides, the flanged sides of the

angle forming member adapted to rest upon the flanged side of the mold, and means for locking said flanged sides together.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
15 nesses.

CHRISTIAN J. SCHEELKY.

Witnesses:

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M. S. LEE.