

No. 776,846.

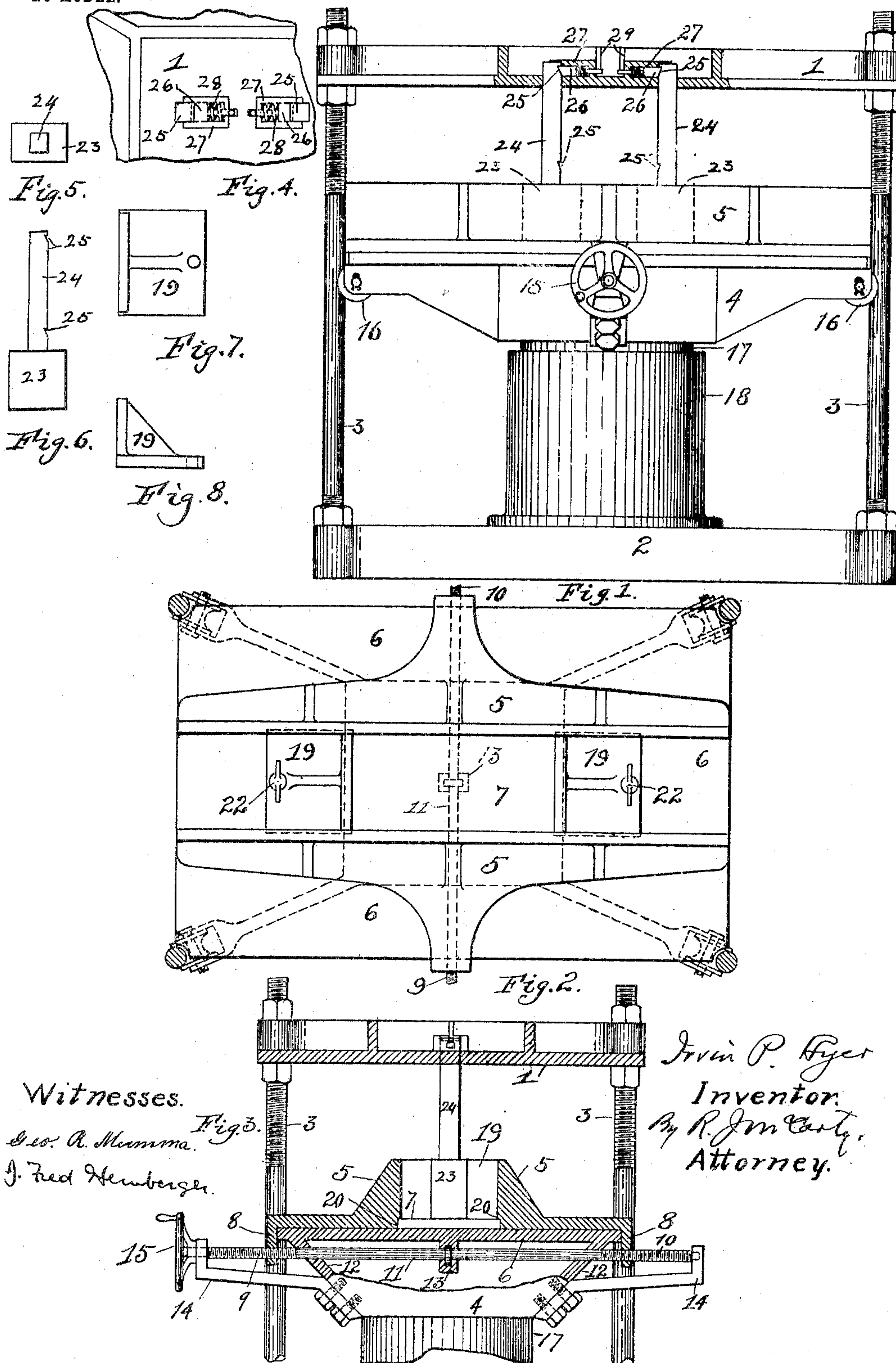
PATENTED DEC. 6, 1904.

I. P. HYER.

PRESS FOR MOLDING CEMENT BUILDING BLOCKS.

APPLICATION FILED FEB. 23, 1904.

NO MODEL.





# UNITED STATES PATENT OFFICE.

IRVIN P. HYER, OF DAYTON, OHIO.

## PRESS FOR MOLDING CEMENT BUILDING-BLOCKS.

SPECIFICATION forming part of Letters Patent No. 776,846, dated December 6, 1904.

Application filed February 23, 1904. Serial No. 194,681. (No model.)

*To all whom it may concern:*

Be it known that I, IRVIN P. HYER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Presses for Molding Cement Building-Blocks; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in hydraulic presses for making hollow cement or concrete building-blocks and possesses the features of novelty and utility hereinafter described, and pointed out in the claims.

The essential features of the invention relate to the flask or mold and comprise adjustable sides and removable ends by means of which each molded block may be cleared by the sides and ends of the flask and presented for easy removal from the mold, and, further, to means for enabling an automatic removal of the core-blocks from the molded block in the lowering of the flask after the operation of compressing the blocks. The core-blocks are quickly replaced to positions in the molds for each successive operation of molding the cement blocks, all as will hereinafter more fully appear.

Preceding a detail description of the invention, reference is made to the accompanying drawings, of which—

Figure 1 is an elevation of a press having my improvements applied thereto. Fig. 2 is a plan view of the flask or mold. Fig. 3 is a sectional view at right angles to Fig. 1. Fig. 4 is a detail plan view of a portion of the top or head of the press. Figs. 5 and 6 are details of one of the core-blocks removed. Figs. 7 and 8 are detached views of the removable and adjustable ends of the flask.

In a detail description of the invention similar reference characters indicate corresponding parts.

1 and 2 designate, respectively, the head-

plate and base of the press, which are united at their four corners by posts 3.

4 designates a vertically-movable carrier which supports the flask or mold. The same in the present instance consists of two sides 5 5, which are adjustable inward and outward upon the floor 6 of the carrier, the said floor also supporting the bottom plate 7 of the mold. The sides 5 of the flask have downwardly-projected tongues 8 8 with screw-threaded openings therein to receive the right and left hand screw-threaded portions 9 and 10 of an adjusting-screw 11. This adjusting-screw has a bearing in the tapered walls 12 12 of the carrier and also a bearing in its center in a downward-projecting portion 13 at the middle of the carrier. The extreme outer ends of said screw has further bearings in brackets 14, which are rigidly attached to the carrier 4. The said screw is operated to move inwardly and outwardly the sides 5 5 of the flask by means of a hand-wheel 15, which is attached to one end of said screw. The carrier 4 has mounted at its four corners guide-rollers 16, which have their peripheries grooved to fit against the upright surfaces of the posts 3. The carrier and the flask are operated vertically by means of the hydraulic ram 17, which moves within the cylinder 18 in a well-known manner. The ends of the flask consist of removable angle-plates 19, which fit in grooves 20 in the base of the sides 5 5. The bottom plate 7 also occupies portions of the same grooves, as will be seen from Fig. 3. The said ends 19 are adjustable lengthwise of the side plates of the mold and are made fast to the bed-plate 7 by means of thumb-screws 22. From Fig. 2 of the drawings it will be observed that these end plates 19 may be adjusted to various positions relatively to the side plates 5 5 of the mold.

The cement building-blocks are essentially hollow in their construction and are thus constructed by means of core-blocks 23, which are caused to remain in an elevated position when the flask or mold is lowered after each operation of pressing the cement blocks within the mold. The said core-blocks have projecting upwardly from the centers thereof rigid or integral bars 24, in the inner surfaces



of which there are upper and lower notches 25. The lower notches are instrumental in conjunction with detents 26 in holding the core-blocks in elevated positions when the mold or flask is lowered after the operation of compressing the blocks. The said core-blocks are engaged in the upper notches 25 by the detents 26 when said blocks are in their lower position, and thus said core-blocks are prevented from leaving their guides should the mold or flask be accidentally lowered to a point below its lower normal position. These detents enable an automatic removal of the cores and leaves them in a suspended position to be lowered into the flask or mold for each succeeding operation. The bars 24 extending from the core-blocks pass through openings in the head 1 of the press and also have guides 27 above the top of the plate, which, together with the top plate, form guideways in which the said bars move. The detents 26 lie within the guides 27 and are normally pressed in the direction of the bars 24 by coil-springs 28.

29 designates finger-pieces which project rigidly from the stems of the detents 26 and by means of which said detents may be pressed inwardly away from engagement with the bars 24 to permit the core-blocks to drop into operative positions in the mold or flask 5.

While I have described minutely the means that obtain a removal of the core-blocks from the cement blocks when the flask or mold is lowered after each operation of molding the blocks, I do not wish to limit myself to the identical means herein shown and described.

Having described my invention, I claim—

1. In a press for molding cement building-blocks, the combination of a flask having laterally-adjustable sides and removable ends, core-blocks having extensions for holding said core-blocks in an upward position upon each lowering of the flask after the formation of a cement block, substantially as set forth.

2. In a press for molding cement building-blocks, the combination with a flask having laterally-movable sides, and removable ends, of core-blocks having bars extending therefrom, said bars being projected through the head-plate of the press and provided with guideways above said head-plate, and detents engaging with said bars above the head-plate and serving to hold the core-blocks in position, substantially as set forth.

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

IRVIN P. HYER.

Witnesses:

R. J. McCARTY,  
C. M. THEOBALD