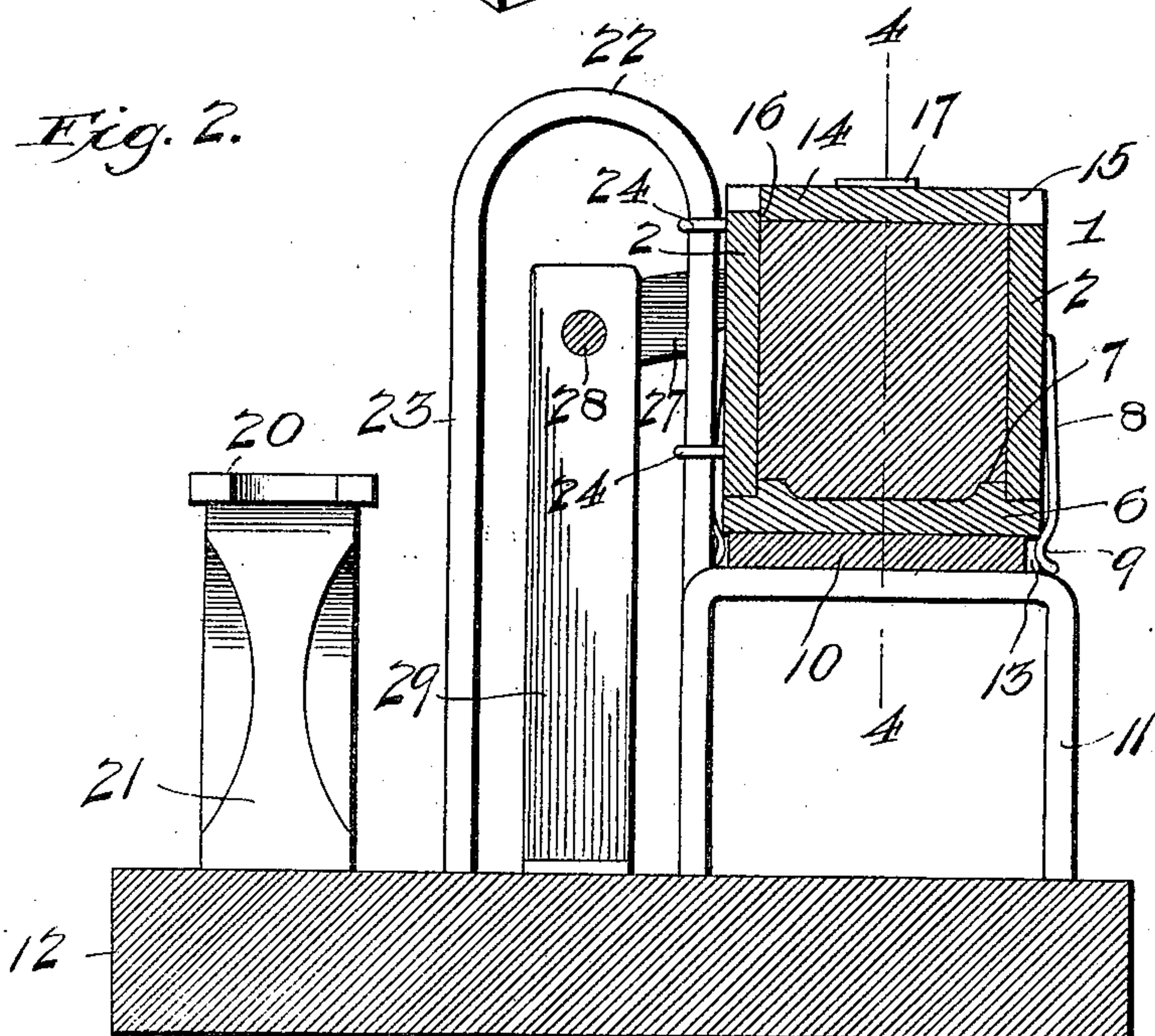
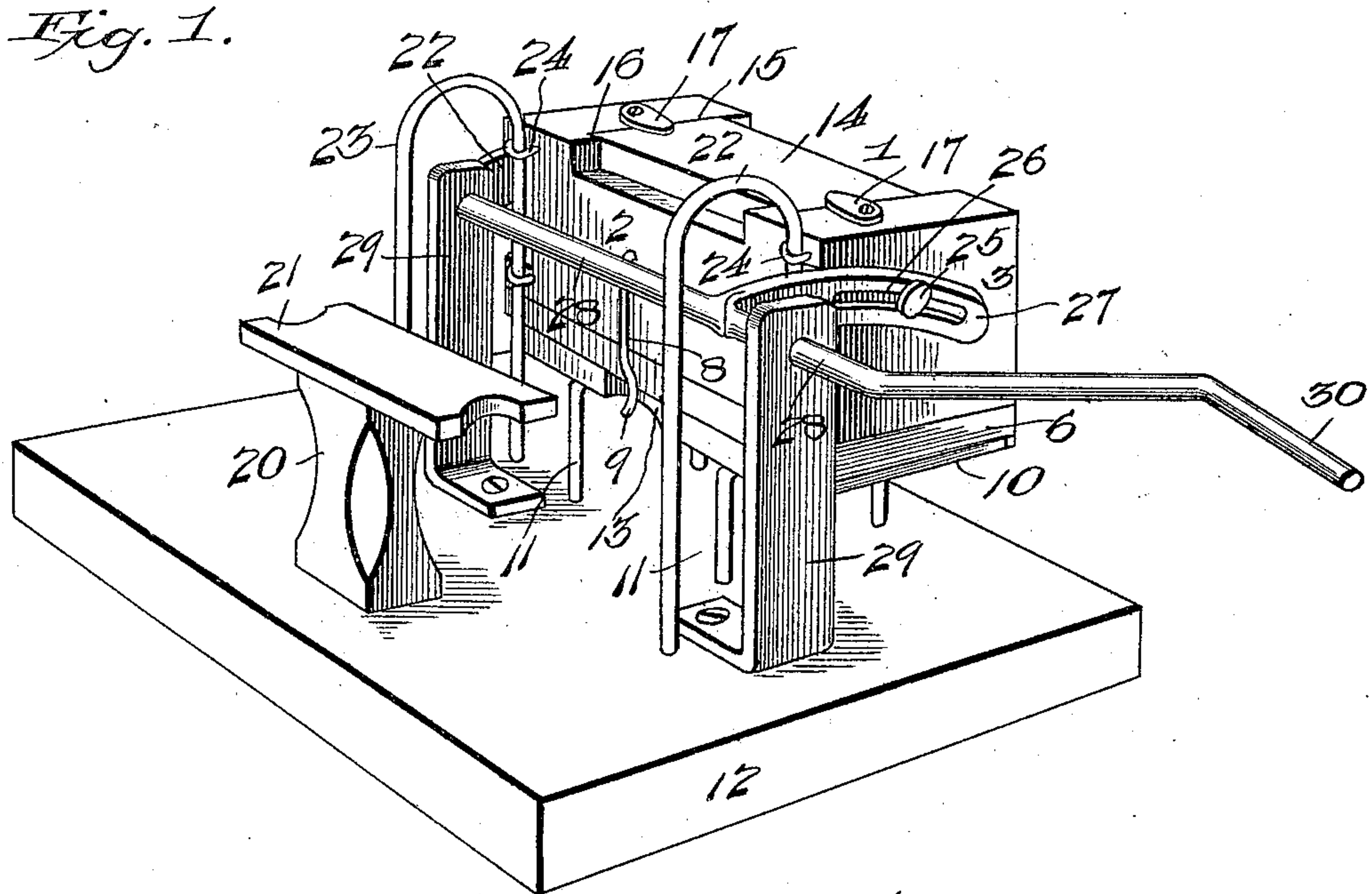


No. 820,098.

PATENTED MAY 8, 1906.

J. J. COX.  
CEMENT BLOCK MACHINE.  
APPLICATION FILED NOV. 17, 1905.

2 SHEETS—SHEET 1.



Witnesses  
*T. L. Mockman*  
*William W. Doane*

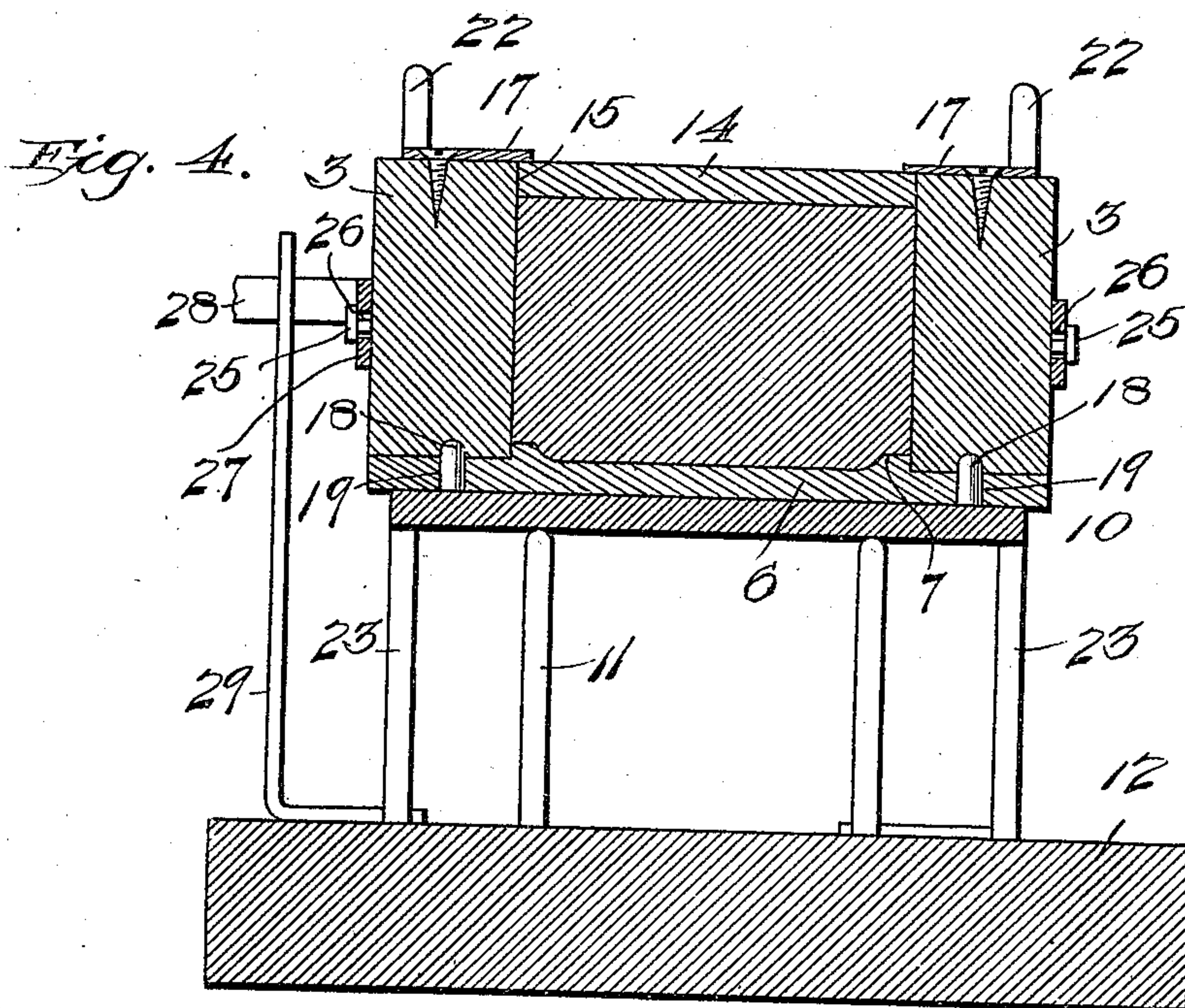
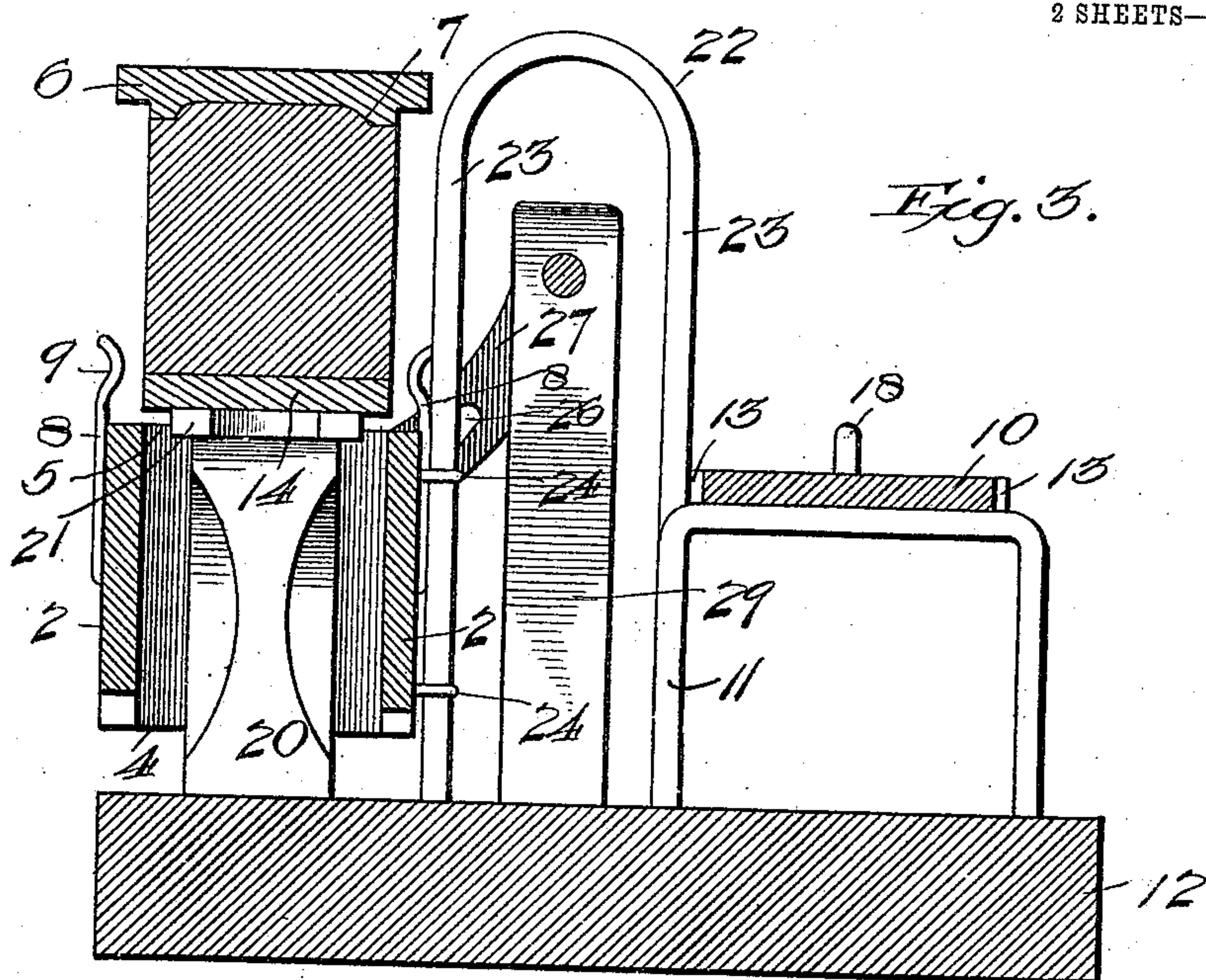
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Witnesses  
T. D. Mochman  
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# UNITED STATES PATENT OFFICE.

JAMES J. COX, OF JACKSON, MICHIGAN.

## CEMENT-BLOCK MACHINE.

No. 820,098.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed November 17, 1905. Serial No. 287,795.

*To all whom it may concern:*

Be it known that I, JAMES J. COX, 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 Cement-Block Machines, of which the following is a specification.

This invention relates to block-molding machines of the type designed for molding building or other structural blocks made from cement, concrete, or equivalent plastic materials.

To this end the invention contemplates a simple and practical construction of molding-machine embodying means for molding the article in perfect form, while at the same time greatly facilitating the handling thereof both in the molding and delivery operations.

A special object of the invention is to provide a molding-machine of the type referred to wherein the mold-box or mold-body is of a non-folding form—that is, is constructed with permanently-connected sides and ends and designed to be operated in a novel manner whereby the molded article is delivered in such a way as to greatly facilitate the easy handling thereof, while at the same time insuring such a delivery of the article from the mold as to prevent shattering or crumbling at any point.

In the above connection the invention contemplates a construction which provides a thorough troweling of the molded article after its formation in the mold or mold-box, and particularly during its delivery out of the mold.

Another object of the invention is to provide a construction of molding-machine which permits a great variety of blocks of different sizes and designs to be made without changing the body-wall of the mold.

A general object of the invention is to provide a block-molding machine which simplifies the manufacture of cement or concrete blocks and at the same time obviates the necessity of using molds of the folding type which employ hinged and otherwise movably mounted members.

With these and other objects in view, which will more fully appear as the nature of the invention is understood, the same consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in carrying out the objects above in-

dicated are necessarily susceptible to structural changes without departing from the scope of the invention; but a preferred embodiment of the invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a block-molding machine embodying the present invention and showing the mold closed and in position for being shifted to the fixed delivery-platform. Fig. 2 is a vertical transverse sectional view of the machine, showing the parts in the position occupied in Fig. 1. Fig. 3 is a similar view showing the delivery operation of the machine. Fig. 4 is a vertical longitudinal sectional view on the line 4 4 of Fig. 2.

Like reference-numerals designate corresponding parts in the several figures of the drawings.

In carrying out the present invention a distinctive feature thereof resides in the employment of a mold proper or mold-box of a non-folding or non-collapsing type—that is, a mold having permanently-guided sides and ends constituting a fixed body-wall.

In the drawings the mold-box is designated in its entirety by the numeral 1, and essentially consists of a rectangular box-body comprising the fixed side and end walls 2 and 3, respectively, said side and end walls preferably comprising parts of an integral body structure, but which may be rigidly united in any suitable manner to provide a fixed body-wall for the mold-box.

The interior wall of the mold or mold-box is given the desired configuration, according to the shape of block to be molded therein, though in the formation of ordinary building and structural blocks the mold is of a rectangular form exteriorly and interiorly. Whatever the configuration of the mold-box may be, the same is open at top and bottom, the top opening being designated by the numeral 4 and the bottom opening by the numeral 5, as best shown in Fig. 3 of the drawings.

When in position for receiving the cement or concrete material for molding the block or other article, the mold-box 2 is covered or closed at the bottom thereof through the medium of a detachable face-plate 6, having an edge flange fitting over the bottom edges of the mold-body wall, as is plainly shown in Fig. 2 of the drawings, and preferably provided upon its inner side with a suitably-ornamented pattern die or surface 7, designed



to impress the face of the molded block with any predetermined or selected pattern or design, according to the finish intended to be given the object. The said detachable face-plate 6 therefore acts as a bottom cover for the mold-box and also as the pattern therefor, and to provide for temporarily and releasably fastening the face-plate to the mold box or body the latter may be conveniently fitted upon opposite sides thereof with spring holding-clips 8, having deflected engaging ends 9, engaging over opposite side edges of the face-plate.

When the mold is in position for receiving the cement or concrete material, the same with its detachable face-plate thereon is supported upon a stationary horizontal molding-table 10, supported in an elevated position upon supporting-uprights 11, mounted on a machine-base 12 of suitable form. With the parts in this position (shown in Figs. 1 and 2) the engaging ends 9 of the holding-clips 8 lie in the clearance-notches 13, formed in opposite side edges of the stationary molding-table 10. Also with the parts in this position the mold-box is designed to have placed thereon (after the material is filled and tamped therein) a supporting-pallet 14.

The supporting-pallet 14 consists of a plate or board of substantially the same dimensions transversely and longitudinally as the interior of the mold or mold-box, so as to be capable of freely passing through said box from top to bottom thereof. To provide for properly receiving and positioning the pallet 14, the mold-box is provided at the top with a slide-seat 15, intersecting the top opening 4 of the box and provided at one side with a stop-shoulder or abutment 16, against which the pallet is arrested when slid into the seat 15 through one side of the mold-box. When the pallet 14 is thus positioned, the same is held in place from outward displacement through the medium of keeper-plates 17, fitted to the end walls 3 of the mold-box, at the top thereof and overhanging the end edges of the top opening 4. In a similar manner the detachable face-plate 6 for the opposite side of the mold-box is held properly positioned upon the stationary molding-table 10 by means of fixed retaining-studs 18. These studs are fitted to and projected upwardly from the molding-table 10 and loosely engage in the keeper-openings 19, formed in the end portions of the face-plate 6.

The mold or mold-box 1 is designed to be shifted or shipped bodily, with the molded article and its attached parts, from the molding-table 10 to a horizontally-fixed delivery-platform 20, held in an elevated position above the base 12 by a pedestal or equivalent support 21. The fixed delivery-platform 20, like the pallet 14, is of such dimensions as to pass through the mold-box from one opening to the other during the act of delivering or dis-

charging the block or molded article. Said platform 20 is arranged in spaced relation to the table 10 at one side of a vertical plane of the arched guide-frames 22, which are mounted on the base 12 and are arranged between the table 10 and the platform 20. The said arched guide-frames 22 are provided with the vertical leg members 23 and are slidably engaged by the slide-loops 24, fitted to and carried by the mold-box 1. The slide-loops 24 are located on one side of the mold-box, at or contiguous to the ends thereof, in order to provide a uniform support for both ends of the mold, and in addition to the slide-loops which move over the arched guide-frames the mold or mold-box 1 is provided at the opposite ends thereof with centrally-arranged trunnions 25, loosely engaged in the curved slots 26 of the swinging shifting-levers 27, which are arranged to work over the opposite ends of the mold-box and are projected from one side of the shipper rock-shaft 28. This rock-shaft is journaled in bearing-uprights 29, mounted on the machine-base 12, and is provided at one or both ends with an operating handle or crank 29.

The manner of operating the machine is very simple. The first step is to position the detachable face-plate 6 over the retaining-studs 18 on the stationary molding-table 10. Then the mold-box is moved onto this plate-during which movement the spring holding-clips 8 become automatically engaged with the said plate, as plainly shown in Figs. 1 and 2 of the drawings. It is then only necessary to pack the cement or concrete material into the mold-box, and when the latter is filled the pallet 14 is slidably inserted into the seat 15 from one side of the mold-box. In thus positioning the pallet the same necessarily acts as a leveling-trowel for the then uppermost side of the cement block. After placing the pallet 14 in position when it is desired to remove or deliver the molded article from the mold the operator grasps the handle 30 and rocks the shaft 28 in a direction for shipping the mold-box with its contents and attached parts bodily over the arched guide-frames 22 and downward upon the fixed delivery-platform 20. As the mold is carried downward in the vertical plane of the fixed delivery-platform 20 the pallet 14 first moves onto and is arrested by the platform, so that as the mold-body continues to move downward under the pressure of the operating-handle the same will leave the molded block and its pallet supported on the fixed platform, as plainly shown in Fig. 3 of the drawings. Furthermore, this downward movement of the mold-body past the mold-block necessarily causes a smoothing or troweling action upon both sides and ends of the block. The molded block thus delivered may be readily removed upon its pallet to the stack or other drying-place.



From the foregoing it is thought that the construction, operation, and many advantages of the herein-described block-molding machine will be readily apparent without further description, and it will be understood that various changes in the form, proportion, and minor details of construction may readily be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a block-molding machine, a stationary molding-table, a fixed delivery-platform, and a mold-box shiftable bodily from one to the other of said elements and movable over and past the delivery-platform.

2. In a block-molding machine, a stationary molding-table, a fixed delivery-platform, a mold-box having opposite openings respectively for the reception and delivery of the material, and means for shifting the mold-box from the table to the platform and vice versa.

3. In a block-molding machine, a stationary molding-table, a fixed delivery-platform, a mold-box having top and bottom openings and shiftable bodily from the table to the platform and vice versa, said mold-box being arranged to move over and past the delivery-platform to discharge the molded article thereon.

4. In a block-molding machine, a fixed platform, a mold-box open at top and bottom, temporary closures for the box, and means for shifting the mold-box bodily over and past the delivery-platform to discharge the molded article thereon.

5. In a block-molding machine, a fixed delivery-platform, and a mold having an opening therethrough, and shiftable directly over and past the platform to provide for discharging the molded article thereon.

6. In a block-molding machine, a stationary molding-table, a fixed delivery-platform,

a mold-box open at top and bottom and supported in one position on the molding-table, and means for shifting the mold-box bodily into the plane of the stationary platform and over and past said platform to discharge the molded article thereon.

7. In a block-molding machine, a mold-box having a fixed body-wall, a detachable face-plate releasably held over the bottom opening of the mold-box, and a troweling-pallet movable laterally in a position over the top opening of the mold-box against the top portion of the molded article.

8. In a block-molding machine, a stationary molding-table, a fixed delivery-platform, a shiftable mold-box open at top and bottom, a detachable face-plate releasably held over the bottom opening of the mold and resting in one position on the molding-table, and a pallet removably fitted over the top opening of the mold-box and arranged to pass through the latter when arrested upon the delivery-platform.

9. In a block-molding machine, a base, a molding-table supported above the base, a fixed delivery-platform also supported above the base, an arched guide-frame arranged between the table and the platform, a shiftable mold-box slidably connected with said frame and provided at its ends with trunnions, a rock-shaft provided with slotted shifting levers engaging said trunnions, a detachable face-plate releasably held over the bottom opening of the mold-box and resting in one position on the molding-table, and a pallet removably placed over the top opening of the mold-box and adapted to pass through the latter when arrested upon the delivery-platform.

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

JAMES J. COX.

Witnesses:

JOHN W. LORSCHIEDER,  
F. B. HUTCHINSON.