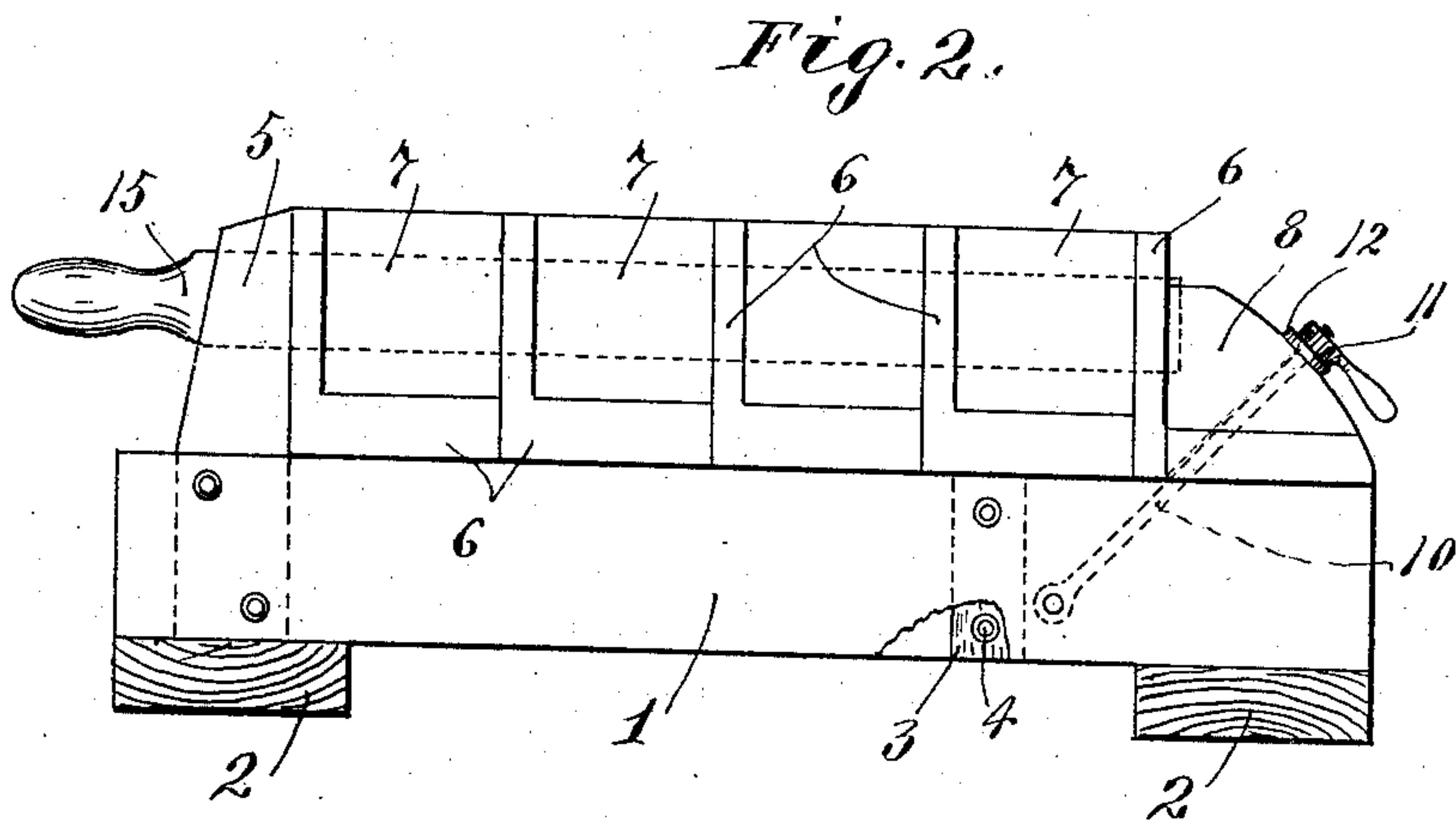
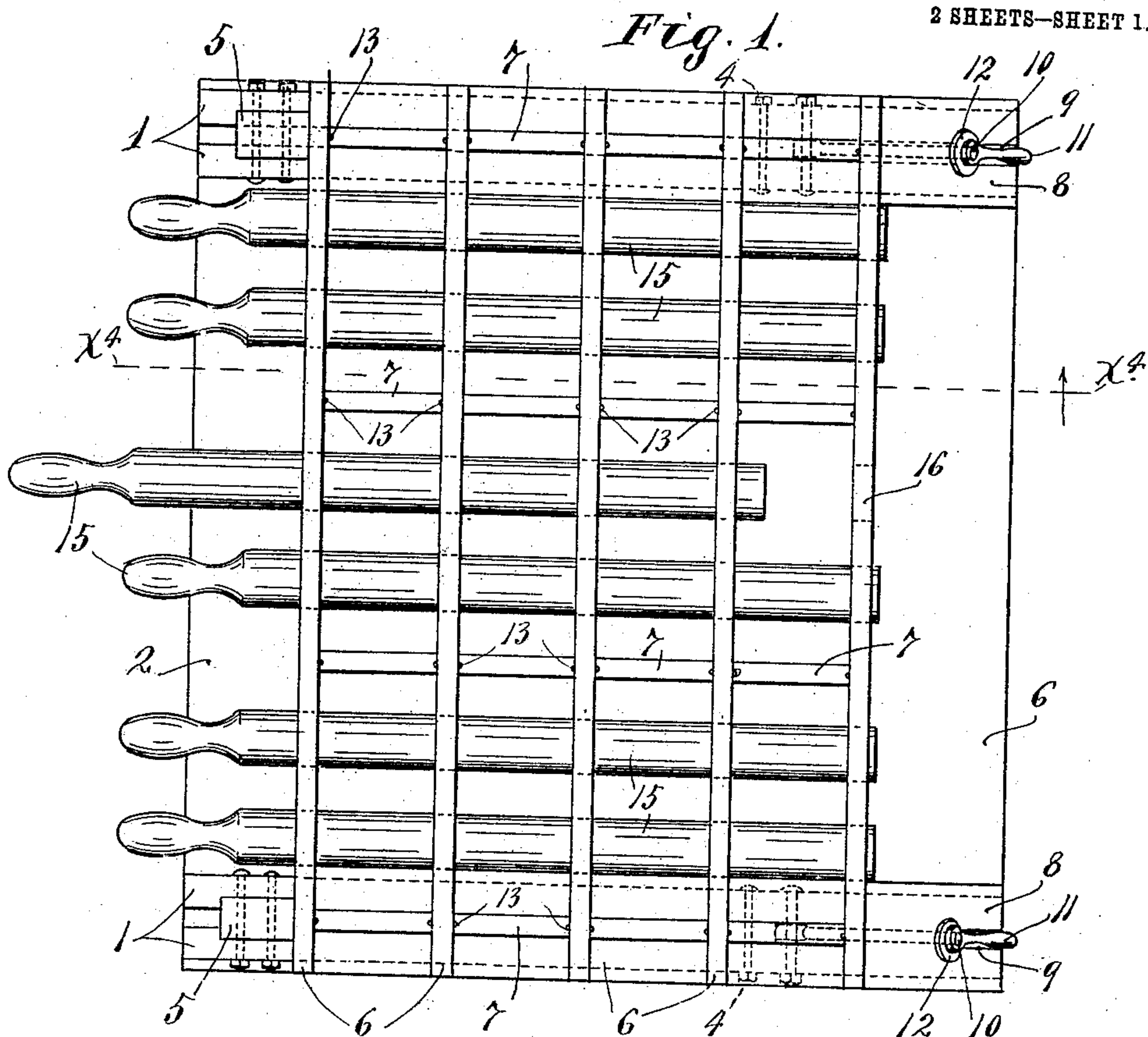


No. 839,812.

PATENTED JAN. 1, 1907.

F. W. COOLEY.
CONCRETE BLOCK MACHINE.
APPLICATION FILED MAR. 27, 1906.

2 SHEETS—SHEET 1.



Witnesses.
A. H. Osahl.
E. W. Jeppesen.

Inventor
Fred W. Cooley.
By his Attorneys
William M. Mearns

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2 SHEETS—SHEET 2.

Fig. 3.

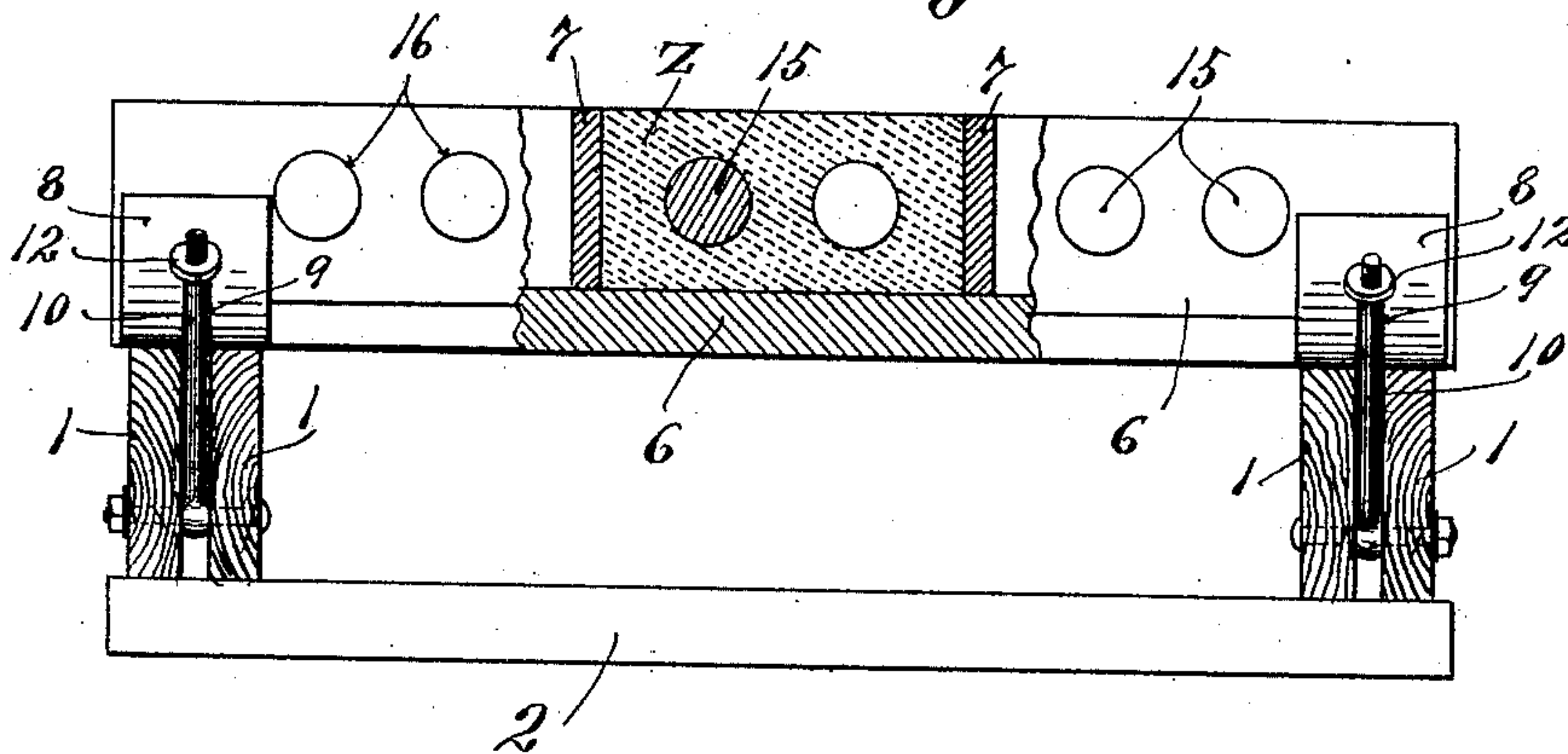


Fig. 4.

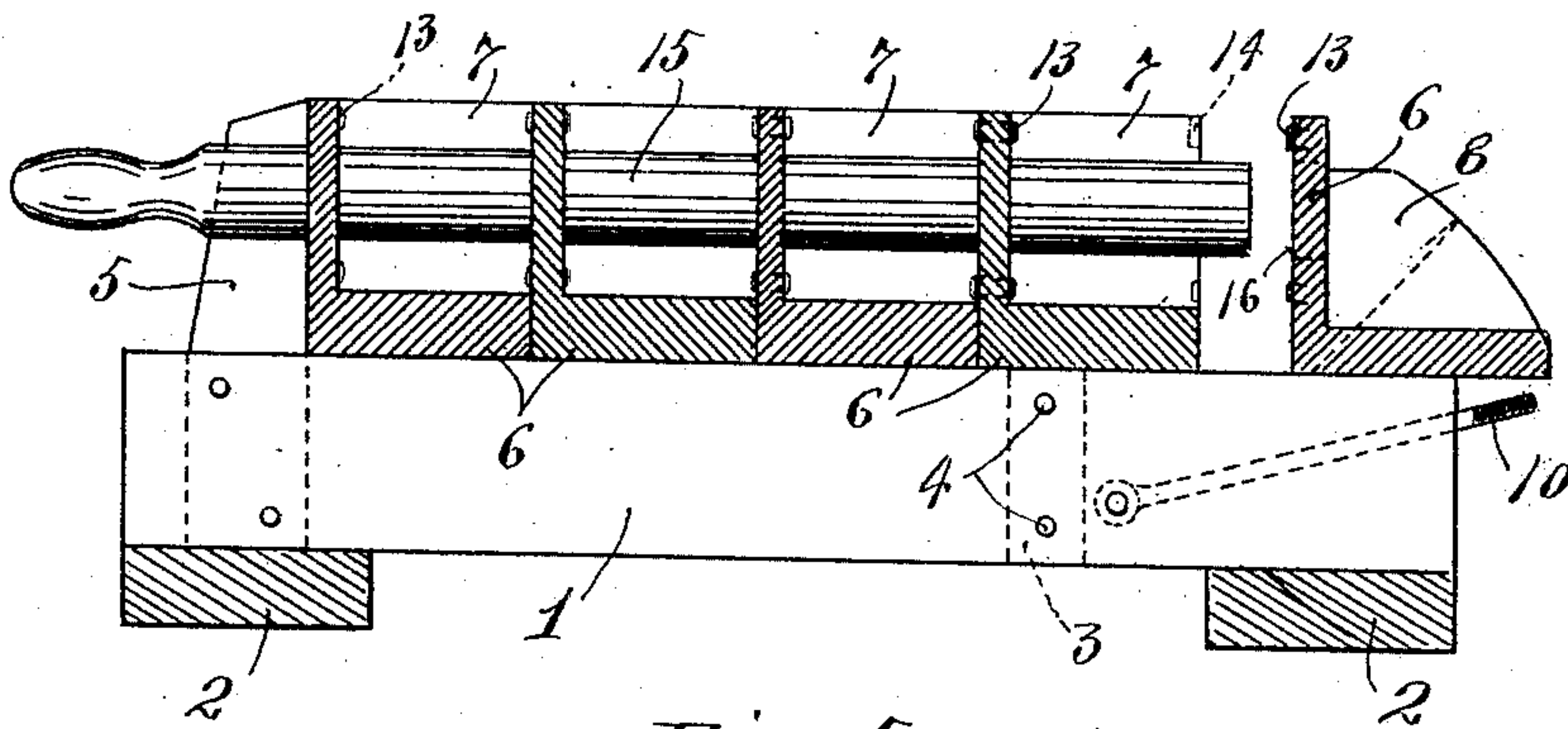
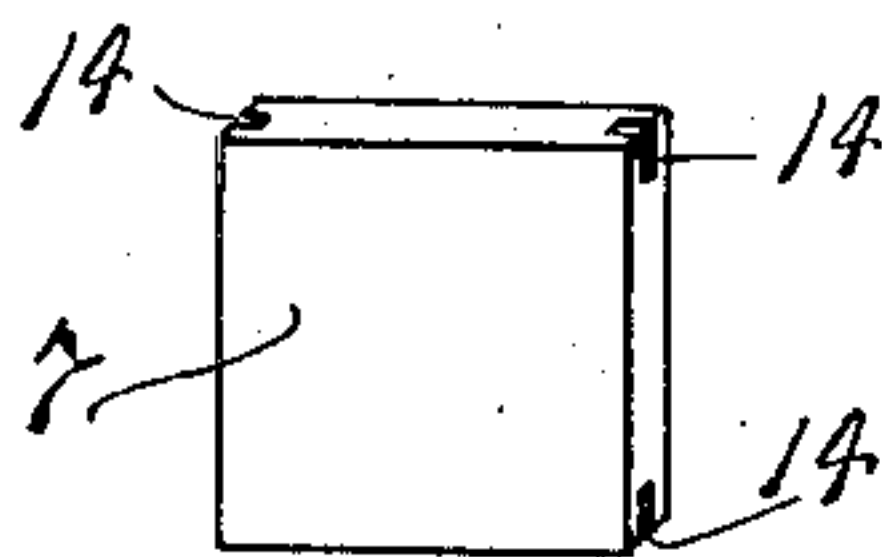


Fig. 5.



Witnesses.
A. H. Opsahl.
E. W. J. J. J.

Inventor.
Fred W. Cooley.
By his Attorneys
Williamson & Muchant

UNITED STATES PATENT OFFICE.

FRED W. COOLEY, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF TWO-THIRDS TO GEORGE T. HONSTAIN, OF MINNEAPOLIS, MINNESOTA.

CONCRETE-BLOCK MACHINE.

No. 839,812.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed March 27, 1906. Serial No. 308,302.

To all whom it may concern:

Be it known that I, FRED W. COOLEY, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Concrete-Block Machines; 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 has for its object to provide an improved molding machine or apparatus for use in molding concrete blocks and bricks; and to the above ends it consists of the novel devices and combinations of devices, all as hereinafter described, and defined in the claims.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view of the machine or apparatus. Fig. 2 is a side elevation of the same. Fig. 3 is a rear elevation of the said machine or apparatus, some parts being broken away and some parts being sectioned. Fig. 4 is a vertical section taken on the line $x^4 x^4$ of Fig. 1, and Fig. 5 is a perspective view showing in detail one of the end boards of the mold.

1 indicates a pair of parallel frame-bars which, as shown, are preferably tied together by transverse bars 2. Each supporting-beam 1 is preferably made up of a laterally-spaced pair of members, that are separated by spacing-blocks 3 and are tied together by nutted bolts 4. The beams 1 at one end—to wit, their left-hand ends, as shown in Figs. 1, 2, and 4—are provided with vertically-projecting clamping lugs or projections 5.

The flask is constructed so that it will form a plurality of blocks at one time, and the body thereof is made up chiefly of a plurality of flask-sections 6, that are approximately L-shaped in cross-section. These flask-sections when set in parallel arrangement on the supporting-bars 1, as shown in the drawings, form a plurality of channels, and these channels are divided each into a plurality of molds by means of end and intermediate filling plates or blocks 7, which, as shown, are approximately square in outline. The horizontal flange of the right-hand

or outermost flask-section 6 need not be and is not, as shown, extended from end to end thereof. Preferably the intermediate portion of said horizontal flange is cut away, and segmental blocks 8 are secured to the end portions thereof and are provided with slots 9, that open at the bottom of the said right-hand section and aline with the spaces between the members of the supporting-bars 1. Clamping-rods 10 are pivoted at their inner ends to the supporting-bars 1 and are adapted to be oscillated in vertical planes between the laterally-spaced members of said bars and to be moved into and out of the slots 9 of the segmental blocks 8. The free ends of said clamping-rods 10 are threaded and are provided with threaded hand-pieces 11, that act as clamping-nuts. As shown, washers 12 are placed on the rods 10 between the hubs of the hand-pieces 11 and the outer faces of the segmental blocks 8.

When the sections 6 of the flask are placed in working position, they may be rigidly clamped together, with the left-hand section pressed against the stop-lugs 5 by screwing up the hand-pieces 6 against the blocks 8, while the clamping-rods 10 are turned upward, as shown in Figs. 1 and 2. The end and intermediate plates 7 are adapted to be placed in working positions and removed therefrom by vertical sliding movements, and they are preferably held in working positions by means of retaining-lugs 13 on the vertical flanges of the flask-sections 6, that engage with vertical grooves 14, cut in the vertical edges of said plates 7. The retaining-lugs 13 may be conveniently formed by driving staples into the vertical flanges of the flask-sections 6, with the head portions of said staples projecting and extending in vertical planes.

The machine or apparatus shown is arranged to form twelve blocks at one operation; but it may of course be constructed for any desired number of blocks. It is desirable to form the blocks with cavities or air-spaces, and to this end I employ a plurality of plunger-like cores 15, that are extended in parallel arrangement through suitable perforations or seats 16 in the vertical flanges of the flask-sections 6. As shown, two cores 15 are extended through each of the block-molds, each of such cores being extended

through four alined molds, so that in all there are six of these cores in the machine illustrated.

In the use of the improved machine or apparatus the molds will usually be a little less than one-half filled with the concrete before the cores 15 are inserted in working positions. The cores then being inserted in position, the filling of the molds with concrete in plastic condition is completed, and by means of a trowel-board or other device the upper surfaces of the several blocks are smoothed off. Then after the blocks have stood for a very short time the cores are withdrawn by endwise movement, and the clamping-bolts 10 are loosened and dropped and the right-hand flask-sections 6 are removed. The other flask-section may be separated, removed, and carried away with the formed blocks, and the blocks may be left standing on the said flask-sections until dried sufficiently to permit handling. The flask-sections are therefore used as palette-boards, and in practice a very large number of these flask-sections or palette-boards may be provided for use in rotation with the other parts of the molding device.

The device described is of very small cost, and with its use concrete blocks or bricks may be formed rapidly and at small cost.

I claim as my invention—

1. A device for use in molding concrete blocks or bricks, comprising a plurality of flask-sections adapted to be put together to form a molding-flask and to be separated and used as palette-boards, substantially as described.

2. In a device of the kind described, the combination with a supporting-frame and clamping means, of a plurality of flask-sections adapted to be clamped and held thereby to form a molding-flask, and to be separated and used as palette-boards, substantially as described.

3. In a device of the kind described, the

combination with a supporting-frame and clamping means, of a plurality of separable flask-sections which are approximately L-shaped in cross-section, and a plurality of end and intermediate plates cooperating with said flask-sections to form a molding-flask with a plurality of molds, substantially as described.

4. In a device of the kind described, the combination with a supporting-frame and clamping means, of a plurality of separable flask-sections that are approximately L-shaped in cross-section and are adapted to be held together on said frame by said clamping means to form a molding-flask, end and intermediate plates cooperating with said flask-sections to form a molding-flask having a plurality of molds, and a plurality of endwise-removable cores working through seats or perforations in the vertical flanges of said flask-sections, substantially as described.

5. The combination with a supporting-frame comprising the divided supporting-bars 1 having vertical clamping-lugs 5, of a plurality of separable flask-sections 6 that are approximately L-shaped in cross-section, one of the outer members thereof having a slotted block 8, clamping-rods 10 pivoted to said supporting-bars 1 and working in the slots of said blocks 8, nuts working on threaded ends of said clamping-bolts and cooperating with said bolts to clamp the flask-sections together, the plurality of end and intermediate bolts 7 removably fitting between the upright flanges of said flask-section, and the plurality of endwise-removable cores 15 working through seats in the vertical flanges of said flask-sections 6, substantially as described.

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

FRED W. COOLEY.

Witnesses:

MALIE HOEL,

F. D. MERCHANT.