

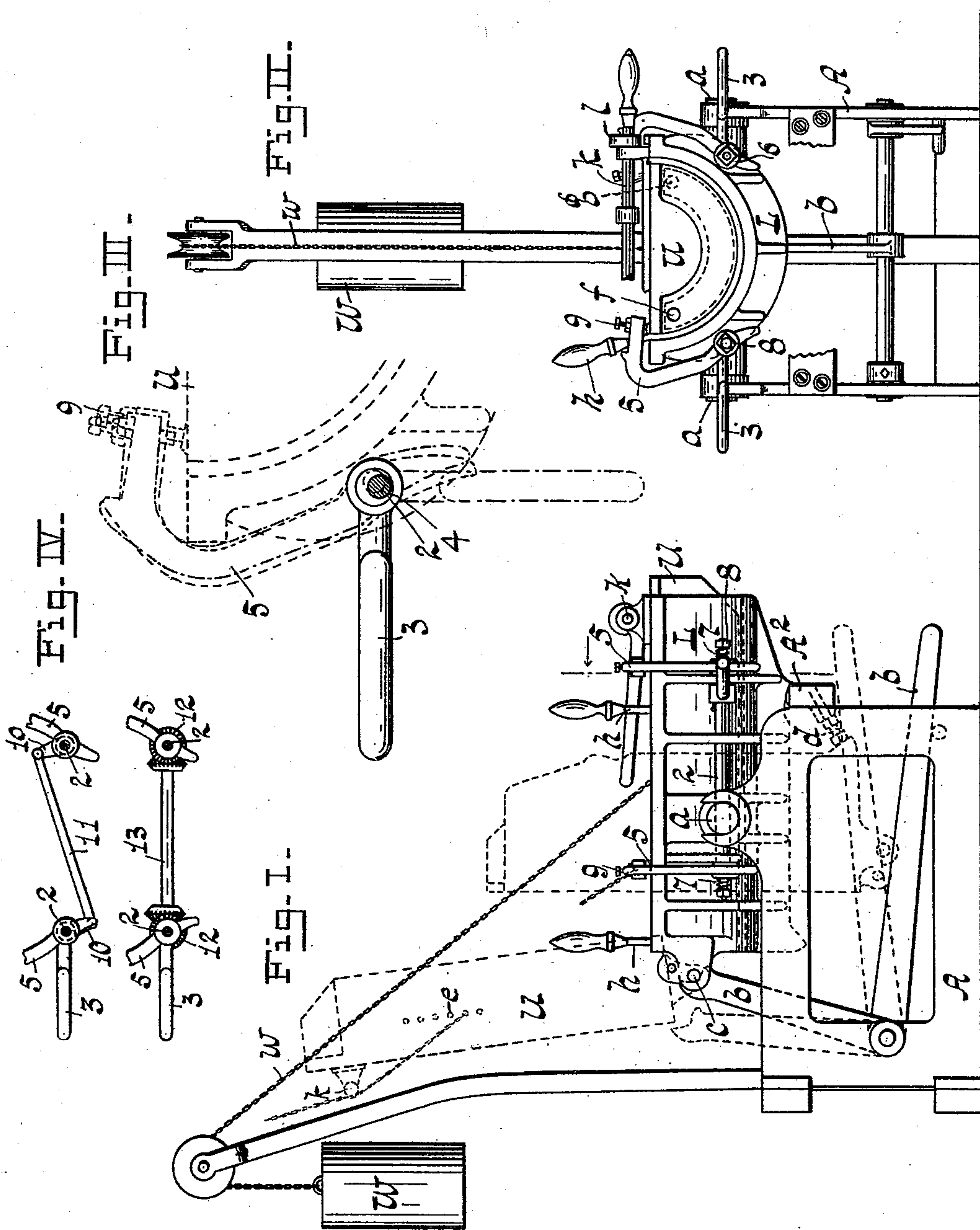
(No Model.)

2 Sheets—Sheet 1.

W. SCOTT.
STEREOTYPE CASTING APPARATUS.

No. 583,090.

Patented May 25, 1897.



WITNESSES:

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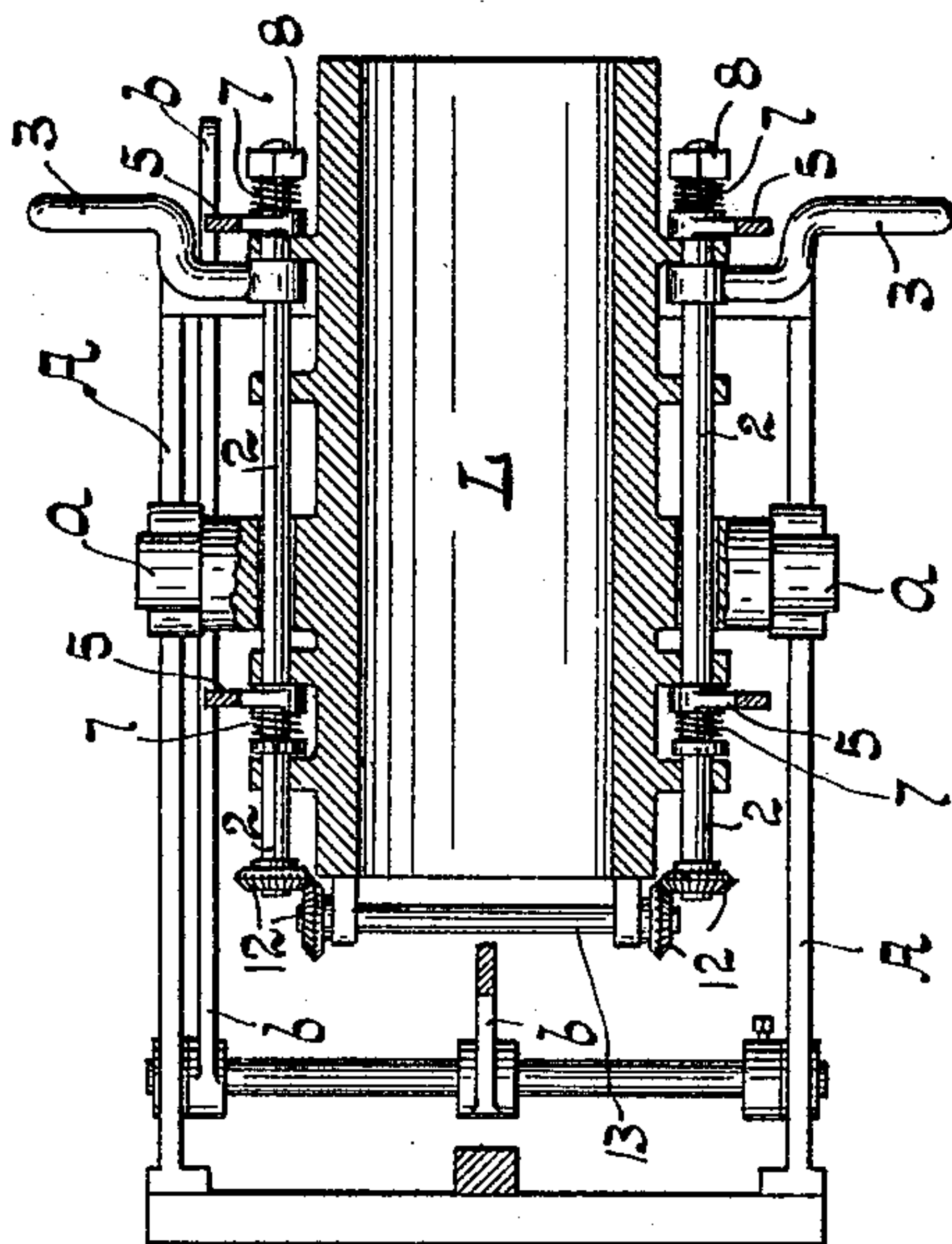


Fig. V.

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UNITED STATES PATENT OFFICE.

WALTER SCOTT, OF PLAINFIELD, NEW JERSEY.

STEREOTYPE-CASTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 583,090, dated May 25, 1897.

Application filed January 30, 1895. Serial No. 536,637. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT, a citizen of the United States, and a resident of Plainfield, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Stereotype-Casting Apparatus, of which the following is a specification.

This invention has relation to apparatus for casting curved stereotype-plates wherein the plate is formed between the matrix held by an external or concave mold and the convex face of the second or inner mold.

The objects of the invention are to facilitate the operation of casting such a plate by quickly clamping and unclamping the inner mold and to prevent undue strain or hammering of parts in tilting the same up out of the way in order to place the matrix in position in the lower mold. These and other objects are obtained by the hereinafter-described invention, which is illustrated by the accompanying drawings, forming part of this specification, and more particularly pointed out in the claims which conclude this specification.

In the accompanying drawings, Figure 1 is a side elevation of the apparatus. Fig. 2 is an end elevation of the same from the right in Fig. 1. Fig. 3 is an enlarged detail to show the operation of the clamping devices, and Fig. 4 shows two methods of connecting the clamping devices on opposite sides of the molds whereby they may be simultaneously operated from one side of the apparatus. Fig. 5 is a plan view, partly in horizontal section, showing the means for simultaneously actuating the clamps on each side of the mold.

It is customary in the casting of stereotype-plates to have the mold with its longitudinal axis in a horizontal direction, which makes the outer mold the underneath one and the inner mold the upper one in such construction. For convenience of reference I shall hereinafter speak of the outer mold as the "lower" and the inner mold as the "upper" mold.

The apparatus is supported by a suitable framework, as A, in which the lower mold L is trunnioned, as at a, so as to be tilted up into a vertical position, if desired. A catch-lever b, acting on the pin c at the rear of the

lower mold, prevents any motion thereof except at such times when the said lever is tilted up to the position shown in dotted lines in Fig. 1, the said lever b being pivoted in the frame A. An adjustable stop d, carried by the frame, acts to stop the lower mold when it is tilted into a vertical position and the cross-bar A² of the frame A acts to stop or limit the motion of the lower mold in the opposite direction. The upper mold U is pivoted or hinged to the lower mold L by the pin c, hereinbefore referred to, so as to be independently movable. In order to facilitate the movements of the upper mold, it is counterbalanced by the weight W, which is connected thereto by means of a chain w. The upper mold may be provided with a series of holes or pins e on one or both sides thereof, by which the chain w may be connected in such manner that it may be moved from one to the other, so as to vary the purchase weight on the mold. The upper mold is hollow and is provided at its diagonally opposite corners with inlet and outlet orifices f g for the water used in cooling the stereotype-plates, a construction which gives a constant circulation to the water. It is understood, of course, that suitable piping is connected with these orifices to bring in and take out the water.

The clamping devices shown in the drawings at each side of the lower mold are duplicates of each other, so that the description which applies to one applies to the other, these devices with their operating means consisting of the shaft 2, which is journaled in ribs or lugs on the lower mold, and each is provided with an operating-handle 3 for rotating it in its bearings. The said shaft 2 is provided with eccentric or crank pins 4 to receive the clamping-arms 5, which are loose thereon, but which are frictionally held thereto by means of washers 6, springs 7, and nuts 8. The clamp-arms 5 extend over the rim and onto the upper mold when in use and are provided with an adjustable face for contact with the upper mold. This face is preferably the end of the screw 9 which passes through the clamp-arm and engages a parallel face on the upper mold.

The operation of the described clamp is as follows: With the parts in the positions shown

in Figs. 1 and 2 the clamp is set down hard upon the upper surface of the upper mold, holding it in place. On moving the handle 3 downward (see Fig. 3) the first effect is to
 5 raise the clamping-arms by means of the eccentrics 4, so that the screw 9 is lifted away from the upper mold. The free downward motion of the arm 3 and the rocking of the shaft 2 causes the clamps 5 to be turned
 10 about the shaft 2 as an axis and to move out of the way of the upper mold in case the latter should be swung up. The arms 5 are provided with a bolt which comes in contact with the lower mold and stops them from further motion in the direction just described.
 15 In using the machine for casting the matrix is placed in the lower mold, the gages *h* are put in place, the upper mold is lowered into position, and the handles 3 are moved from
 20 the positions shown in dotted lines to the positions shown in full lines in said figure. This causes the clamp-bars 5 to move inwardly of the molds until stopped by the rim of the lower mold and then downwardly upon
 25 the upper mold, planting it firmly in position. After the cast is made the handles 3 are drawn down, as above described, and the upper mold unclamped. Then the upper mold is loosened by means of the shaft *k* and
 30 the eccentrics *e* in the usual manner, said shaft being carried by the upper mold. The mold is then thrown upward, the counterweight running down, and it is stopped with a cushioning effect by the shaft *k* coming in
 35 contact with the chain *w* and bending it aside, as indicated in Fig. 1 in dotted lines.

As thus far described, the clamps at each side of the mold are independently operated, but they can be simultaneously operated from
 40 either side of the mold by means of the construction now to be described. Referring to Fig. 4, the shafts 2 are extended to and slightly beyond the rear end of the lower mold—*i. e.*, the left-hand end in Fig. 1—and are there each
 45 provided with an arm 10, one of which projects down and the other up, and which arms are connected by means of the link 11, so that the two shafts are rocked in opposite directions by one and the same handle 3. The
 50 second method of gearing shown in said Fig. 4 consists in replacing the arms 10 by beveled gears 12 and replacing the link 11 by the beveled gear 13, which engages both said bevels 12, so that the one and the same handle 3 will
 55 again rock the shafts 2 in opposite directions by clamping or unclamping the upper mold.

Of course many changes may be made in the details of this invention, which is not therefore limited to the precise construction shown in the drawings and above described. 60

Having thus fully described my invention, what I claim is—

1. In a stereotype-casting machine, the combination of the upper and lower molds, a rod journaled eccentrically at one side of said
 65 lower mold, clamps frictionally connected with said rod, and a handle for operating said rod, substantially as described.

2. In a stereotype-casting machine, the combination of the upper and lower molds, rods journaled at the sides of said lower mold and geared together, clamps connected with
 70 and operated by said rods, and a handle for operating said rods, substantially as described.

3. In a stereotype-casting machine, the
 75 combination of the upper and lower molds, rods journaled at the sides of said lower mold and connected together by toothed gearing, clamps for said upper mold connected with and operated by said rods, and a handle for
 80 operating one of said rods, substantially as described.

4. In a stereotype-casting machine, the combination of the upper and lower molds, clamps therefor, rods on which said clamps
 85 are loosely placed, friction devices for holding said clamps so as to be moved by the rods, gearing connecting said rods, and means for operating them, substantially as described.

5. In a stereotype-casting machine, the
 90 combination of the lower mold, the pivoted upper mold, the counterweight therefor, the chain, and a projecting part on said upper mold adapted to engage said chain as the said mold is thrown back and so buffer the same,
 95 substantially as described.

6. In a stereotype-casting machine, the combination of the upper and lower molds, clamps having screws for bearing on the upper mold, and toggle-like mechanism for operating
 100 said clamps to clamp the molds together, whereby by adjusting said screws the degree of pressure may be varied and be applied again and again with the adjusted degree, substantially as described. 105

Signed at New York, in the county of New York and State of New York, this 29th day of January, A. D. 1895.

WALTER SCOTT.

Witnesses:

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