(No Model.) 2 Sheets—Sheet 1.

J. R. CUMMINGS.

STEREOTYPE CASTING APPARATUS.

No. 442,363. Patented Dec. 9, 1890.

Fig. 1.

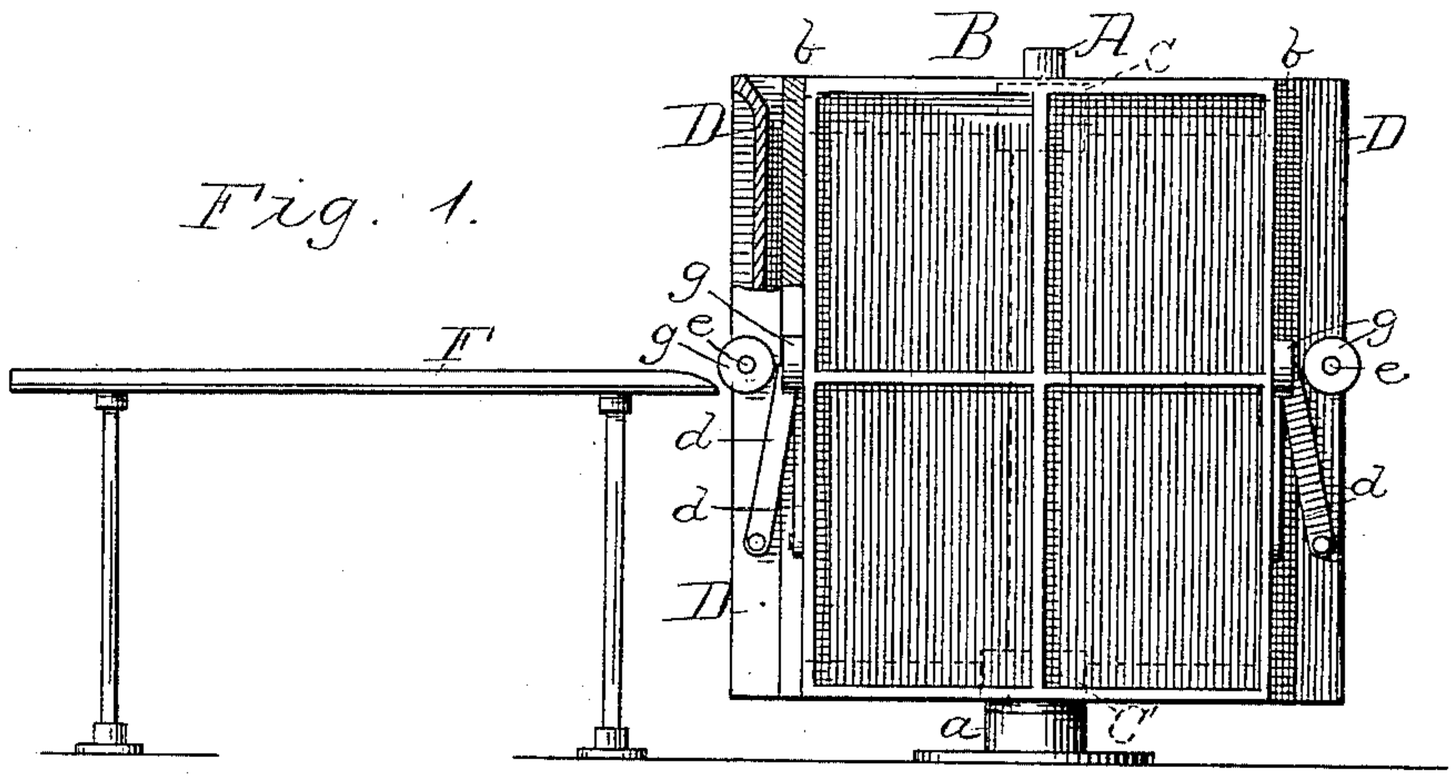
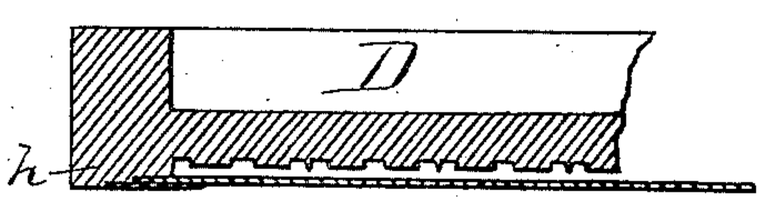


Fig. 2.

Fig. 5.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 6.

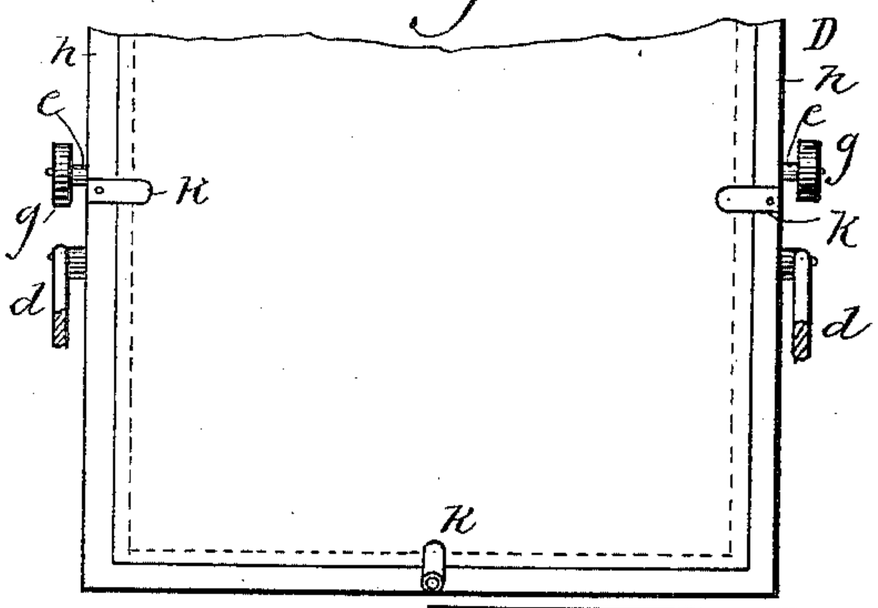


Fig 3.

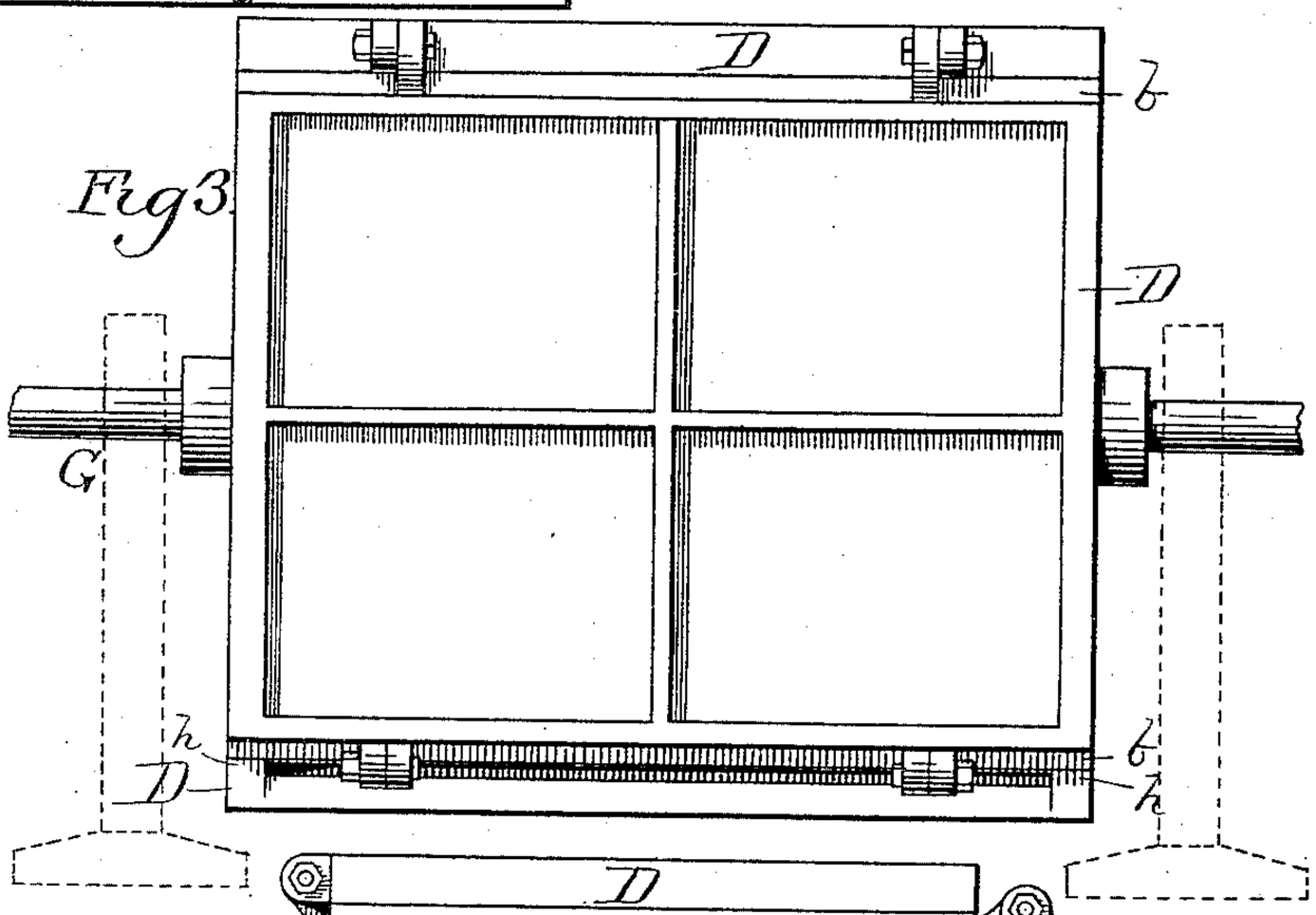
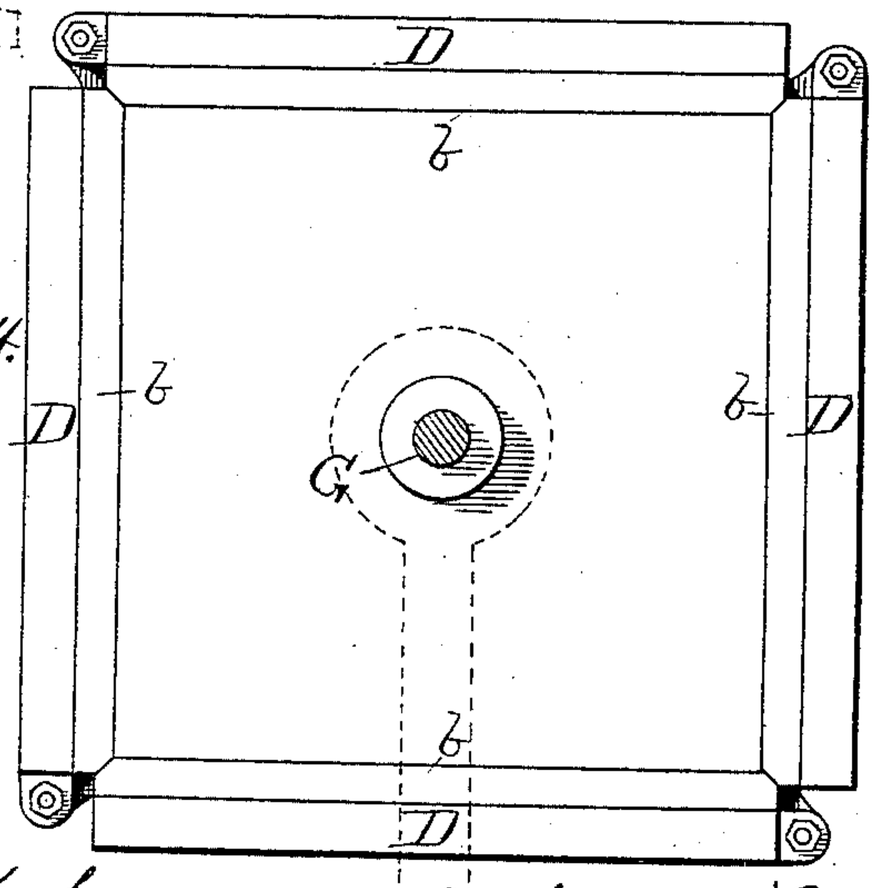


Fig 4.



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STEREOTYPE-CASTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 442,363, dated December 9, 1890.

Application filed January 3, 1888. Serial No. 259,744. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. CUMMINGS, of New York, New York county, and State of New York, have invented certain new and useful Improvements in Stereotype-Casting Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Stereotype-casting boxes have heretofore generally been constructed so as to be capable of making but one casting at a time.

The object of my invention is to make a multiple-casting apparatus consisting of a revolving or oscillating frame which carries a number of casting boxes so arranged that while the matrix is being adjusted in one, the metal may be poured into another, yet another casting may be in process of cooling, and still another may be having the newly-cast stereotype-plate removed therefrom, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1 is a side elevation of my improved stereotype-casting apparatus, shown partly in section. Fig. 2 is a plan view of the same. Fig. 3 is a side view of a modification of said apparatus. Fig. 4 is an end view of the same. Fig. 5 shows a detail view of a side section of the cover, and Fig. 6 shows an elevation of the inner face of the cover.

Reference being had to the drawings, A represents a vertical cylindrical post or shaft rising from a suitable base-block or pedestal *a*, and preferably having its upper end stepped to a less diameter than the rest of its length. Revolving around this vertical post is a polygonal frame B, the sides of which preferably correspond in dimensions and are held out from said post and parallel therewith by means of radiating arms *c c* from the central bosses C and C′, which latter are journaled on said post A near the base and top thereof, or said sides may be held and supported by any other suitable means.

The vertical sides of frame B have secured to each or to each of several of them a plate *b*, whose outer surface is smooth and on the same plane, and whose function corresponds to the function of the part of the common stereotype-casting apparatus called the "box." Each one of these sides or plates *b* has a cover D, which has its inner surface (adjacent to and facing its box) cored and provided with marginal ledges *h h* at its side and bottom edges, which serve the purpose of the "gage-strips" or bars used in the common stereotype-casting boxes to determine the thickness of the casting. Considering the vertical position of the plates *b*, I prefer, in view of the difficulties necessary to overcome in adjusting the matrix thereto, to adjust the matrix upon the inner surface of the cover. This I can easily do by spring-clamps *k* or other devices which will hold it sufficiently secure in place until the cover is clamped to the plate *b*, whereupon it is held and pinched between the ledges of said cover and the plate so securely that it cannot get out of adjustment during the casting process.

The covers D may be hinged in suitable manner to the side edges of the plate *b;* or they may be hinged together at their lower end edges in substantially the same manner as are the box and cover of the stereotype-casting boxes now in extensive use; or the cover may be connected to the box by links *d d*, the upper ends of which are pivotally secured to the side edges of the plate at about a point in transverse alignment with the center of height of said plate, and whose lower ends are pivotally secured to the side edges of the cover at points about midway between their lower edges and their centers of height. Should the lower edges of the covers be hinged to the corresponding edges of the plates, suitable provision would have to be made to receive and support the said covers when swung to a horizontal position. Should the covers be connected to the plates by links *d d*, in order to open them they would have to be oscillated vertically outward (away from the plate) from their points of pivotal connection with links *d*, which latter would also oscillate from their points of pivotal connection with the plate, so as to keep the lower edges of the covers from striking against the engaging surface of said plate. This oscillation of the cover continues until it reaches the horizontal position.

To support the cover in its horizontal position, I provide a table E, which is placed to one side of and preferably so that its sides are parallel with a line drawn through the center of said post. While resting upon this table, the matrix and newly-made stereotype-plate can be removed, the matrix replaced thereon, the cover then closed against and clamped to the plate, and then the said frame B revolved so as to carry said casting-plate away from the table E, so that it can have the metal poured therein, and so as to bring the next following casting-plate in front of said table, where the operation of removing the plate therefrom and of readjusting the cover in front of the bed can be repeated, and so on.

Instead of the table, I can provide a couple of horizontal and parallel guide-rails F, the upper surfaces of which are on a plane corresponding nearly to the center of height of said casting-boxes and are placed a distance apart corresponding to the width of the covers, and so that a line radiating from the center of said post would pass centrally between them. I also prefer to slope or bevel the upper surface of these rails contiguous to said revolving frame, and on the studs *e e*, projecting laterally from the edges of the cover at about the center of length of the same, I journal the guide-rollers, which, when said cover is oscillated outward so as to open said plate, roll upon said guide-rails. I prefer this latter construction to the table, because the oscillations of the cover can be more gradual, swinging, as it does, between said rails, and because the rollers *g g* sustain the center of gravity of said cover and avoid its being a dead-weight to the operator.

In Figs. 3 and 4, I show the revolving frame B, mounted upon and revolving around a horizontal shaft G. In this position I prefer to hinge or pivotally connect the side edges of the cover to the plate and to so construct the opposite edge as to permit my pouring the metal into the mold from that side, as shown.

I do not wish to limit myself to the means shown to obtain the revolving motion for frame B while in either the vertical or horizontal position, because it is obvious that various well-known mechanical expedients could be resorted to to accomplish such a result.

It will of course be understood that when the covers are closed against their respective plates they are clamped there to form a compact mold by suitable devices, such as are used for the purpose in the common stereotypers' casting-boxes, or otherwise. I lay no special claim to such clamping devices in this application, however.

The necessity for gage-bars, as hereinbefore stated, is dispensed with by the ledges *h h* on the cover. I can, however, dispense with said ledges, secure the matrix in the usual way to said plate, and use gage-bars, should I so desire.

What I claim is—

1. A revolving polygonal frame having stereotype-casting apparatus suitably secured to several of its sides.

2. In a stereotype-casting apparatus, a permanently-vertical plate *b*, a cover therefor oscillating outward therefrom when opened, and links connecting said cover and plate, in combination with a table, as set forth.

3. In a stereotype-casting apparatus, a plate *b*, a cover therefor, links connecting said cover to said plate, and guide-rollers journaled to the side edges of said cover at about their centers of length, in combination with the parallel guide-rails, substantially as set forth.

4. A revolving polygonal frame having stereotypers' casting apparatus on the sides thereof, in combination with a central vertical pivotal post, as set forth.

5. In a stereotype-casting apparatus, the combination, with the plate *b* thereof and a cover for said plate, of a matrix, said cover having suitable spring-clamps adjacent to its side and lower marginal edges for holding said matrix against the inner surface of the cover during the casting operation, as set forth.

6. In a stereotype-casting apparatus, the combination, with a vertical plate *b* and a cover provided with a depressed inner surface of suitable conformations and provided with marginal ledges along its side and lower edges, of the matrix secured to said ledges of the cover and covering the depressed inner surface thereof, as set forth.

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Witnesses:

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WM. PARMETER KENT.