

(No Model.)

D. RALSTON.

MACHINE FOR SANDING BRICK MOLDS.

No. 271,984.

Patented Feb. 6, 1883.

Fig. 2.

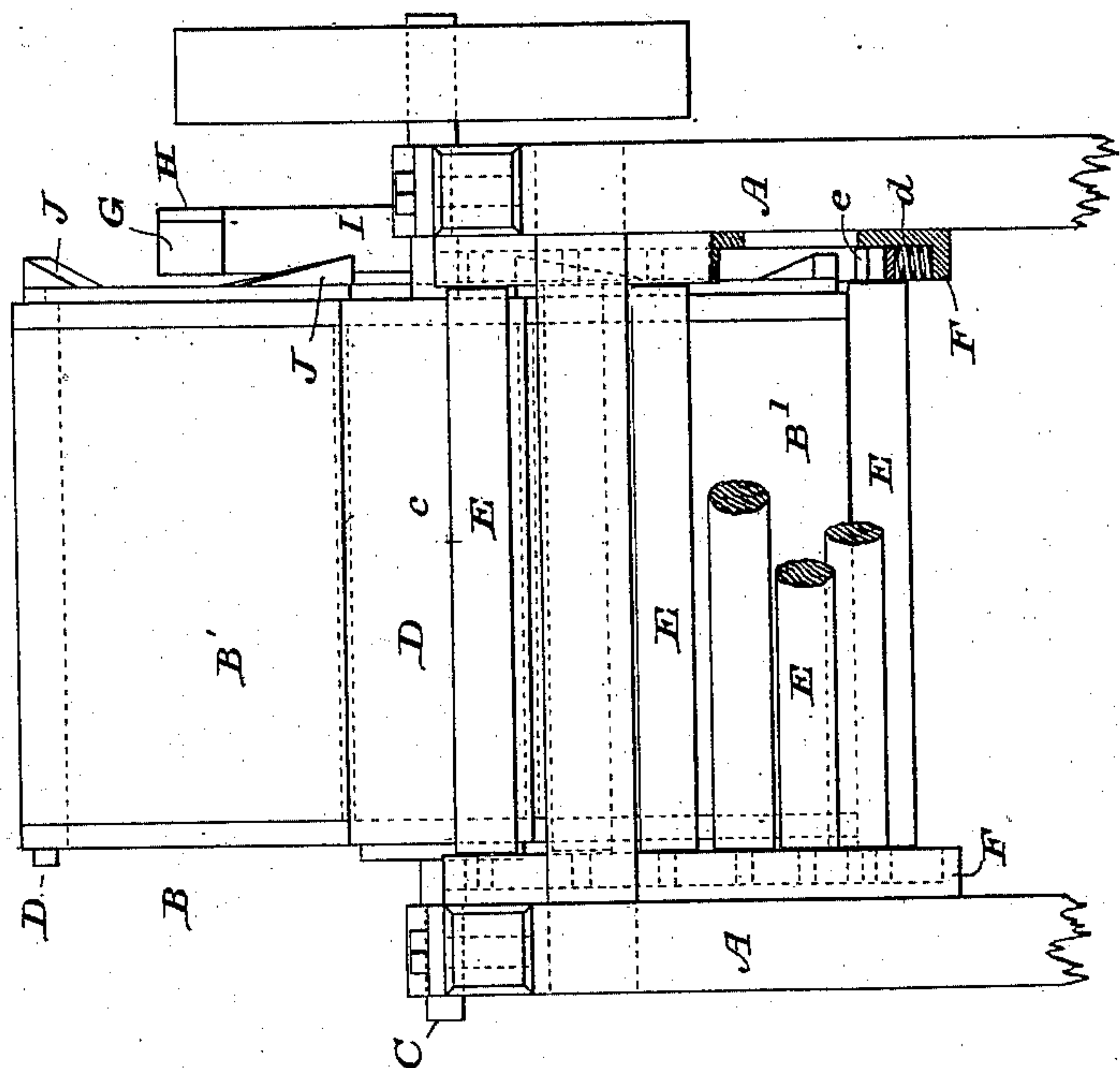
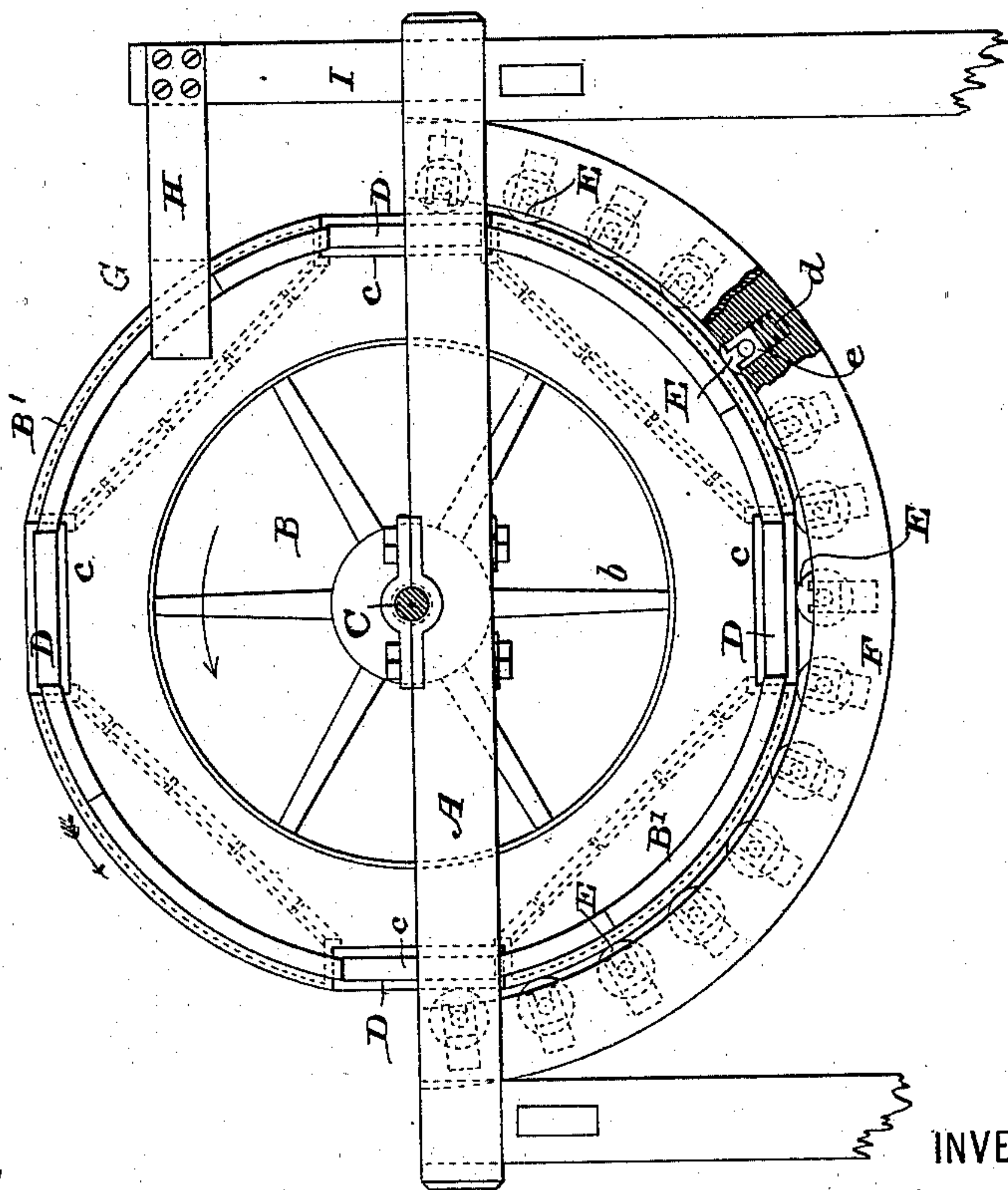


Fig. 1.



WITNESSES

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MACHINE FOR SANDING BRICK-MOLDS.

SPECIFICATION forming part of Letters Patent No. 271,984, dated February 6, 1883.

Application filed December 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVID RALSTON, of Troy, county of Rensselaer, State of New York, have invented certain new and useful Improvements in Machines for Sanding Brick-Molds, of which the following is a specification.

My invention relates to that kind of machinery for sanding brick-molds which contains as its principal element a rotary sand-containing drum formed with openings, to which the molds are applied, and combined with means for holding the molds in place thereon in such manner as to permit the molds as they are sanded to be successively removed from the drum and replaced by fresh ones without interfering with the continuous rotation of the drum; and it consists, first, in a novel combination and arrangement of means for holding the molds in place on the drum during the time required for the sanding operation; and, secondly, in the combination, with the drum and molds, of an instrumentality, termed by me a "knocker," automatically operating at proper intervals during the rotary movement of the drum to strike the sanded molds in such manner as to jar and shake from them any surplus sand which may remain in them after the sanding operation.

The nature of my improvements and the manner in which the same are or may be carried into effect will be readily understood by reference to the accompanying drawings, in which—

Figure 1 is an end elevation of so much of a sanding-machine embodying my improvements as needed for the purpose of explanation, a portion of the concave bed under the drum being in section, so as to disclose one of the friction-rollers and its spring-bearing. Fig. 2 is a front elevation of the same with one side of the roller-bed in section and some of the rollers broken away.

In the drawings, A represents the frame of the machine.

B is the sand-containing drum, fixed on a power-driven rotating shaft or axle, C, which has its bearings in A. The sand-containing drum in practice is made polygonal in cross-section, its body being made of metal plates, indicated by dotted lines, properly stiffened, braced, and riveted together.

The heads of the drum may or may not be entirely closed, as desired. In the drawings, they are represented as partly open, as seen more plainly in Fig. 1, where are shown the spider-arms *b*, which form the internal supports of the drum. In order, however, to better adapt the drum for use with the mold-holding devices, hereinafter described, it has an external sheath or casing, *B'*, of cylindrical form, which extends completely around the metal body of the drum, save at the points where the mold-receiving openings *c* are formed in the periphery of the drum. The molds *D* fit into these openings, being placed therein bottom outward, and supported upon proper flanges and between proper guides bounding the openings. The drum shown in the drawings is adapted to receive four molds; but it may of course be made so as to receive a greater or a less number, as desired.

The drum, being first filled with a proper quantity of sand, is caused to revolve in the direction of the arrow in Fig. 1. The molds, which cover the openings, are, as they successively descend, filled with sand, which is emptied from them as they rise. An attendant standing at the right of the machine removes the successive molds as they pass the knocker (to be hereinafter described) and another attendant on the left of the machine applies molds to the openings in the drum as the latter come around. The molds during the time they are below the horizontal center of drum are held in place by an elastic bed composed of a series of friction-rollers, *E*, (which rollers, if desired, may be of a length equal to that of the molds,) which are set in a concave bed, *F*, curved in a circle, of which the axis of the drum is the center and are pressed toward the periphery of the drum by springs *d*, which are interposed and confined between the bases of the roller-bearings *e* and the bottom of the socket *F*, in which said bearings fit and can slide. In this way the molds, as they pass around below the horizontal center of the drum, are held in place by the yielding pressure of the elastic roller-bed, while the moment they pass beyond the latter they are free to be removed from the drum-openings. It is in this arrangement for holding the molds in place while they are being sanded that the first part of my in-

vention is comprised. The molds, as they rise, are apt to contain an excess of sand, which may remain in them unless some means be employed to remove it. To this end I combine with the drum a "knocker," so called, which during the revolution of the drum operates at the proper time to strike or jar each sanded mold sufficiently to shake from it the surplus sand. The mechanism for accomplishing this result may be widely varied, and can be constructed and arranged to operate in many different ways without departure from my invention, and therefore I do not wish to be understood as restricting myself to the special mechanism which I am about to describe, although I believe the latter to be, on the whole, the simplest and most effective embodiment of this part of my invention.

The knocker shown in the drawings consists of a knob or head, G, on the free extremity of a spring strip or arm, H, which is securely fastened to a post or upright, I, forming part of the frame A. The arm H is placed at one end of the drum, and in such position that the knocker-head G will lie in the path of a succession of cam-rises, J, somewhat resembling ratchet-teeth, formed on the adjoining end of the drum. Each cam-rise terminates abruptly at such a point that the head G, as it drops from it, will bring up against and strike the end or some part of the mold, which immediately follows, thus shaking the sand from the latter. It is not necessary that the knocker should deliver a forcible blow, nor is it intended that the set of its spring-arm should be such as to cause the knocker to drag along against the mold after striking it. The spring, being forced outwardly by the cam-rise, naturally recoils nearly an equal distance in the opposite direction, and it is at this time that the blow is delivered. Thus each sanded mold, as it rises, is at the proper point tapped by the knocker, with the result of relieving it of surplus sand, after which it is removed by the attendant, and the opening in the drum thus uncovered is closed by another mold applied by the other attendant on the opposite side of the machine.

The spring-arm H can be of metal, if desired; but it can be made just as well of hickory or other suitable wood possessing the requisite resiliency.

In conclusion, I state that I do not claim broadly the application of rollers or a roller-bed to the rotary sanding-drum for the purpose of holding the molds in place thereon. My claim in this direction is confined to rollers or a roller-bed having an elastic or spring action, so as to bear with yielding pressure against the molds.

Having now described my improvements, what I claim as new and of my invention is—

1. The combination of the rotary sanding-drum formed with mold-receiving openings, the removable molds, and the mold-holding elastic roller-bed, substantially as and for the purposes hereinbefore set forth.

2. The combination, with a rotary sanding-drum provided with mold-receiving openings, as described, of a series of rollers carried by the frame of the machine, extending around the drum below its axis and adapted to bear with spring or yielding pressure against the molds placed over the openings in said drum, substantially as hereinbefore set forth.

3. The combination of the rotary sanding-drum provided with mold-receiving openings, and a knocker arranged and operating during the movement of the drum to strike or shake the successive molds carried by the drum after they are sanded, substantially as and for the purpose hereinbefore set forth.

4. The combination, with a sanding-drum provided with a series of cam-rises alternating with mold-receiving openings, of a spring-controlled knocker, substantially as hereinbefore set forth.

5. The combination, with a mold-receiving sanding-drum revolving on a horizontal axis, of mold holding and retaining instrumentalities extending below the axis of the drum, and a knocker placed above the axis of the drum, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 23d day of November, 1882.

DAVID RALSTON.

Witnesses:

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EWELL A. DICK.