

(No Model.)

H. & G. MARTIN.
BRICK MOLD SANDING MACHINE.

No. 370,635.

Patented Sept. 27, 1887.

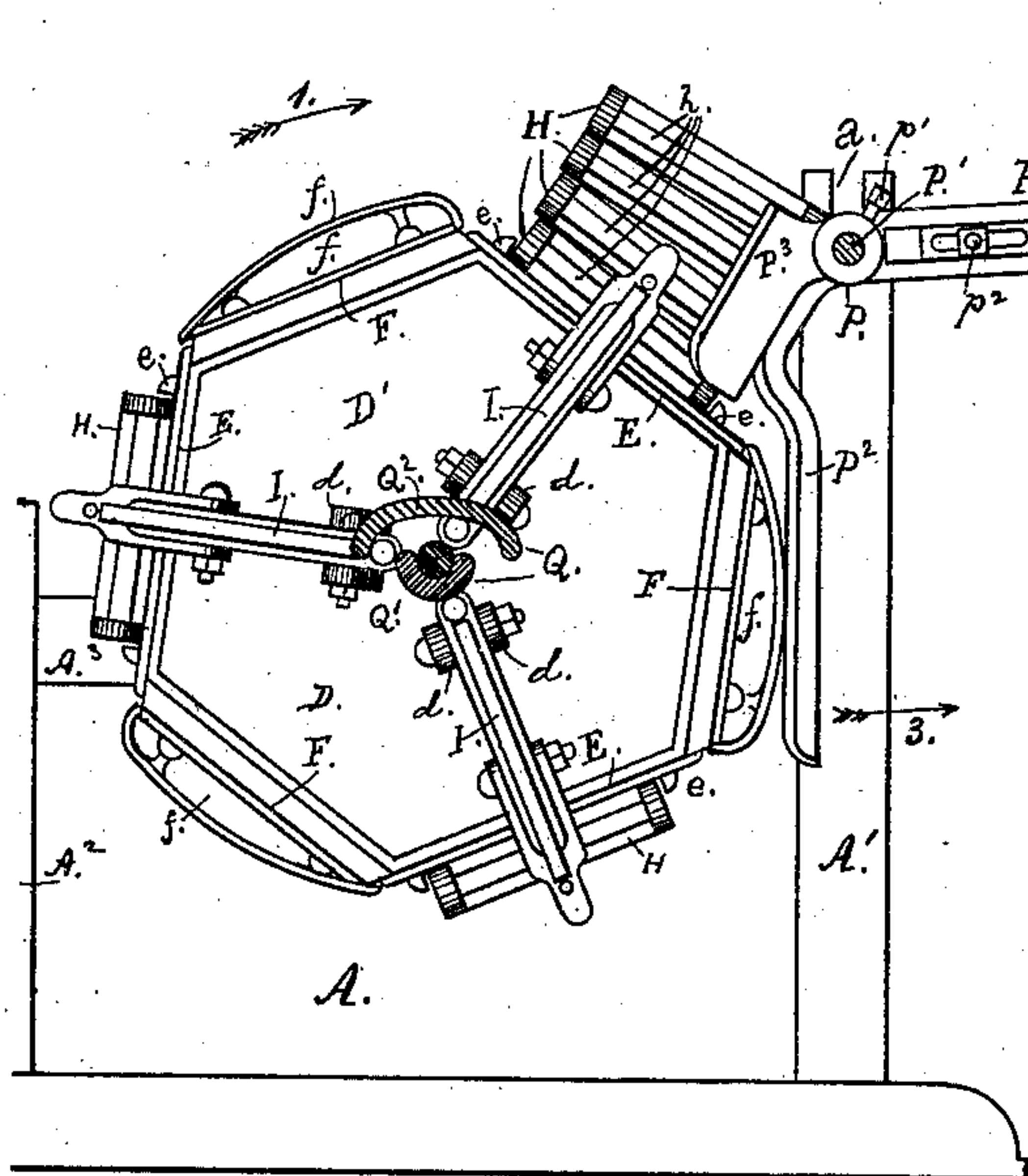


Fig. 2.

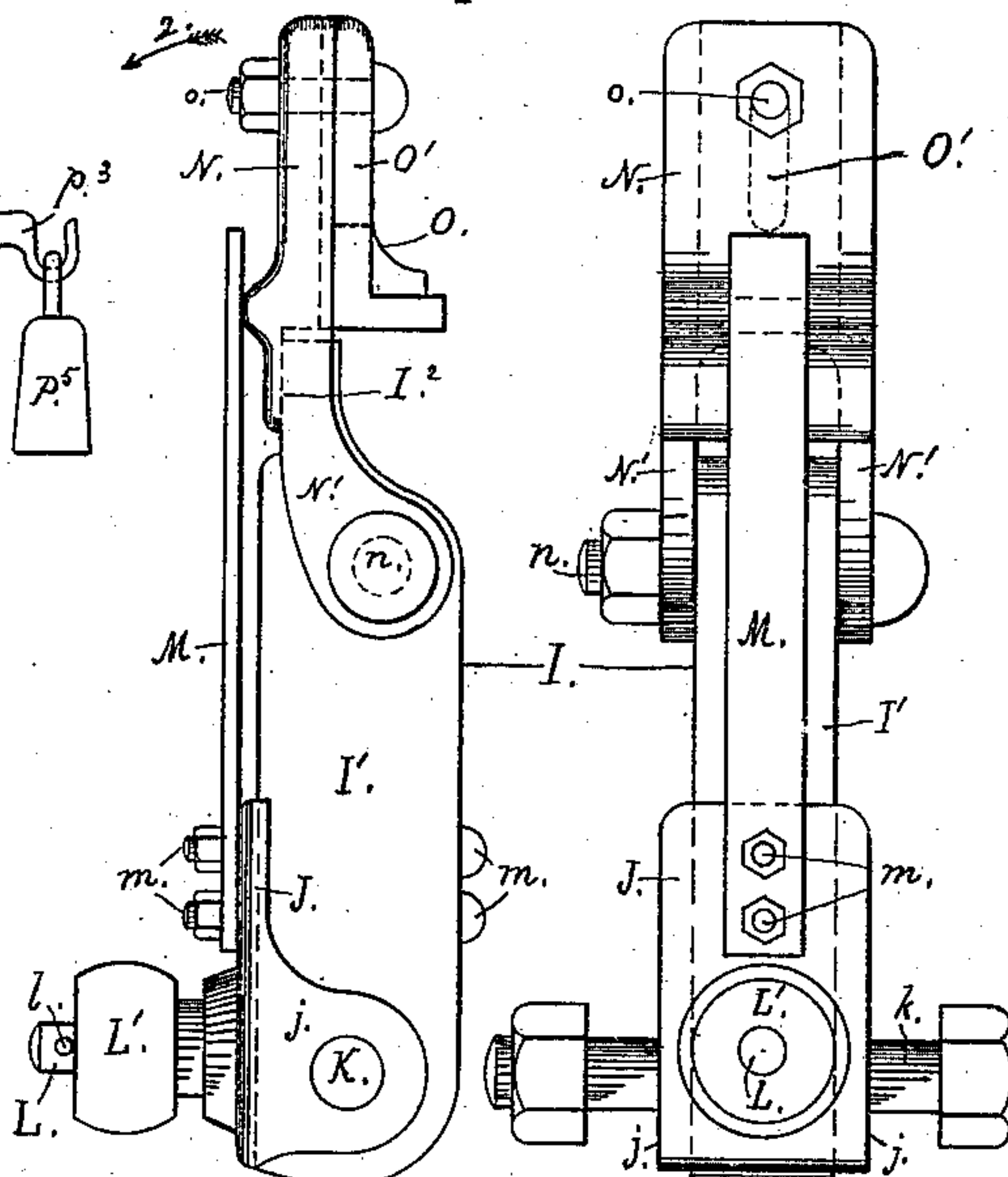


Fig. 3.

Fig. 4.

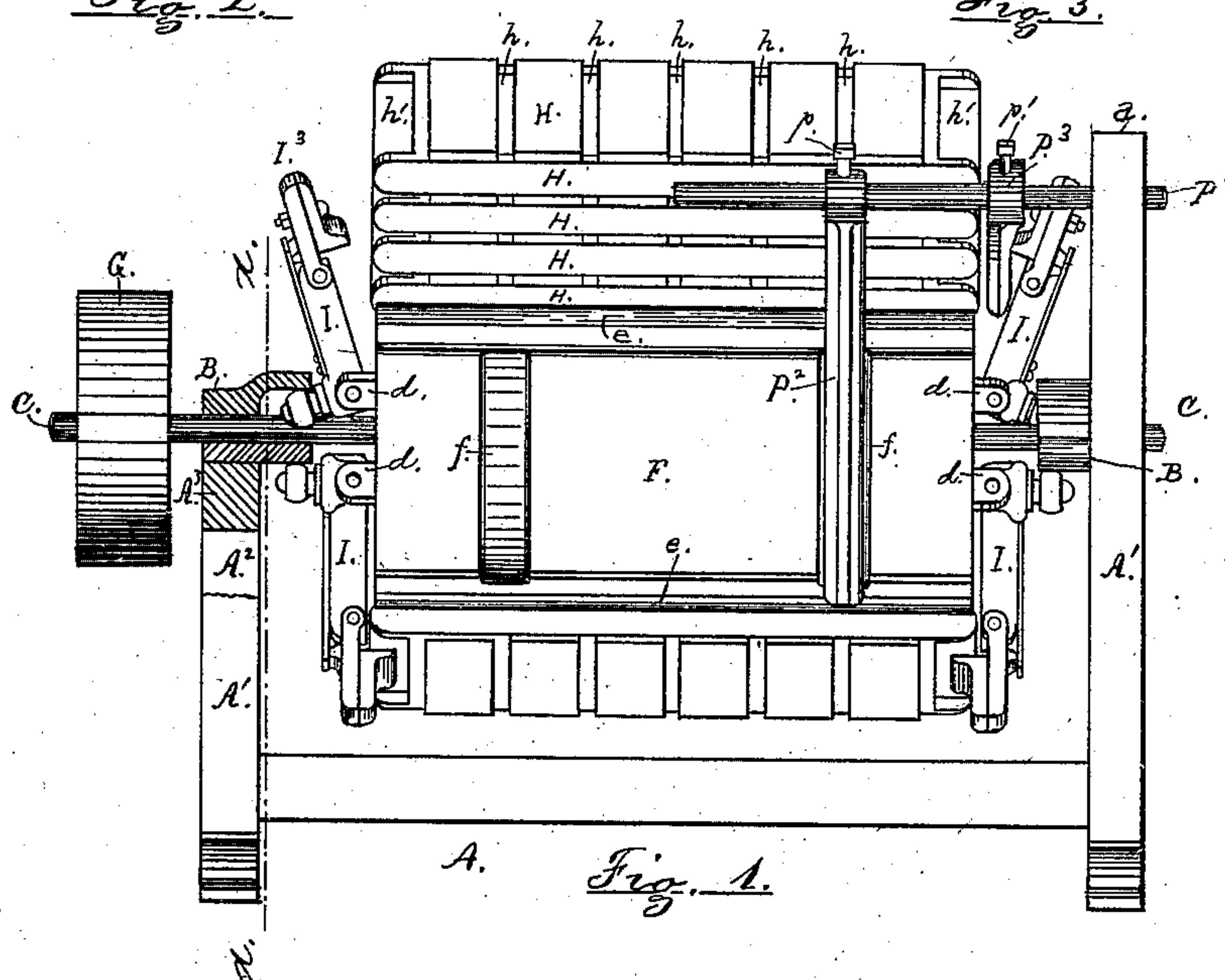


Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

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BRICK-MOLD-SANDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 370,635, dated September 27, 1887.

Application filed June 2, 1887. Serial No. 240,030. (No model.)

To all whom it may concern:

Be it known that we, HENRY MARTIN, of Lancaster, Lancaster county, and GEORGE MARTIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Brick-Mold-Sanding Machines; and we 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.

We have invented certain new and useful improvements in brick-mold-sanding machines.

Our invention relates to that class of brick-mold-sanding machines in which a rotating cylinder is used to contain sand, and having openings at various places on its periphery, over which molds are fastened, so that the action of the revolving cylinder will throw the sand from one set of molds into the others, thus putting them in proper condition to receive the clay, at the same time economizing the use of the sand and preventing the same from getting on the outside of the molds, all as substantially set forth in Patent No. 359,267, granted to us by the United States March 15, 1887.

The object of the present invention is to further improve said patent by adding, as new features, a flexible arm for the adjustable mold-clamp, and an automatic relief mold-guide for feeding molds to the sand-cylinder, said cylinder being hexagonal in form, having three openings alternating with three closed faces, so that when the molds are fastened to the open sides there will always be a solid side directly opposite.

Said improvements are applied as shown in the accompanying drawings, similar letters referring to similar parts throughout the several views.

Figure 1 is a front elevation with a portion of the feeding-guides removed, and showing the cam-track in transverse section. Fig. 2 is a side elevation with a portion through the

line *x x*, Fig. 1, removed. Fig. 3 is a full side elevation of the flexible arm of the adjustable mold-clamp. Fig. 4 is a front elevation of the same.

In Figs. 1 and 2, A is a suitable frame for supporting the device, having two front posts, A' A', two back posts, A² A², two hexagonal side rails, A³ A³, which support the bearings B B of the shaft C, to which is fastened the cylinder D, near the center of which are fastened lugs *d*, to receive the flexible clamp-arm I, hereinafter described, and three open faces, E E E, alternating with three closed or solid faces, F F F, and driven by the pulley G or other suitable appliance for that purpose.

The open faces E, against which the molds H H are clamped, have extending along their transverse edges lugs *e e*, to keep the molds in place. Across the solid faces F are curved guide-brackets *f f*, placed so as to pass immediately under two of the partitions or separating-walls *h* of the molds H. Lengthwise against the middle of the outer ends of the molds are fastened lateral strips or pieces *h'*, which form handles for carrying the molds and receive the action of the adjustable clutch of the flexible clamp-lever I, hereinafter described.

The automatic relief mold-guide P consists of the shaft P', the ends of which turn freely in the sockets *a*, two vertical guide-arms, P², resting against the guide-brackets *f* and adjustable on the shaft P' by set-screws *p*, two lateral or mold end guides, P³, also adjustable on the shaft P' by set-screws *p'*, the weight-lever P⁴, also attached to the shaft P' and adjustable as to length by the bolt and screw *p''*, from the end *p³* of which is suspended the tension-weight P⁵. This automatic relief mold-guide P works freely by means of the ends of the shaft P' turning in the U-shaped sockets *a*, the weight P⁵ keeping the guide-arms P² against the guide-brackets *f* and against the mold H, holding said mold in place until grasped by the clamp-lever I, and should a mold pass improperly between said guide-arms P² and bracket *f*, and allow the said guide-

arms P^2 to swing outward, as indicated by the arrow 3, said misplaced mold will drop to the ground without damage.

The cam-track Q, made integral with the bearings B, consists of two parts. The lower portion, Q' , is the convex surface of a circle, so as to keep the clamp-lever I steadily and firmly against the mold H, holding it in place while making its under passage with the surface of the cylinder D, and the upper portion, Q^2 , is the concave surface of an ellipse, so constructed and placed as to receive the cam-roll L' , releasing the mold H from the lever clutch or jaw O, keeping the clamp-lever I away from the molds, as at I^3 , Fig. 1.

The flexible clamp-lever I, Figs. 3 and 4, consists of the arm or body I' . Over the outer face of its lower end is attached the casting J, having extending inwardly lugs j' , which embrace the body I' like the flaps of a saddle. Through these lugs j' and the body I' is the hole K, through which passes the bolt k , to attach it to the ends of the cylinder D by means of the lugs d , Figs. 1 and 2. Projecting outward from this casting J is a journal, L, for the cam-roll L' , kept in place on the journal L by the pin l . On this casting J, and extending along the outer face of this arm or body I' , is fastened the spring M by means of small bolts m , which pierce and hold together the three pieces.

On the upper part of the arm I' is a casting, N, with lugs N' extending downward and adapted to fit and embrace the sides of the arm I' , and held in place by the bolt n , which passes through the two. On the inward face of this casting N is placed the adjustable clutch or clamp jaw O, and held in position by the bolt o , said jaw having an oblong slot, O' , through it, which allows a longitudinal adjustment on the bolt o , which is fixed stationary in the casting N. The casting N, which comes in contact with the upper part of the arm I' at I^2 , is held in position by the spring M, but has an outward movement, as indicated by arrow 2, when greater pressure is brought to bear on the jaw O than the spring M is adapted to stand. It is this movement which establishes the flexibility of the clamp-lever I and prevents the jaw O from damaging either itself or the mold when not in proper contact with the same, as will be more fully hereinafter described.

The cylinder D revolving in the direction indicated by arrow 1, Fig. 2, when one of its open faces E comes under the pile of molds on the machine, the lower one will drop on it between the two lugs e , and will be carried with it to the guide-arms P^2 , which, by means of the tension-weight P^5 , will press the mold against the open face E of the cylinder D, and the cam-roll L' , coming in contact with the convex surface of the lower portion of the cam-track Q, will cause the clamp-lever I to grasp

the said mold and hold it in place until said cam-roll, coming in contact with the concave surface of the upper portion of the cam-track, Q^2 , will release it again.

It will be readily seen that the guide-brackets f , which are in height about the depth of the molds H H, &c., follow the molds in their onward course in alternate intervals, so that when a mold is against the vertical portion of the guide-arms P^2 a bracket f will be under the pile of molds; and, again, when a bracket f is against the guide-arms P^2 a mold will drop into place on a face E of the cylinder D. Then it will also be seen that the said brackets f and the lower molds will always keep the guide-arms P^2 and the pile of molds H H on the machine in normal position for the proper operation of the machine. Again, if by any means a mold should not drop properly into place between its receiving-lugs e , but fall diagonally across the face of the cylinder D, the guide-arms P^2 would swing outward, as indicated by arrow 3, and, together with the peculiar construction of the clamp-lever I, allow said mold to drop to the ground without damage to either machine or mold, and will, by means of the tension-weight P^5 , immediately return to their proper place, not interrupting or checking the normal operation of the machine. It is obvious that were said clamp-lever I not made flexible, as constructed, in the case of clutching or grasping a misplaced mold its rigidity would cause damage somewhere and retard the successful operation of the machine.

Having fully described our improvement, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, in a brick-mold-sanding machine, of the following elements: the hexagonal cylinder D, provided with alternate open and closed sides and adapted to receive over said openings the molds H, said closed sides being provided with curved guide-brackets f , as set forth, and the flexible and adjustable clamp-lever I, adapted to retain the molds H in position over the aforesaid openings, and the automatic relief mold-guide P, all substantially as set forth, and for the purpose described.

2. The combination, with a brick-mold-holding cylinder, of the flexible and adjustable mold-clamp lever I, consisting of the following elements: the body I' and the casting J, provided with a journal for the rolls L' , and having inwardly-projecting lugs j' , adapted to embrace the aforesaid body I' , as set forth, and the casting N, provided on its face with the adjustable jaw O, and having lugs N' , adapted to embrace the body I' and pivoted on the bolt n , said casting being retained in its normal position by the spring M, all substantially as set forth, and for the purpose described.

3. The combination, with a brick - mold-
holding cylinder, of an automatic relief mold-
guide consisting of the following elements:
the shaft P', adapted to work in the socket a,
5 as set forth, and provided with vertical guide-
arms P² and mold end guides, P³, all laterally
adjustable on said shaft, and the lever P⁴ and
tension-weight P⁵, when constructed and ap-
plied substantially as set forth, and for the
10 purpose described.

In testimony whereof we have hereunto sub-

scribed our names in the presence of two sub-
scribing witnesses.

HENRY MARTIN.
GEORGE MARTIN.

Witnesses:

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