(No Model.) 2 Sheets—Sheet 1.

J. A. BUCK.

AUTOMATIC MECHANISM FOR SANDING BRICK MOLDS.

No. 301,087. Patented July 1, 1884.

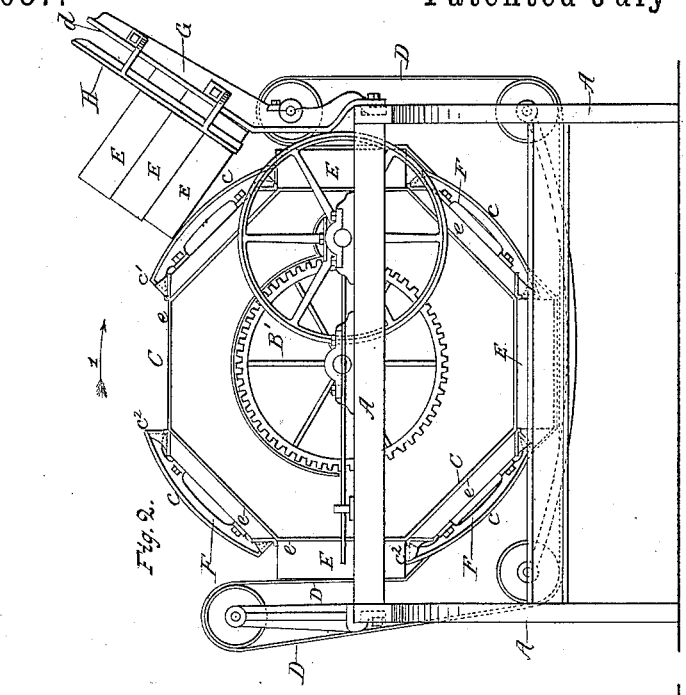

Fig. 2.

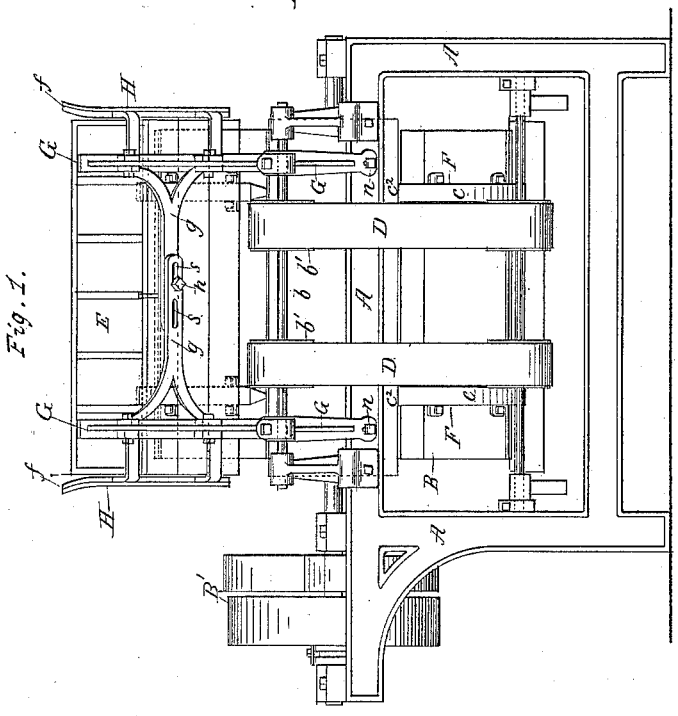

Fig. 1.

Witnesses:
Charles Brenink
Richard P. Dumary

James A Buck
Inventor.
by his Attorney
J. Alex. Pelkie

(No Model.) 2 Sheets—Sheet 2.

J. A. BUCK.

AUTOMATIC MECHANISM FOR SANDING BRICK MOLDS.

No. 301,087. Patented July 1, 1884.

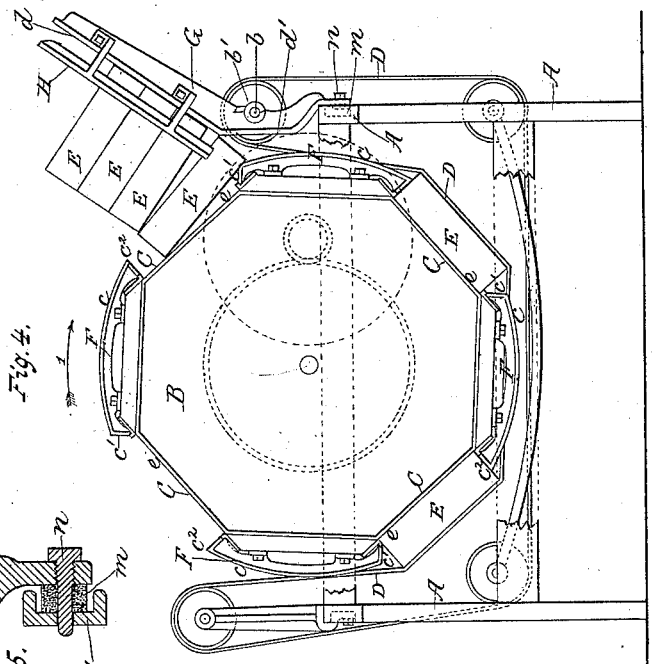

Fig. 4.

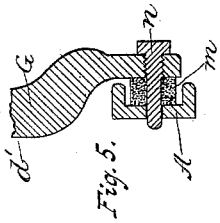

Fig. 5.

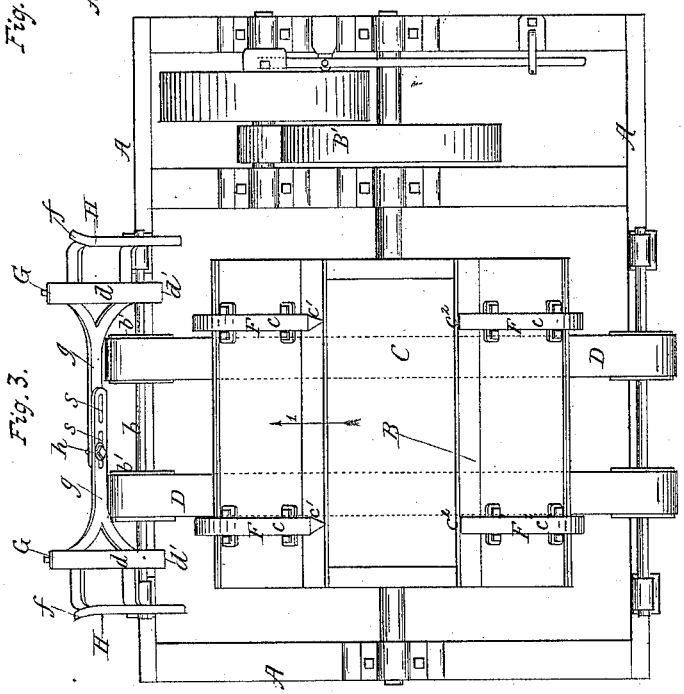

Fig. 3.

Witnesses: Charles Sacrider
Richard P. Dumay

James A. Buck
Inventor.
by his attys
Alex. Delbridge

UNITED STATES PATENT OFFICE.

JAMES A. BUCK, OF CRESCENT, NEW YORK.

AUTOMATIC MECHANISM FOR SANDING BRICK-MOLDS.

SPECIFICATION forming part of Letters Patent No. 301,087, dated July 1, 1884.

Application filed January 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. BUCK, a citizen of the United States, residing at Crescent, in the county of Saratoga and State of New York, have invented a new and useful Mechanism for Automatically Feeding Brick-Molds to Sanding-Machines, of which the following is a specification.

My invention relates to improvements in machines for sanding brick-molds in which mechanism, attached to and revolving with a rotating sand-holding cylinder which is provided with a series of two or more mold-receiving apertures in conjunction with a stationary mold receiving and holding device.

The objects of my invention are as follows, viz: first, to provide, with a mold-sanding machine, mechanism for holding a pile of unsanded molds over a side of the rotary sanding-drum while it is being revolved, preparatory to said molds being automatically and successively fed to the openings in the same; second, to provide means by which the lowermost mold of a pile of molds will be automatically placed over each mold-opening as the drum is being revolved; and, further, to provide means by which the unsanded molds of a pile will be properly guided to the openings in the drum while it is being revolved. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which drawings there are five figures illustrating my invention, in all of which the same letters of reference indicate like parts.

In the drawings, Figure 1 represents a side elevation of a brick-mold-sanding machine with my invention attached thereto. Fig. 2 is an end elevation of the same with a pile of molds in place preparatory to their being successively and automatically placed over the openings of the drum. Fig. 3 is a plan view of the machine embodying my invention. Fig. 4 is an end elevation of the same, illustrating the manner in which my invention operates; and Fig. 5 is a sectional view of the means for causing the holding-brackets G G to have yielding or elastic contact with the frame.

A represents the frame of the machine. B is a rotary sanding cylinder or drum, which is provided with two or more openings, C, made in its periphery, and situated at about equal distance apart in the same. B′ is a gear mechanism actuated by a band-pulley driven by a belt from any convenient power or motor, as may be preferred, which gear mechanism operates to revolve the sanding-cylinder with a slow and uniform movement in direction of arrows 1 in Figs. 2, 3, and 4. D is an automatically operating mechanism, which holds molds E in place in openings C when said molds are below or moving below the plane of the center of the rotation of the revolving drum or cylinder, and releases these molds when they are above or moving above the plane of said center of rotation.

The above-described parts of my improved machine belong to a former invention made by myself, with which my improvements herein described are employed for the purpose of properly placing unsanded molds automatically over openings C in sanding-drum B as the said openings are being carried forward, so that said unsanded molds will be carried downward to be sanded, and thence upward for convenient removal.

Secured to each of the stave-sections *e* of sanding cylinder or drum B are shoes F F, having each the same convex outer surface, *c*, which is projected out from the surface of the stave-section to a distance sufficient to hold a mold resting on the same clear from touching the marginal edges of the staves bounding the sides of openings C. The rear ends, *c′*, of these shoes are made to be at an obtuse angle in relation to the line of supporting-edges *e* of openings C, while forward ends, c^2, of these shoes are made to be relatively at right angles with said supporting-edges, as shown in Figs. 2 and 4.

Secured to shaft *b*, on which pulleys *b′* revolve, are mold-holding brackets G G, with each of which brackets are made the inclined ways *d d* and vertical ways *d′ d′*, (which are about vertical and at an obtuse angle in relation to the former.) These brackets, with their ways, are set at a distance apart which will be less than the length of the staves of the sanding-drum, as shown in Figs. 1 and 3. Secured to each of brackets G G, and from the outer sides thereof, are guiding-bars H H, made each with a length about equal to the length of the inclined ways *d d*. These guiding-bars are so arranged as to face each other, as shown in

Fig. 3, and are made to project relatively out from the plane of the faces of inclined ways *d d*, so that said guiding-bars will each be made to face the end surfaces of molds E and have a slight bearing against the same, as illustrated in Figs. 1, 2, and 4. The upper or outer ends, *f*, of these end guiding-bars, H, are made to incline or curve outward, so as to increase the distance between, to allow the molds to be set against the inclined ways in a ready manner and without great exercise of care in their placement. The lower portion of these guiding-bars are made to be about parallel with each other.

Cast with or attached to brackets G G are horizontal arms *g g*, which lap past each other, and are provided with slots *s s*, adapted to receive a set-bolt, *h*, by which said arms will be held securely together, and thereby securely hold brackets G G, with their associate ways *d d* and *d' d'* and guiding-bars H H, when the latter have been adjusted apart to a distance to correspond with the length of the mold to be sanded. The lower ends of mold-holding brackets G G are made to have an elastic bearing against the frame, preferably by blocks of elastic rubber *m*, held in place with the lower ends of said brackets by pins *n*, secured to said ends and passing through a perforation in said rubber blocks, and working in a hole in said frame-piece A, as shown in Fig. 5. Steel or other springs may be substituted in lieu of the rubber blocks, to render the brackets elastic.

The manner in which the several parts of my invention operate is as follows: When the sanding-drum B is to be started in its revolution, several empty and unsanded molds E E will be placed in position one above the other, with their open sides downward against ways *d d*, made with brackets G G, and between the end guiding-bars, H H, with the lowermost mold resting on shoes F F of one of the staves of drum B. Drum B will then be revolved in direction of arrows, Figs. 2, 3, and 4, when shoes F F will hold the lowermost mold clear from the periphery of said drum, while ways *d d* will support this mold from being carried back from beneath those above. When the rotation of the drum is continued, the shoes F F beneath the lowermost mold will, while holding it free from contact with the stave portion of the drum beneath, be moved forward and downward until the rear inclined ends, *c'*, of the supporting-shoe will be carried past the middle of width of the lower mold, when the rear side edge of that mold will drop down over opening C and rest on the exposed edge surfaces *b* of the heads of the drum which bound said opening. The rotary movement of the drum being continued, the first supporting pair of shoes F will be fully carried out and downward from beneath the lower mold, so that the front side of said mold will drop down and be carried against the faces of vertical ways *d' d'*, while the forward ends, c^2, of the next succeeding pair of molds will be brought against the rear side of this lower mold, and cause it to be carried downward with its forward upper edge corner moving against vertical ways *d' d'* until it is brought in contact with mold-retaining mechanism D, when said mold will be made to close over opening C.

It will be observed that the height of the point of the forward ends, c^2, of shoes F is a little less than the height of the sides of the molds. By this less height of point of said forward end of the shoe the forward end of the shoe will readily pass underneath the next mold above the lower one, when the latter is being carried forward and downward, so that this second mold will be operated with the same as was the lower mold, and as above described. While the rotation of the sanding-drum is being continued the attendant or employé, emptying the molds of the brick-clay pressed in the same, will place the empty and unsanded molds in place between guiding-bars H and against inclined ways *d d* as they return with them from the yard, when the said ways will support the molds against being moved outward by the movement of the drum, while guiding-bars H will automatically guide the molds in their descent, so that they will be successively and properly guided longitudinally over the respective openings in the drum, which they will be made to close as the drum is progressed in its revolution. Rubber blocks *m* between the lower ends of brackets G G and the frame allow said brackets to yield in an elastic manner before the pressure on them from the molds, as they are each being forced successively from beneath the others above by the movement of ends c^2 of shoes F against them, and a slight elastic vibratory motion will be imparted to said brackets and prevent the molds in the pile from catching or dragging on the brackets.

By means of these improvements I am enabled to dispense with the labor of one person, am also enabled to feed the unsanded molds successively in an automatic manner without increasing the labor of the employés who empty the molds, and are required to return the empty molds to the vicinity of the press, and but a single man (or boy) is required to attend the sanding-machine for effecting the removal of the sanded molds as they are successively brought up to the top side of the drum.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The curved-faced shoe F, secured to the periphery of a brick-mold-sanding machine, and adapted to prevent molds thereon from coming in contact with the sanding-drum, substantially as set forth.

2. The combination, with a rotary mold-sanding drum which is provided with a series of two or more mold-receiving openings, a series of shoes, F, secured to the periphery of said drum and alternating with the openings in

the same and adapted to prevent molds thereon from coming in contact with the sanding-drum, substantially as set forth.

3. The combination, with a rotary mold-sanding drum having its periphery provided with a series of mold-securing openings, of stationary inclined ways *d d*, supported from the frame of the machine, and so situated that the drum will be revolved toward the same, for operation as set forth.

4. The combination, with a rotary mold-sanding drum provided with a series of two or more mold-receiving openings, of stationary inclined ways *d d*, and vertical ways *d' d'*, situated to face the direction of rotation of said drums for operation as set forth.

5. The combination, with a rotary mold-sanding drum provided with a series of mold-receiving openings, and the frame-work supporting the same, of the stationary brackets G G, having inclined ways *d d* and vertical ways *d' d'*, and situated in opposition to the direction of rotation of said drum, substantially as and for the purpose set forth.

6. The combination, with the frame supporting a rotary mold-sanding machine, of brackets G G, having inclined ways *d d* and pivoted to said frame, and adjusting-screws adapted to set and hold said ways at preferred angles, substantially as set forth.

7. The combination, with a rotary mold-sanding machine provided with a series of mold-receiving openings, and stationary inclined ways adapted to give support to two or more molds against the force from the movement of the sand rotary drum, of guiding-bars which will operate on the outer ends of the molds, for automatically adjusting the molds properly in relation to the mold-receiving openings in the drum.

8. The combination, with a rotary mold-sanding machine provided with a series of mold-receiving openings, and the frame supporting said drum, of stationary inclined ways *d d*, mold and guiding bars, and mechanism by which said guiding-bars will be adjusted apart to correspond with the length of the molds to be operated with, for the purpose set forth.

9. The combination, with a rotary mold-sanding machine provided with a series of mold-receiving openings, mechanism secured to the periphery of said drum and alternating between said mold-receiving openings, for holding molds clear from the staves between the same, and mechanism for supporting the molds against the force of the rotary movement of said drum, and for automatically and successively guiding said molds to the mold-receiving openings in said drum as the latter is being revolved.

10. The combination, with the rotary sanding-drum provided with a series of mold-receiving openings, and shoes F F, secured to the staves of the drum and alternating with said openings, of inclined ways *d d*, vertical ways *d' d'*, and guiding-bars H, all so arranged in relation to each other that, while the said ways and guiding-bars will hold a number of molds in position one above the other over a side of the drum, the shoes on one stave will hold the molds clear of said staves and deliver the lower mold on an opening, while the ends of the shoes on the succeeding stave will operate to crowd the mold out from beneath a pile of molds, substantially as and for the purpose set forth.

11. The combination, with the frame supporting a rotary mold-sanding cylinder, and pivoted mold-holding brackets G G, and shoes attached to said cylinder, for automatically removing molds successively from said brackets, of elastic bearings *m*, or equivalent springs, interposed between said frame and the lower ends of said brackets, substantially as and for the purpose set forth.

JAMES A. BUCK.

Witnesses:
RICHARD DUMARY,
ALEX. SELKIRK.