(No Model.) 2 Sheets—Sheet 1.

R. P. ROACH.

BRICK MOLD SANDER.

No. 441,978. Patented Dec. 2, 1890.

Fig. 1.

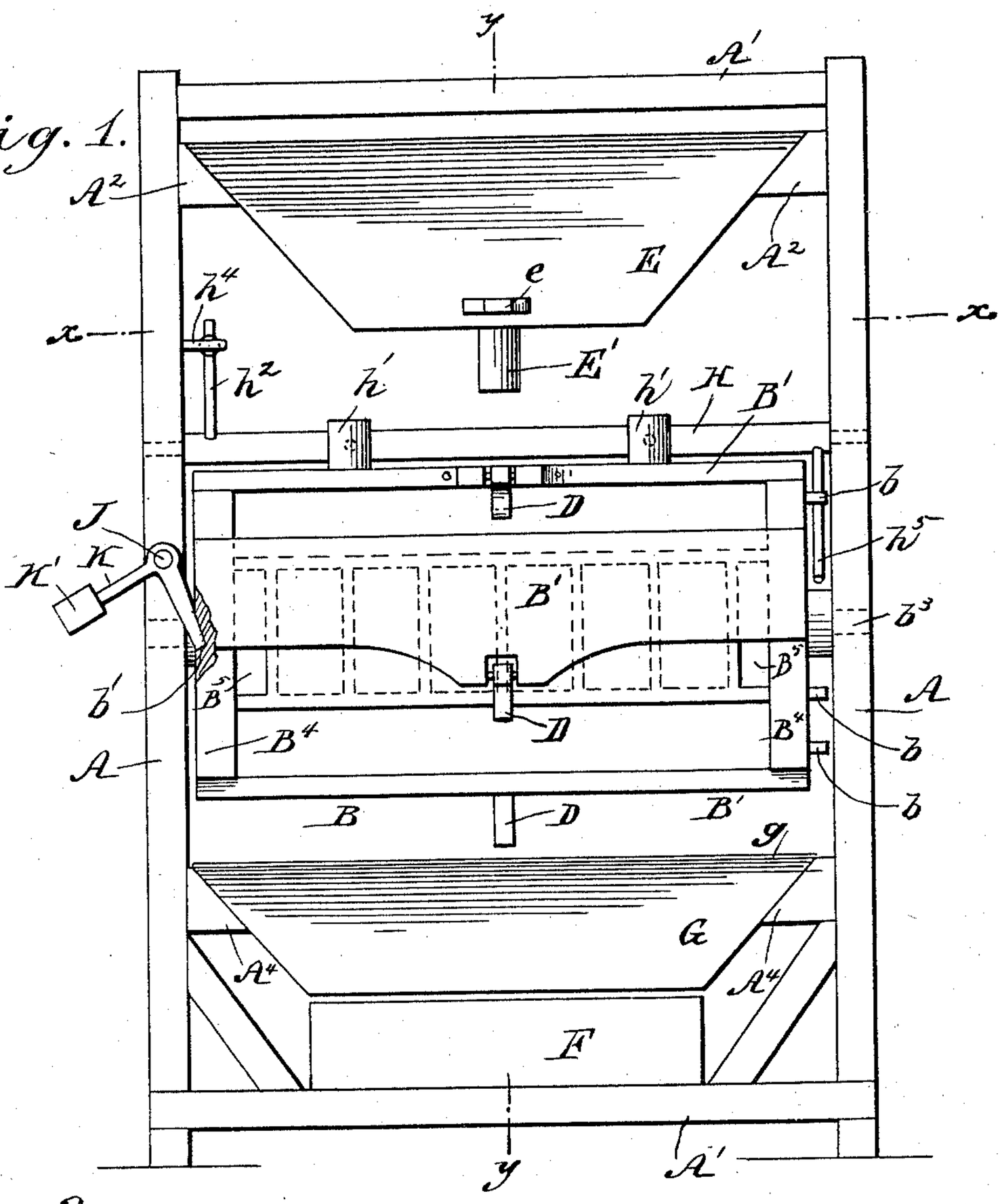
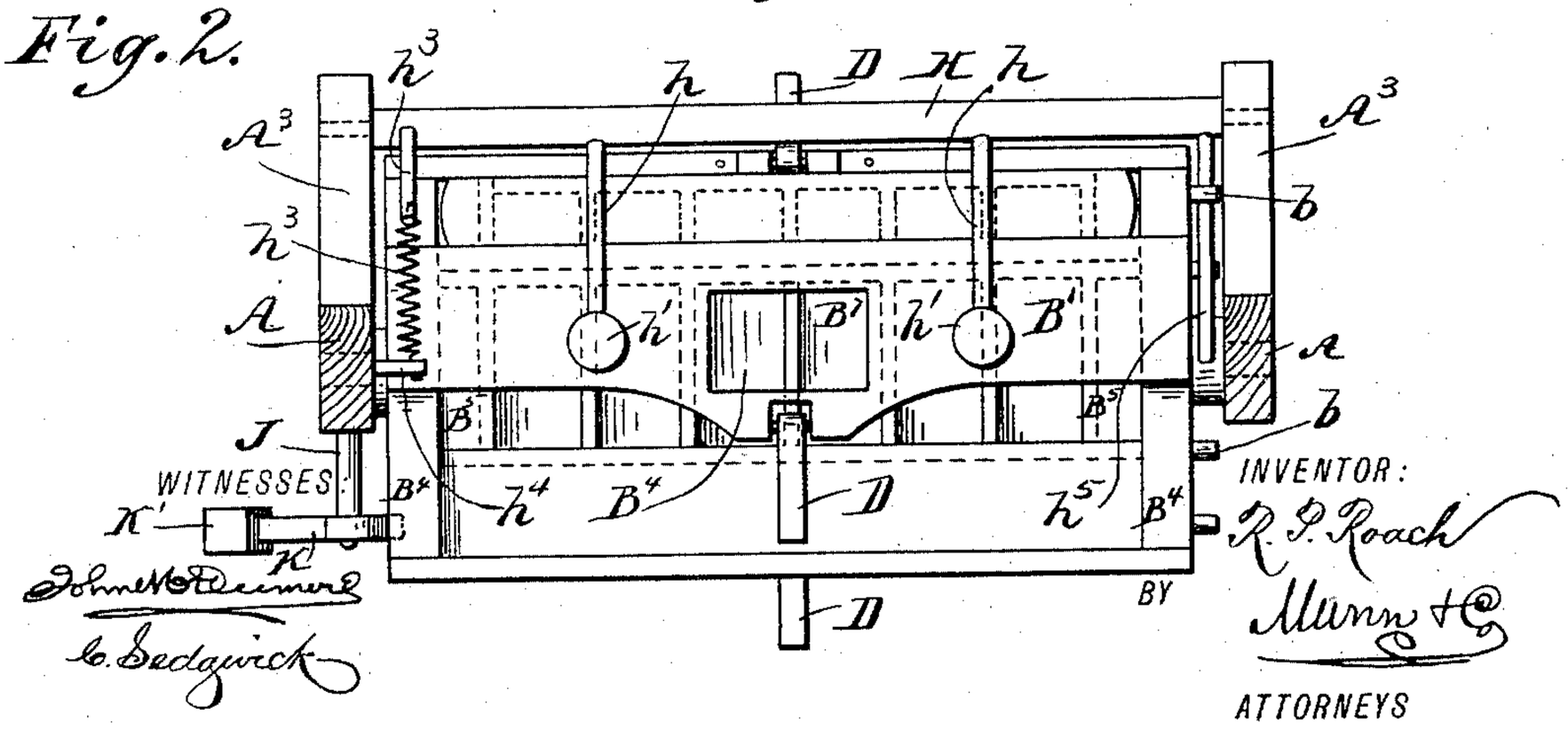


Fig. 2.



(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

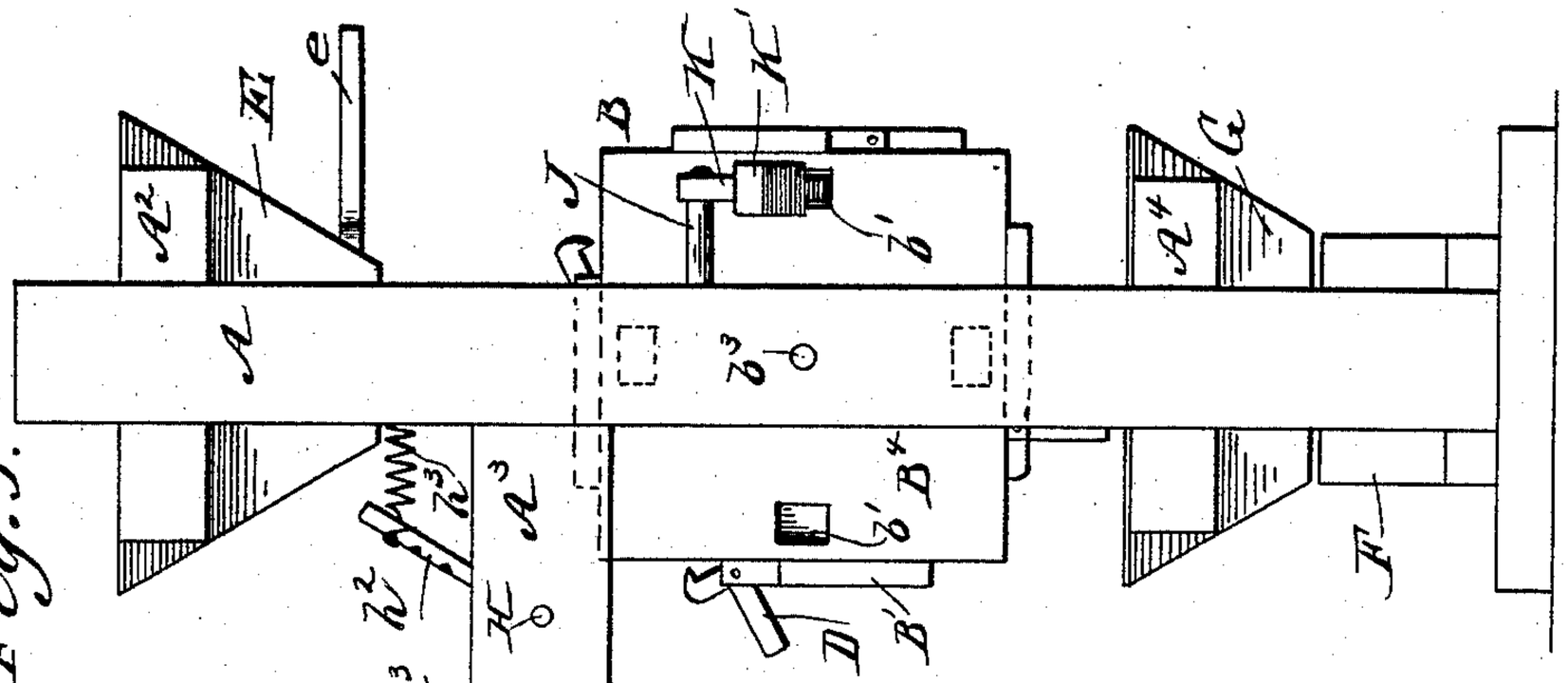


Fig. 4.

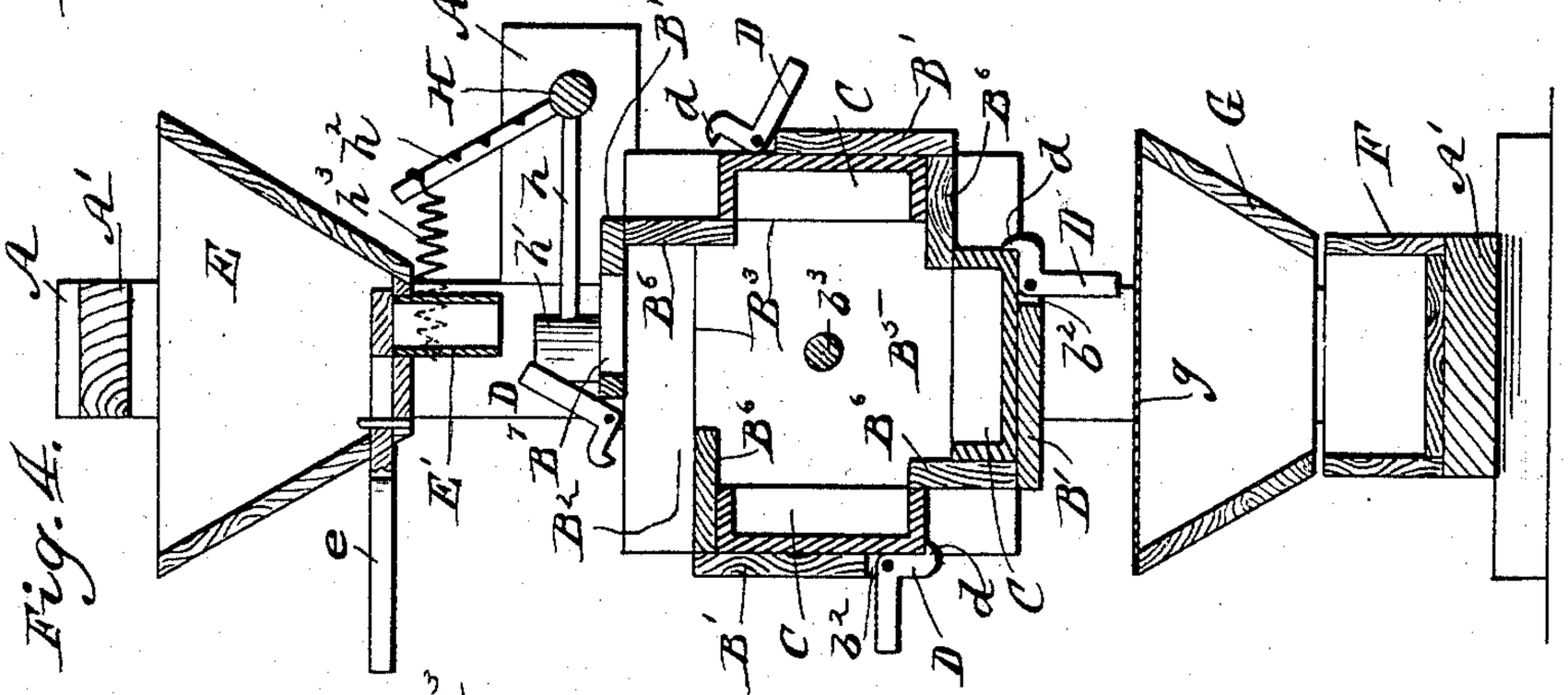
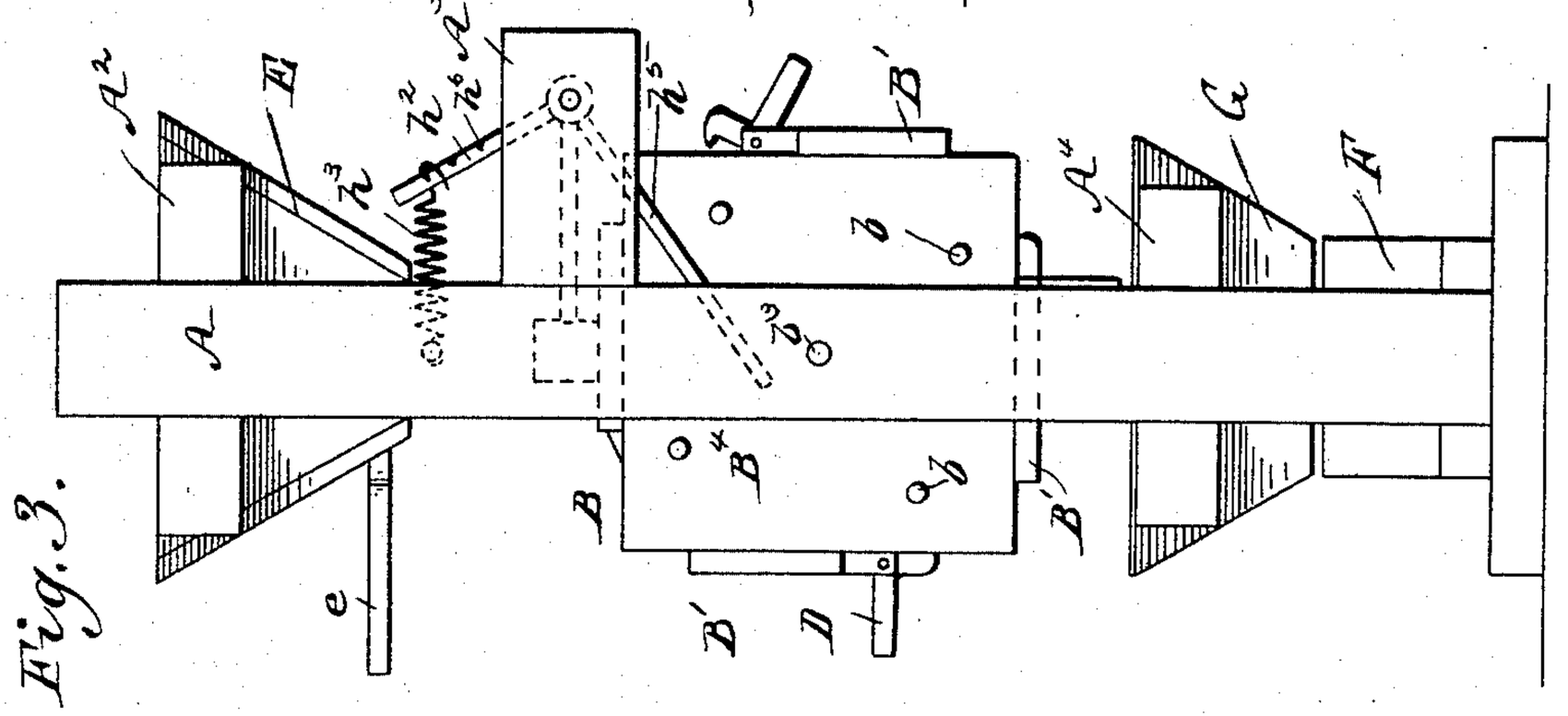


Fig. 3.



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BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT P. ROACH, OF ATWOOD, TENNESSEE.

BRICK-MOLD SANDER.

SPECIFICATION forming part of Letters Patent No. 441,978, dated December 2, 1890.

Application filed June 28, 1890. Serial No. 357,026. (No model.)

To all whom it may concern:

Be it known that I, ROBERT P. ROACH, of Atwood, in the county of Carroll and State of Tennessee, have invented a new and Improved Brick-Mold Sander, of which the following is a full, clear, and exact description.

My invention relates to improvements in brick-mold sanders; and the object of my invention is to produce a durable machine of simple construction, that may be very easily operated, that will thoroughly sand a large number of brick-molds, and that will use the sand in such a manner that there will be very little waste.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a broken front elevation of the device embodying my invention. Fig. 2 is a sectional plan view of the same, taken on the line *x x* in Fig. 1. Fig. 3 is a side elevation of the device. Fig. 4 is a vertical transverse section on the line *y y* of Fig. 1, and Fig 5 is a side elevation taken on the side opposite that shown in Fig. 3.

The frame of the machine consists of the parallel vertical standards A, the connecting cross-pieces A′ at top and bottom thereof, the supports A^2 in the upper part of the frame for the upper sand-hopper, the laterally-extending arms A^3 for supporting the mallet-rocker shaft, and the supports A^4 in the lower part of the machine for supporting the lower sand-hopper.

Mounted centrally between the standards A on the trunnions b^3 is a revoluble box B, having on its four sides the pockets B^2 to permit the insertion of the brick-molds. The box B consists of the square end pieces B^4, having the square pieces B^5 of smaller size secured thereto on the inner side, thereby forming the ledges B^3, or the ledges may be formed by cleats secured to the end pieces. Strips B^6, having their outer edges flush with the edges of the end pieces and their inner corners notched into the pieces B^5, so that their outer faces are flush with the ledges B^3, extend between the ends of the box, and side pieces B′ are fastened to the edges of the end pieces, so that their outer edges are flush with the outer faces of the strips B^6, and their inner edges, which are cut away at the corners, as shown, extend slightly beyond the centers of the edges of the end pieces, thus forming a pocket B^2 on each side of the box, which pockets are open on their front to receive the molds and open at the bottom into the box B. The box has also an opening B^7 through one of the sides B′ and centrally located therein, through which sand is inserted into the box.

The brick-molds C are of the usual construction, being divided by partitions so as to hold a number of bricks, as shown by dotted lines in Fig. 2, and the molds are held in position in the pockets B^2 by the angular catches D, said catches being pivoted in recesses b^2 at the center of the sides B′ and having shoulders *d* at one end adapted to engage the edges of the molds and hold the molds in position. The catches D are pivoted at their elbows, so that they may be easily oscillated. One end of the box B is provided with a series of projecting pins *b*, adapted to operate the rocker-shaft of the mallets, as described hereinafter, and the opposite end of the box has recesses *b*′ near each of its four sides adapted to engage a catch, as described below, and prevent the box from turning backward.

A hopper E is mounted upon the supports A^2 in the upper portion of the frame, said hopper having a depending spout E′ opening through the bottom and in alignment with the opening B^7 in the sand-box B. A slide-valve *e* is fitted to slide laterally in the bottom of the hopper E, and by means of this valve the spout E′ may be opened and closed at will.

A box F is mounted on the cross-pieces A′ at the bottom of the frame and directly beneath the sand-box B, and a hopper G is mounted on the top of the box F, said hopper having flaring sides and ends, as shown, and having a suitable screen *g* extending across the top. It will thus be seen that any waste sand from the sand-box B will fall upon the screen *g* and the sand will pass through into the hopper G and from thence into the box F,

which may be removed and the sand therein poured into the hopper E at the top of the machine, so that it may be again used.

In practice the brick-molds C are wet several times during the day, and soon after being wet too much sand will adhere to them, and at all times, whether wet or dry, it is necessary to jar the molds in order to remove the surplus sand. To accomplish this result I use the following mechanism: A shaft H is pivoted between the arms A^3 above the top of the sand-box, from which shaft project forwardly the rods *h*, carrying at their free ends mallets *h'*, which rest normally upon the top of the sand-box. The shaft II is also provided at one end with an upwardly-projecting arm h^2, which is connected by a spring h^3 with a pin h^4 on the machine-frame, and the pressure of the spring tilts the shaft and causes the mallets to press down upon the top of the box. When the brick-molds are first wet, it is necessary to strike them harder than when they are partially dry, and to accomplish this the position of the end of the spring attached to the arm h^2 may be changed, for which purpose the arm is provided with a series of notches h^6 to receive the looped end of the spring which engages the arm. By adjusting the loop in the respective notches the strength of the blow delivered by the mallets can be regulated. At the opposite end of the shaft H is an arm h^5, which extends downwardly at one end of the box B, and is adapted to engage the pins *b* on said box, so that when the box revolves the pins will successively strike the arm and tilt the shaft H, thus tilting the rods *h* and causing the mallets *h'* to strike upon the sand-box and give the necessary jar to the brick-molds.

Projecting from one of the standards A in front of the machine is a stud J, and pivoted thereon is a bell-crank K, one member of which presses against the end of the sand-box, and the other member is provided with a weight K', which normally holds the inner member against the sand-box. The bell-crank or catch K is pivoted opposite the recesses *b'* in the sand-box, so that when the sand-box revolves the inner member of the bell-crank will enter said recesses and prevent the sand-box from turning backward.

To operate the machine, sand is placed in the hopper E, and the valve *e* is opened so as to let the sand into the sand-box B, the box being filled about one-third full. The valve *e* is closed, and the sand-box B is then revolved, whereby the molds C, which have first been inserted in the sand-box, will be thoroughly sanded, as the side of the molds closes the pockets B^2, and the inside of the mold is open to the interior of the box B. When the molds C are removed, others are inserted in their places, and a great number of molds may be sanded in a short time. When the molds are removed, the sand which drops from the sand-box will be caught upon the screen *g*, and the screened sand will fall into the box F, so that the sand not adhering to the brick-molds may be again used. The catches D may be used as handles to revolve the box, if desired.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a brick-mold sander, a polygonal drum having a pocket B^2 parallel with each of its sides and opening into its interior, one longitudinal side of each pocket being open to permit the molds to be slid horizontally thereinto drawer fashion, and retaining-catches for the molds, substantially as set forth.

2. In a brick-mold sander, a rotary horizontal polygonal drum B, provided on each of its sides with an offset pocket B^2, opening into the interior of the drum and each having one and the same longitudinal side open to permit the molds to be slid drawer fashion thereinto, and angular gravity-catches D, pivoted to the free edges of the outer walls of said pockets and having hooks on one arm to engage the exposed sides of the molds, the other arms of the catches forming handles by which the drum may be rotated, substantially as set forth.

3. The combination, with the sand-hopper having a valved outlet in its bottom, of a horizontal polygonal drum thereunder and provided on each of its sides with an offset pocket B^2, opening into the interior of the drum and each having one longitudinal side open to permit the molds to be slid drawer fashion thereinto, the outer wall B' of one pocket B^2 having an opening B^7, through which sand may pass from the hopper-outlet, and a series of catches mounted on the walls B^2, to engage the exposed sides of the molds and hold them in the pockets, substantially as set forth.

4. The combination, with the upright frame and the horizontal drum mounted therein and having on its outer sides a series of offset mold-receiving pockets open at one longitudinal side to receive the molds drawer fashion, and projections on one end of the drum, of a transverse rock-shaft parallel with the drum and having arms projecting over the drum and provided with hammers to strike the outer walls B' of the pockets as they pass thereunder with the molds inverted therein, and an arm projecting from the rock-shaft into the path of said projections, substantially as set forth.

5. A brick-mold sander consisting in the vertical frame, a sand-hopper mounted in the upper part thereof and provided with a valved outlet in its bottom, a horizontal rotary polygonal drum B thereunder, and provided with an offset pocket B^2 on each of its sides, said pockets being open on one and the same longitudinal side to permit the molds to be slid drawerwise therein, the outer wall B' of one

pocket having an opening B^7 to receive sand from the hopper, catches D on said walls B′, to engage the molds, projections on one end of said drum, a transverse rock-shaft H, having arms *h*, provided with hammers to strike the said outer walls B′ of the pockets as they are brought thereunder with the inverted molds, an arm on the rock-shaft operated by said projections, and a screened-sand receptacle under the drum, substantially as set forth.

ROBERT P. ROACH.

Witnesses:
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R. F. CANNON.