

(No Model.)

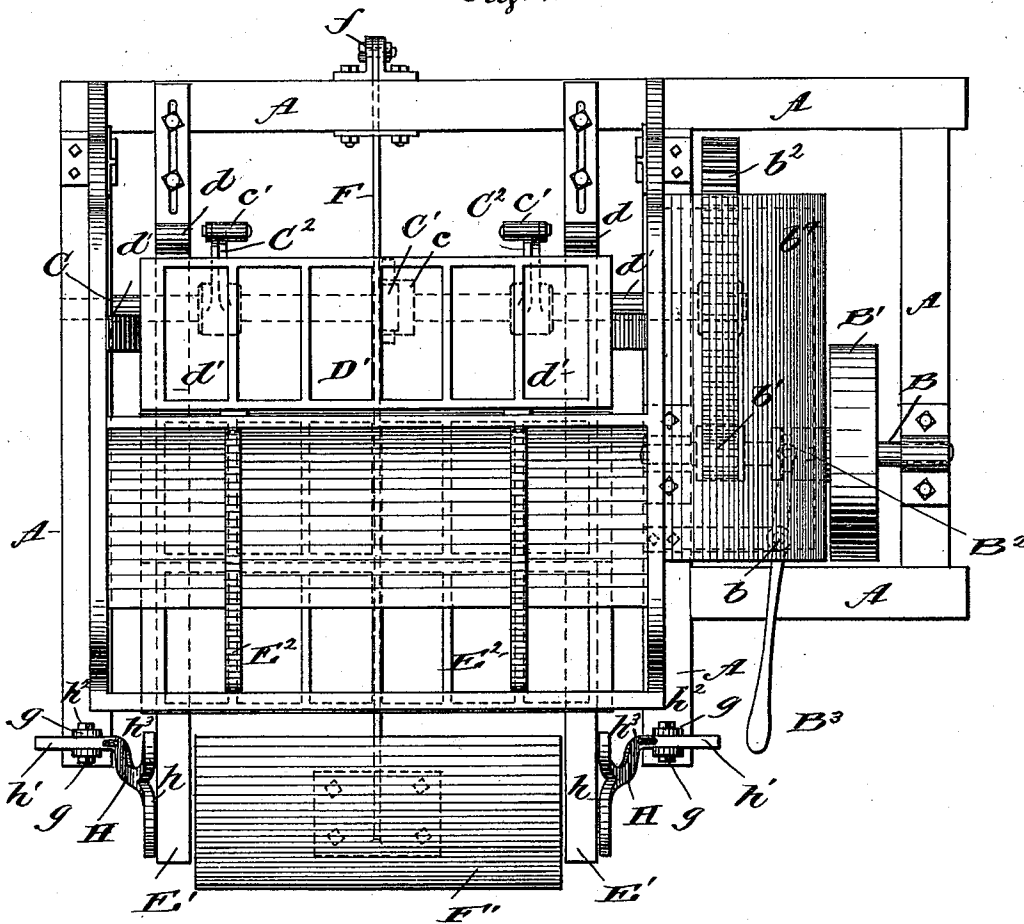
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G. CARNELL.
BRICK MOLD SANDING MACHINE.

No. 507,647.

Patented Oct. 31, 1893.

Fig. 1.



Witnesses:
Hermann Bormann

L. C. Hills.

Inventor:
George Carnell
by E B Stocking
att'y.

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Fig. 2.

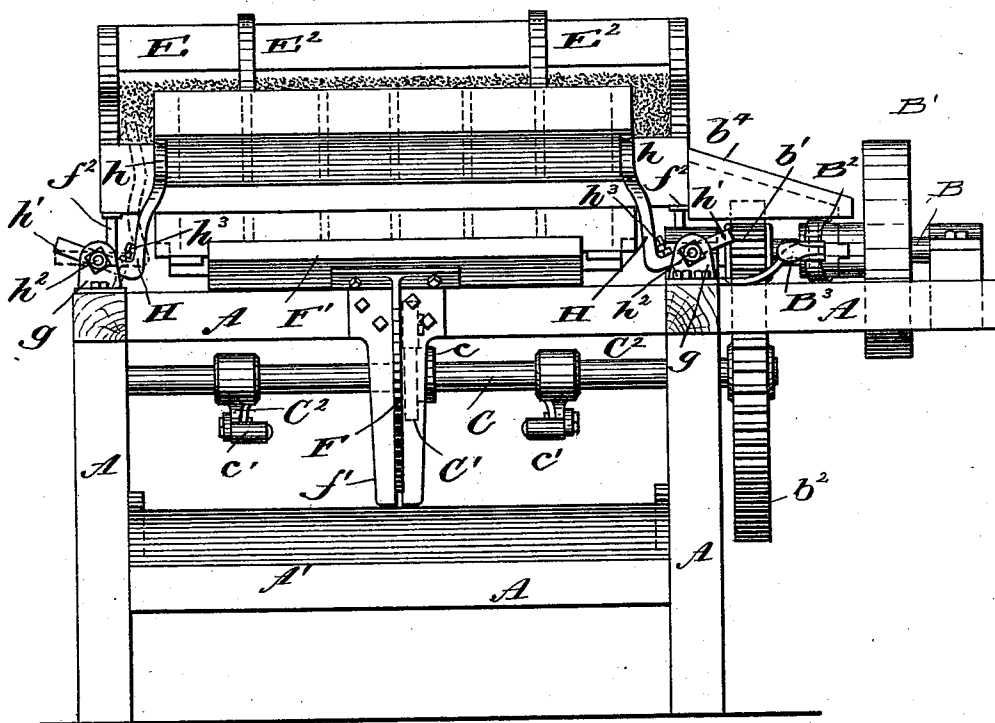
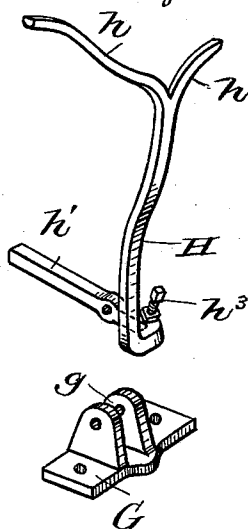


Fig. 3.



Witnesses:
Hermann Bornmann
L. C. Mills.

Inventor:
George Carnell
by E. B. Stocking
att'y.

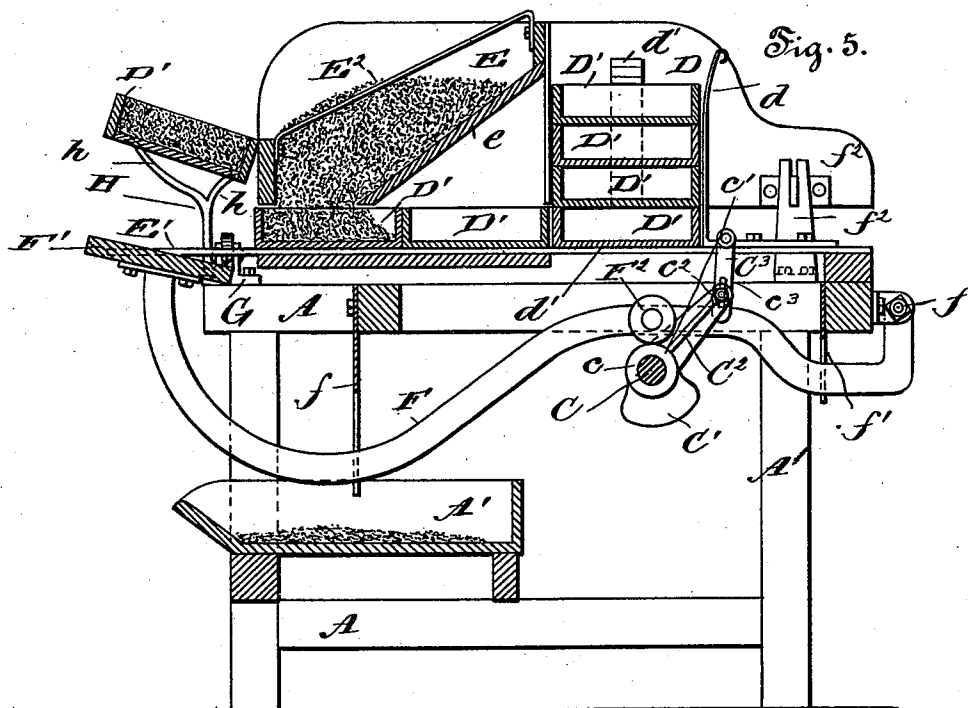
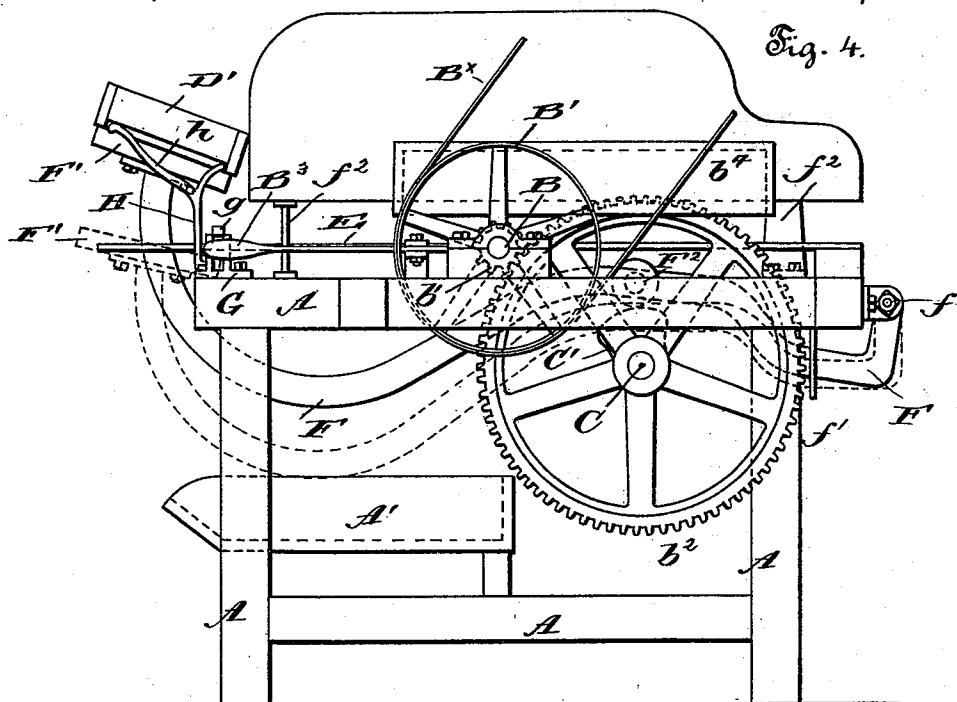
(No Model.)

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G. CARNELL.
BRICK MOLD SANDING MACHINE.

No. 507,647.

Patented Oct. 31, 1893.



Witnesses:
Kernan Bormann

L. C. Hills

Inventor:

George Carnell

E. B. Stocking
att'y.

UNITED STATES PATENT OFFICE.

GEORGE CARNELL, OF PHILADELPHIA, PENNSYLVANIA.

BRICK-MOLD-SANDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,647, dated October 31, 1893.

Application filed October 6, 1892. Serial No. 447,989. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CARNELL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Brick-Mold-Sanding Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in brick mold sanding machines, and it has for its objects among others to provide a simplified yet efficient machine by which the molds will be manipulated so as to sand them without waste of sand or loss of time, and this with the minimum amount of labor on the part of the attendant.

Other objects and the advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a plan view of my improved machine. Fig. 2 is a rear end view thereof. Fig. 3 shows in perspective the mold-holding arm and its supporting or holding lag detached from the machine. Fig. 4 is a side elevation. Fig. 5 is a vertical longitudinal section through the machine.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the frame-work of the machine of any suitable form of construction, of wood, or metal, or a combination of these two materials, constructed to support the operating parts of the machine, and A' is a trough or other suitable receptacle supported upon the frame-work beneath the sanding devices in such a position as to catch any sand that may be scattered or thrown over the sides thereof during the operation of sanding the molds in the manner which will soon be explained.

B is a short horizontal shaft journaled in suitable bearings on the frame at a side extension thereof as seen in Figs. 1 and 2, and upon this shaft is a belt pulley B' which is designed to receive its motion from any suit-

able source of power, a portion of the belt B^x being shown in Fig. 4. This shaft is provided with a clutch B² of any suitable or well known construction, by means of which and a suitable lever as B³ pivoted at *b* and engaging the movable part of the clutch as seen in Figs. 1 and 2 the machine may be thrown into or out of operation as may be desired. On this shaft is a small gear wheel *b*¹ which meshes with the larger gear wheel *b*² on a shaft C which is journaled in suitable bearings in the frame beneath the shaft B as seen best in Figs. 2 and 4. The gearing may be covered and protected by a suitable shield as seen at *b*⁴ in the different views.

On the shaft C is a cam C' carried by a collar or boss *c* as seen in Figs. 2 and 5 and this cam performs an important function in the operation of the machine as will soon appear. On this shaft C are also the arms C² preferably though not necessarily, two in number, one near each end, and adjustably connected with each of these arms is an arm C³ carrying at its free end an anti-friction roller *c*¹ as seen in Figs. 1, 2 and 5 which is designed to engage the rear end of a mold and force it along at predetermined periods as will soon be explained. The connections between the arms C² and C³ are of an adjustable nature as seen in Fig. 5 so that the position of the arm C³ relatively to the arm C² can be varied to adapt the roller to different sized molds, the arm being made longer or shorter as may be required. In this instance I have shown this adjustment as provided for by a set screw *c*² in the one part, the other being provided with a slot *c*³ as seen in Fig. 5, but other forms of adjustable connection may be employed.

D is a mold receptacle which may have a capacity for more or less molds as may be desired, and suitable means as spring plates *d* may be employed for keeping the molds true as they descend; the bottom of this mold receptacle is open as shown in Fig. 5 to provide room for the working of the rollers *c*¹, suitable end guides *d*¹ being provided for the support of the molds as seen in Fig. 1.

D' are the molds a number of which are shown in the mold receptacle in Fig. 5, resting one upon the other. Others are shown as having been moved along from the said receptacle, one being shown beneath the sand recep-

tacle and another as having been filled with sand and raised and held by the arms which are provided for this purpose.

E is the sand receptacle or box suitably supported above the mold support or platform E' upon which the molds are supported as they are forced along. This mold receptacle has an inclined bottom *e* as seen in Fig. 5 so that the sand will flow readily, and E² are inclined bars at the top of the sand receptacle upon which the molds are designed to be supported when the sand is being emptied therefrom back into the receptacle.

F is a compound curved arm pivoted at one end as at *f* to the frame of the machine as seen best in Fig. 5, and at its other end it carries a plate or board F' as seen in the various views upon which the molds are adapted to be received and elevated in a manner which will soon be described. F² is a roller on this arm at a point where it will be engaged by the cam C' as seen best in Fig. 5. This arm is guided in its vertical movements by suitable guides as *f'*, see Figs. 2 and 5.

The sand receptacle may be supported in any suitable manner at the proper height so as to permit the passage of the molds there beneath; uprights or pillars *f'* for instance may be employed for this purpose as seen in Fig. 4.

G are castings secured to the frame of the machine at the end as shown in the various views, and having lugs or ears *g* between which are pivoted the arms H, one at each side of the machine. As seen best in Fig. 3, each of these arms consists of a branched vertical portion *h* the arms of which are designed to engage the bottom of a mold as seen in Figs. 4 and 5, and a lateral portion *h'* through which the pivot passes, and between the pivot *h*² and the vertical portion of the arm there extends through the lateral portion a set screw *h*³ by the adjustment of which the arms may be thrown out or in to adapt them to receive and hold molds of varying sizes.

The operation will be apparent from the foregoing description when taken in connection with the annexed drawings. The molds are placed in the mold receiver and the sand receptacle filled with sand. Motion is imparted to the driving mechanism and the cam and co-operating parts are so timed that as its shaft revolves the arms C² and C³ operate to eject the lowest mold from its position at the bottom of the mold receiver and allow the next one to drop; in the further movement of the parts this mold is pushed further along and another dropped; when the mold arrives beneath the sand receptacle it is filled with sand and the parts being properly timed in their movements as soon as a mold is pushed onto the plate or board F' the cam acts to elevate the forward end of the arm F with the said plate or board and force the mold upward where it is forced between and held by the arms H as shown in Figs. 4 and 5; the next mold is forced against the bottom of the

mold held by the said arms and forces it upward and it is tipped over upon the inclined arms or supports E² and the sand emptied into the sand receptacle. The molds are fed to the mold receiver and the operation continues. The screws *h*³ are adjusted in or out and the arms C² and C³ are shortened or lengthened to accommodate boxes of varying sizes.

Modifications in detail may be resorted to without departing from the spirit or scope of the invention or sacrificing any of its advantages.

What I claim as new is—

1. In a brick mold sanding machine, adjustable pivoted mold-holding arms, as set forth.

2. In a brick mold sanding machine, pivotally-mounted mold-holding arms, provided with adjustable screws for varying the movement and inclination of said arms, as set forth.

3. In a brick mold sanding machine, a mold-holding arm comprising a substantially vertical portion branched as described, and a lateral portion through which the pivot of the arm is designed to pass, as set forth.

4. In a brick mold sanding machine, a mold-holding arm comprising a substantially vertical portion branched at its upper end, and a lateral portion having a hole for the passage of its pivot, and an adjustable screw in the lateral portion between the pivot and the junction of the lateral portion with the vertical portion, as and for the purpose specified.

5. In a brick mold sanding machine, the combination with a movable mold-carrying plate and means for actuating the same, of pivoted mold-holding arms adapted to receive a mold from said plate when the latter is elevated, as set forth.

6. In a brick mold sanding machine, the combination with the sand box, of the mold receiving plate, the pivoted arm carrying said plate and the cam for operating the same, the pivoted mold holding arms for receiving a mold from said plate when the latter is elevated and reciprocating devices for forcing the molds beneath and from under the sand box, substantially as described.

7. In a brick mold sanding machine, the combination with the mold-receiving plate and its pivoted carrying arm, of a shaft with a cam for actuating said arm, and adjustable arms on said shaft for moving the molds, as set forth.

8. In a brick mold sanding machine, the combination with the pivoted arm having roller, of the shaft carrying a cam and adjustable arms provided with rollers to engage and move the molds, as set forth.

9. In a brick mold sanding machine, the combination with a pivoted curved arm carrying a mold-receiving plate at its free end, of mold-receiving arms, the sand box, and the shaft carrying a cam for actuating said arm and means for moving the molds, as set forth.

10. In a brick mold sanding machine, the combination with the mold-holding arms, and the movable mold-holding plate and means for actuating the same, of the mold-moving devices, and the sand box having inclined supports for the mold, as set forth.

11. In a brick mold sanding machine, the combination with the sand receptacle, having inclined mold-supports, of mechanisms including pivoted mold-holding arms for moving the molds from beneath the said receptacle to and upon said supports, as set forth.

12. In a brick mold sanding machine, the combination with the adjustable mold holding arms, of the adjustable mold-moving arms, operating means for the latter and the devices for delivering the molds from the moving arms to said mold holding means, substantially as specified.

13. In a brick mold sanding machine, the combination with the adjustable pivoted mold-receiving and holding arms, of the adjustable mold-moving arms, and the devices for delivering the molds from the moving devices to said pivoted arms, as set forth.

14. In a brick mold sanding machine, the combination with the mold receptacle, and the devices for moving the molds, of the sand box with its inclined supports, the mold-holding arms, the mold-receiving plate, its pivoted arm, and the shaft with cam for actuating said arm, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE CARNELL.

Witnesses:

W. H. HOOD,

HARRY BROCKLEHURST.