

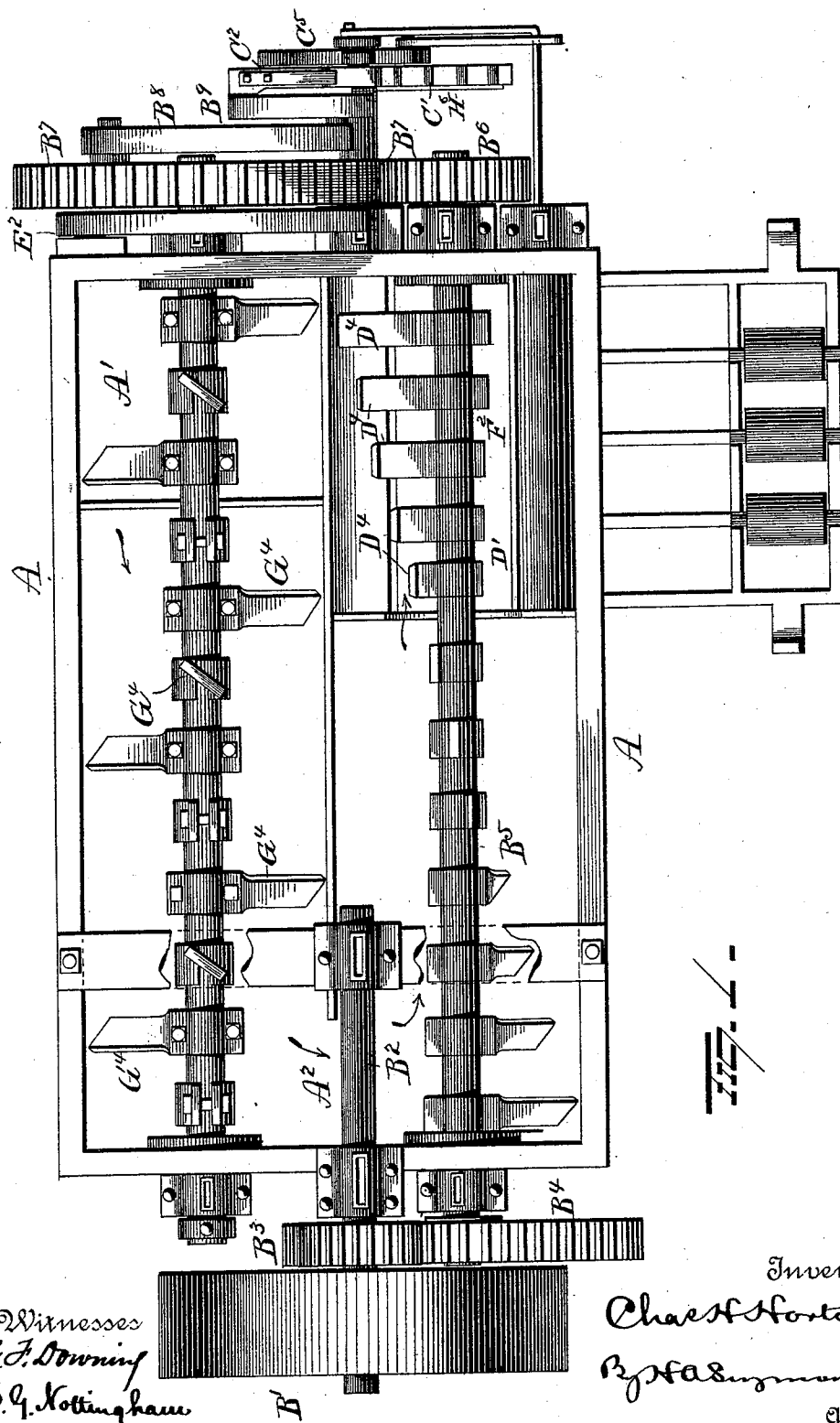
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3 Sheets—Sheet 1.

C. H. HORTON.
BRICK MACHINE.

No. 497,322.

Patented May 16, 1893.



Witnesses
G. F. Downing
S. G. Nottingham

Inventor
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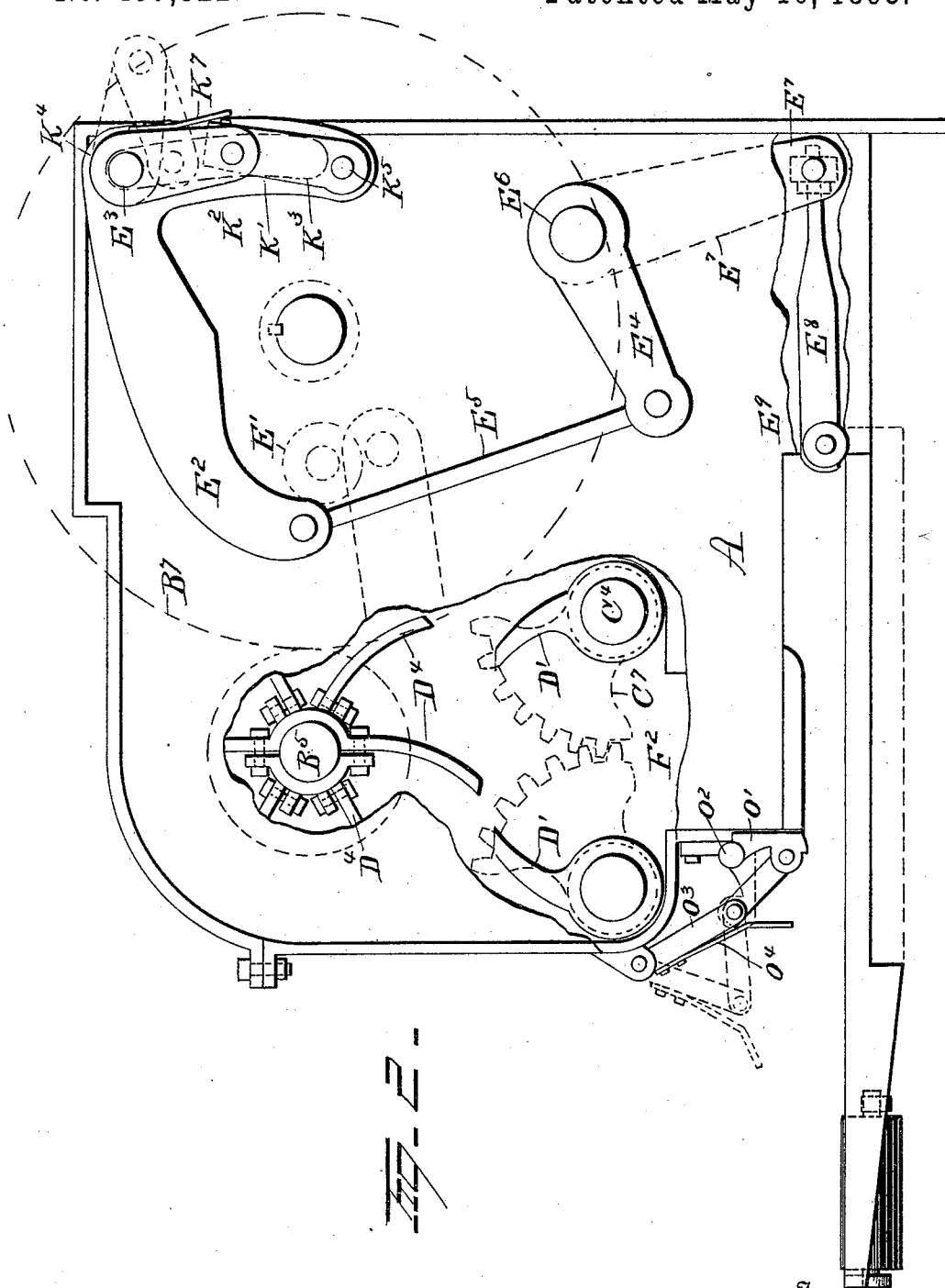
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Chas H Horton.

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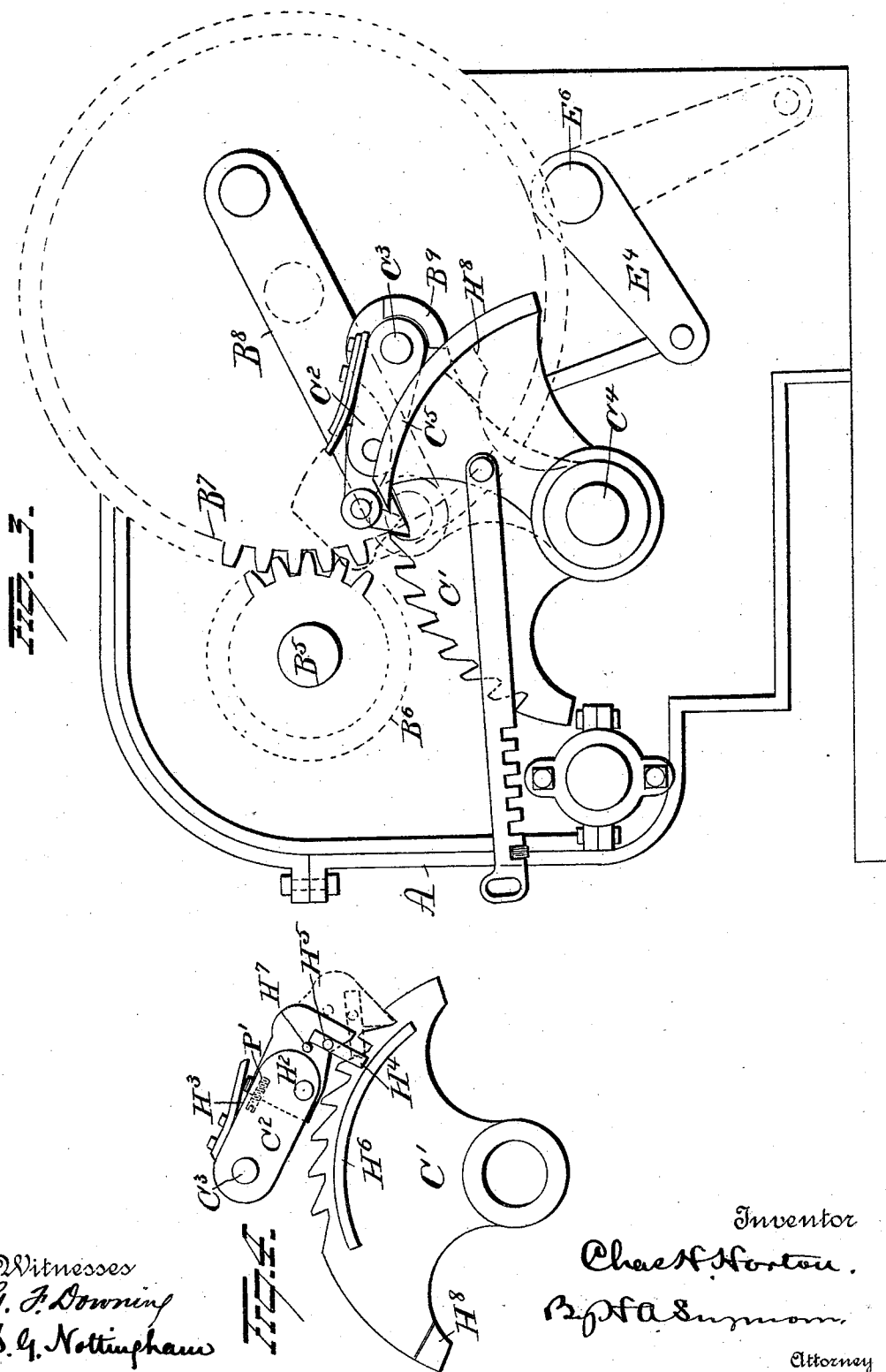
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UNITED STATES PATENT OFFICE.

CHARLES H. HORTON, OF WELLINGTON, OHIO.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 497,322, dated May 16, 1893.

Application filed July 30, 1891. Serial No. 401,206. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. HORTON, of Wellington, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Brick-Machines; and I 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.

My invention relates to an improvement in brick machines and it consists in certain novel features of constructions and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings Figure 1 is a horizontal sectional view. Fig. 2 is an end elevation with gear wheels removed and parts broken away. Fig. 3 is a view of the same end with gearing attached, and Fig. 4 is a detail.

A represents the frame of the machine or mill. The clay is dumped into the mill at A' and forced in the direction of arrows it being forced through opening between the two mills at A² by wiper G⁴ to the second mill through which it is forced in the opposite direction to the press box F² into which it is forced by wipers D⁴. In passing from the first to the second mill the clay makes a complete turn mixing it in a thorough manner and by combining the two mills a great number of knives or blades may be used without making extra long shafts which are both expensive and liable to twist or break. The wipers D⁴ over the presses are made as narrow as consistent so as to assist in pugging the clay when the press is closed or not working.

In working the machine power is applied to pulley B' which is keyed to shaft B² and on which is fastened pinion B³ and that in turn meshes into spur wheel B⁴ which is keyed to shaft B⁵ and on the opposite end of said shaft is keyed pinion B⁶ that meshes into spur wheel B⁷ on which is the driving crank pin for the mud presses on the roll driving mold press. A connecting rod B⁸ connects wheel B⁷ to loose arm B⁹ to which is hinged dog C² at a point C³. Toothed sector C' is keyed to the outer end of mud press shaft C⁴ and arm B⁹ works loosely on shaft C⁴. Smooth sector C⁵ is also loose on shaft C⁴. To the opposite end of said press shaft is keyed a seg-

ment gear C' which in turn meshes into one of the same pattern on the opposite mud press shaft and serves to drive the mud press D'.

The two rocking or oscillating mud presses work entirely in the mud so that any leaking which may occur passes back into the mud. By using two presses instead of one as heretofore both ends of the brick are pressed alike and the blades being narrower the presses work easier and consequently can be driven with less power.

It is desirable that in case any hard substance such as stone or sticks should be caught between the presses that there should be a relief when the required pressure is obtained and to attain the desired result dog C² is jointed at H² that point being just above the center line from point of contact on toothed sector and back end of dog where the same is pivoted.

A spring H³ is arranged to give the desired strain and set screw P' is tapped into front part of dog the head striking the joint where the two parts of the dog come in contact. If the screw be turned out it will throw the joint farther apart raising point H² making the dog buckle under a lighter strain. If more power is needed the screw is turned in allowing the point H² to settle nearer in line of contact with sector hinge and dog. In case of undue strain on the dog, the hinge when spring strikes it rises allowing the dog to buckle up and pass over the notches without pushing them any farther ahead as shown by dotted lines Fig. 3.

It is desirable that the dog should move back over the notches without noise and also to avoid wear by the dog dropping back into each notch as it passes over it. To accomplish this I pivot a loose ear H⁴ on the dog at point H⁵ above the center so that it will fall into position by its own weight a stop pin H⁷ being provided to prevent the ear going too far over. A shelf or projection H⁶ is placed on toothed sector C' this being as long as the entire travel of the dog and the ear of the dog is long enough to carry the dog just clear of the notches when it is being drawn back but whenever it moves forward the ear will lean forward allowing the dog to take its place in the notches as shown by the dotted lines Fig. 4.

A projecting lug H^8 on sector C' serves to draw back said sector by engaging back of loose arm B^9 .

Roll E' is placed on back side of wheel B^7 so as to come directly under actuating arm E^2 Fig. 2 being placed the right distance from the center to give the necessary travel of the mold press E^8 . When motion is imparted to wheel B^7 roll E' comes in contact with the under side of arm E^2 raising it, that being connected to mold press arm E^4 by connecting rod E^5 . Arms E^4 are keyed to shaft E^6 and on E^6 are keyed two legs E^7 (only one shown) they being placed on said shaft as far apart as the length of the mold. Mold press E^8 is hinged at the back end to legs E^7 the other end being carried by rolls E^9 (one not shown.)

It is desirous that there should be a relief of the mold press mechanism in event a mold is caught wrong or any undue resistance to the mold press be encountered and to accomplish this I use a toggle joint K' held in position by a spring K^7 on the back end of the link K^4 . The arm E^2 is extended downward as at K^2 and provided with a slot running from pivot pin E^3 nearly to the lower end as shown by dotted lines K^3 . Onto pin E^3 is hinged the upper end of toggle and the lever end is hinged to actuating arm at K^5 . In event of an extra pressure the toggle buckles up against spring resistance K^7 as shown by dotted lines the slot in arm E^2 and extension K^2 being moved up at the back end instead of the front as usual. It is also desirable that a relief device be had for the press box F^2 and molds in event of excessive pressure or a stone or hard substance being caught in the mold. A series of doors are forced directly over where the mold is delivered forming a part of the front of the press box O' Fig. 2. These

doors are hinged at O^2 and swing outward being held in position by toggle joint O^3 a spring O^4 arranged to give the toggle the desired tension similar to the dog and mold press toggle above mentioned.

The extended spring serves as a handle in case the door is to be opened by hand. A slight pull releases the tension on the spring allowing the door to come open easily.

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

1. The combination with mud presses, and gearing for operating the latter, of a toggle joint pawl connected with the gearing and adapted to operate in connection with the mud presses, substantially as set forth.

2. The combination with rocking mud presses, of a toothed device keyed to one of the mud press shafts, and a toggle joint pawl arranged to cooperate with said toothed device, substantially as set forth.

3. The combination with mud presses, of a toothed sector keyed to one of the press shafts, a yielding toggle joint pawl adapted to cooperate with the teeth of the sector, and means for holding the pawl away from the teeth while retreating, substantially as set forth.

4. The combination with press box, mud presses, mold press and gearing, of slotted bell crank arm, toggle joint connections and means for connecting said arm with mold press, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES H. HORTON.

Witnesses:

ELMA SIMMONS,
AMELIA HORTON.