

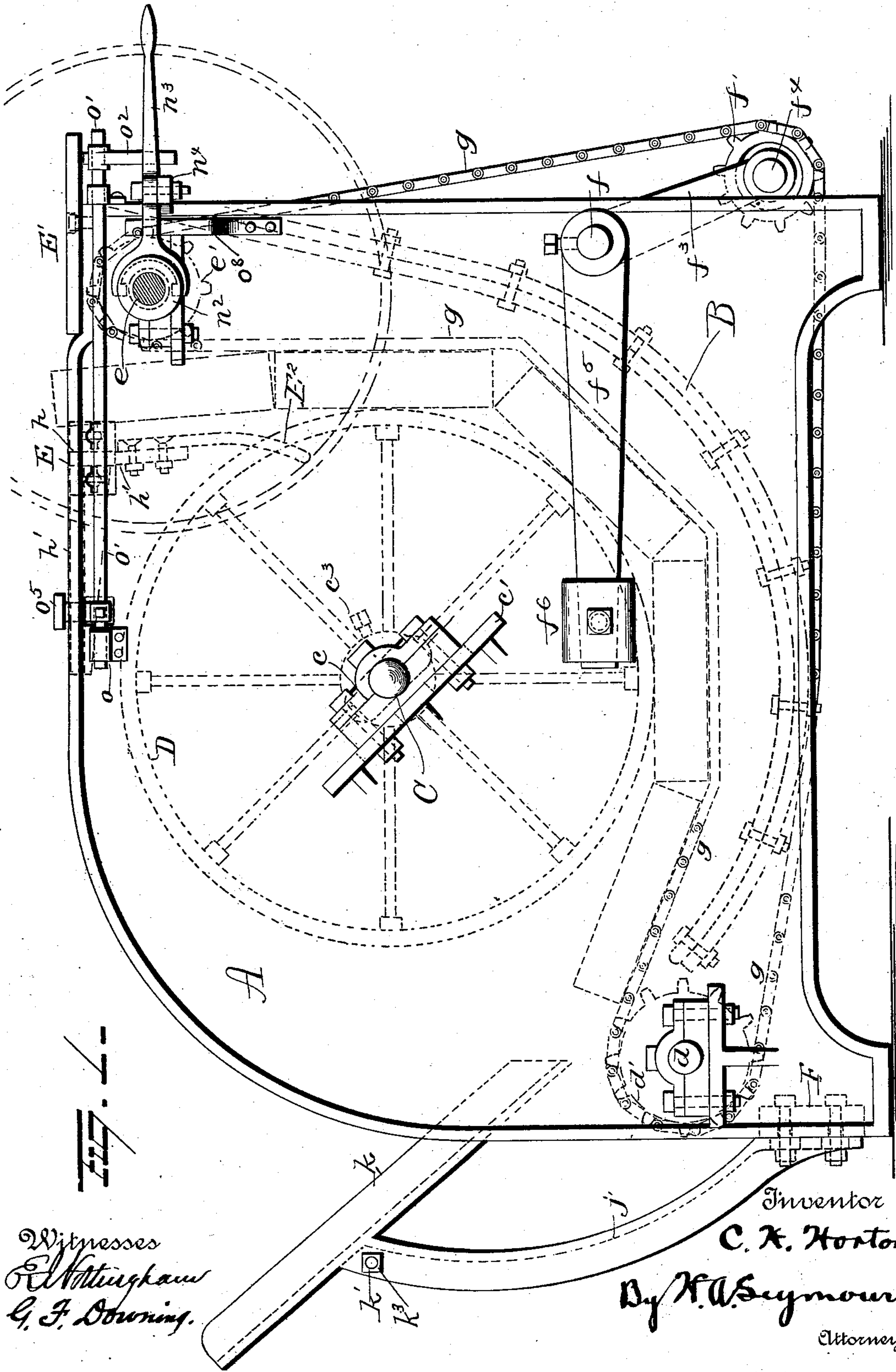
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C. H. HORTON.
MOLD SANDER.

No. 509,033.

Patented Nov. 21, 1893.



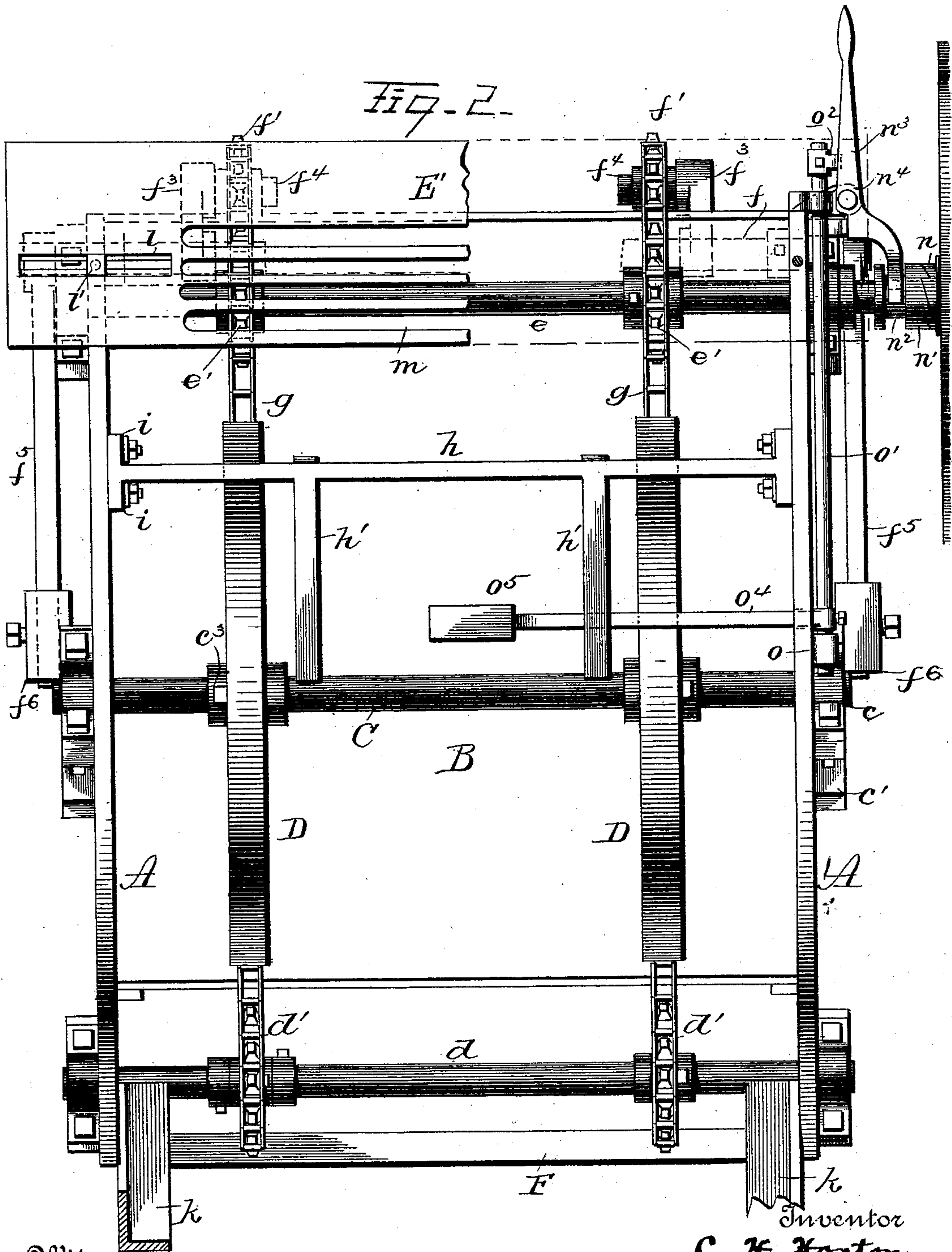
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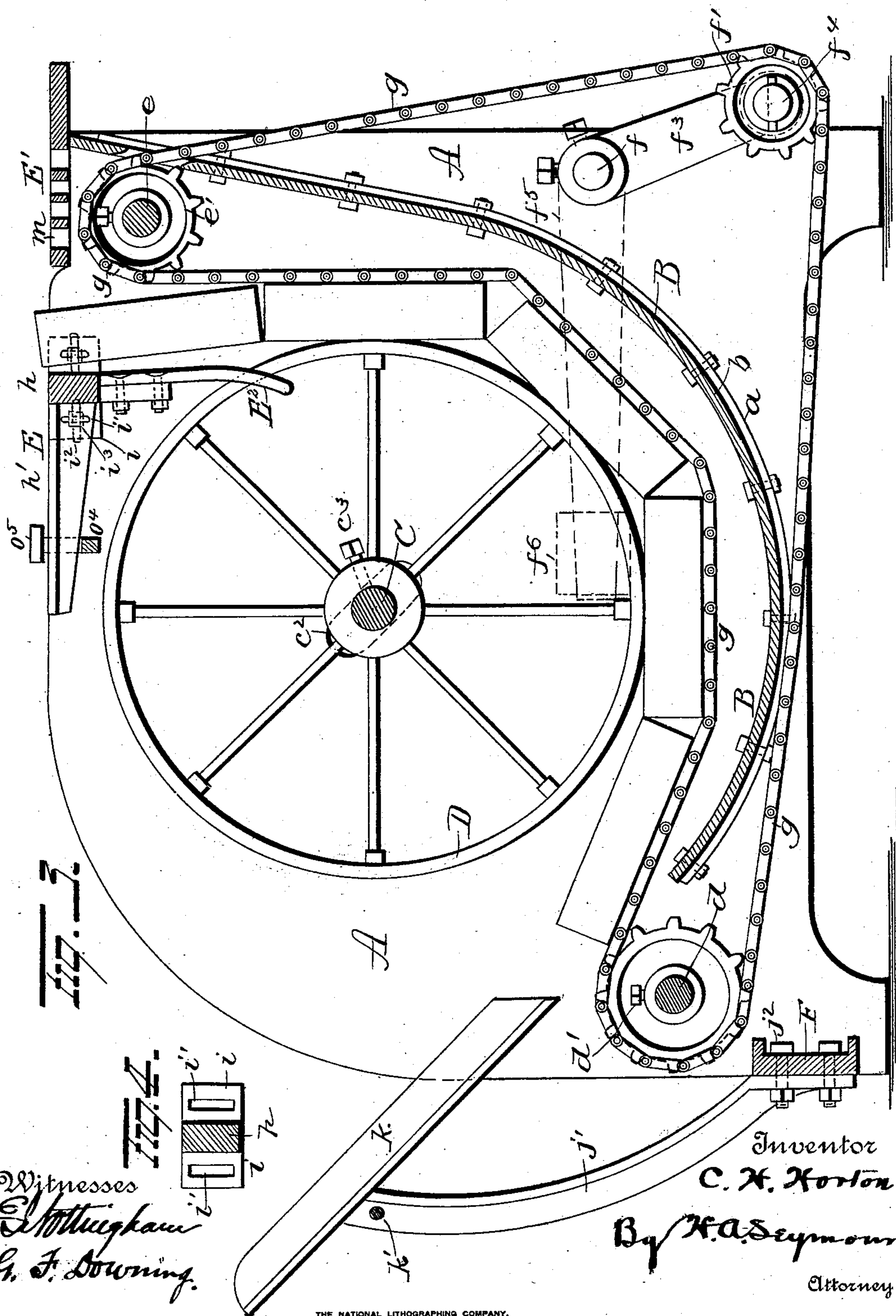
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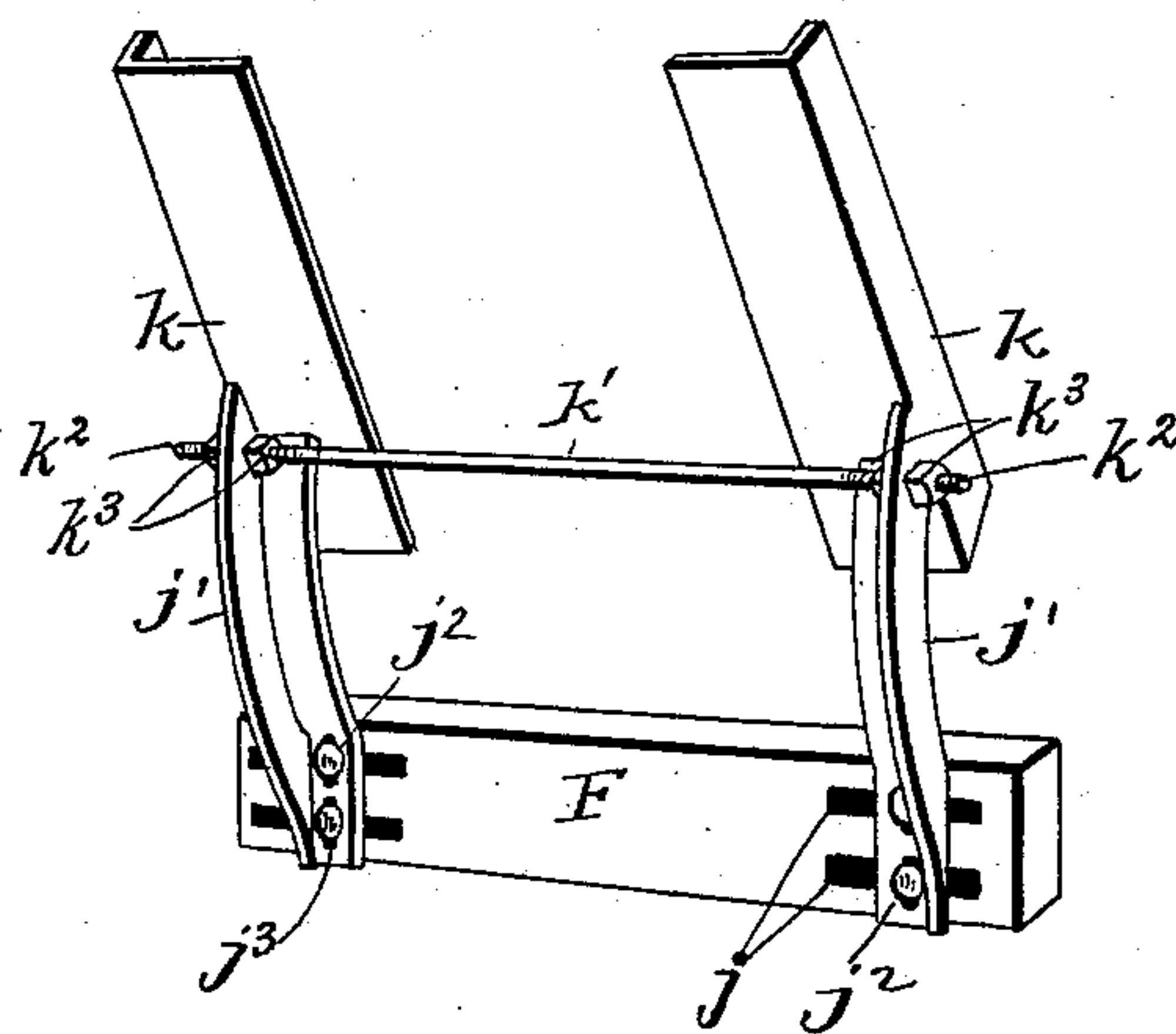


Fig. 5.

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UNITED STATES PATENT OFFICE.

CHARLES H. HORTON, OF WELLINGTON, OHIO.

MOLD-SANDER.

SPECIFICATION forming part of Letters Patent No. 509,033, dated November 21, 1893.

Application filed April 11, 1893. Serial No. 469,988. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. HORTON, a resident of Wellington, in the county of Lorain and State of Ohio, have invented certain new and useful improvements in Mold-Sanders; 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 mold sanders,—the object of the invention being to so construct a sander as to prevent leakage and waste of sand.

A further object is to construct a sander in such manner that it can be easily adjusted to different lengths or sizes of molds and so that the molds will be deposited bottom up on a table directly over the box of the sander, whereby the sand jarred from the sanded mold will be made to fall back into the sander where it can be used again.

A further object is to so construct a sander that the molds will be sanded on both sides.

A further object is to provide simple and efficient means whereby to automatically stop the mechanism when the molds pass out of the machine.

A further object is to provide a mold sanding machine which shall be simple in construction, cheap to manufacture, easy to operate and effectual in the performance of its functions.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is a side view. Fig. 2 is a plan view. Fig. 3 is a sectional view. Figs. 4 and 5 are details.

A, A, represent the side plates or uprights of the machine, which are supported the proper distance apart by means of devices located between them. A sand box B is located between the side plates A, A and preferably curved,—said sand box comprising a series of plates *a*, to which a flooring *b* is secured. Passing through the side plates A, and through the machine approximately concentric with the curved sand box B, is a shaft C, having its bearings in boxes *c* on the out-

side of said side plates,—said boxes being supported by means of brackets *c'* secured to said side plates and disposed in a diagonal position about at right angles to a line drawn tangent at about the center of the sand box B. Where the shaft C passes through said side plates A, the latter are provided with elongated slots *c²*. By mounting the shaft C in the manner above explained it will be seen that it can readily be adjusted relatively to the sand box, in order to conform to any desired thickness of mold. Two wheels D, D, having comparatively broad peripheries, are mounted on the shaft C and adapted to be adjusted and secured at different positions thereon by means of set screws *c³*.

In proximity to the lower end of the sand box B, a shaft *d* is mounted in suitable boxes secured to the side plates or standards A, and on this shaft two sprocket wheels *d'* are adjustably mounted and adapted to align with the wheels D. Near the upper end of the sand box another shaft *e* is mounted in suitable bearings secured to the side plates or uprights A, and on this shaft two sprocket wheels *e'* are adjustably mounted.

Behind the sand box B, and preferably about the center thereof, are two shafts *f*, *f*, adjustably mounted in perforated bosses projecting from the side plates A, and provided at their inner ends with crank arms *f³*, at the free ends of which latter spindles *f⁴* are connected and on these spindles sprocket wheels *f'* are mounted. Endless chains *g*, *g*, pass about the sprocket wheels *d'*, *d'*, *e'*, *e'* and *f'*, *f'* and, when, no molds are passing through the machine, said chains bear against the peripheries of the wheels D. In order to maintain the chains *g*, *g* at the proper tension, the outer ends of the shafts *f*, *f* are provided with arms *f⁵* having weights *f⁶* adjustably secured thereon.

At the top of the machine a table E is located, said table comprising a bar *h* extending from one plate or standard A to the other and arms or brackets *h'*, projecting therefrom, and in proximity to said table E, a table E' is located, between which tables, the molds are adapted to pass when they come out of the machine. In order to permit boxes of different sizes to pass between the tables E, and E', the ends of the bar *h* of the table

E are provided with ears i having vertical elongated slots i' and the adjacent side plates or standards A, A, are provided with horizontal elongated slots i'' ,—through which slots i' , bolts i^3 are passed.

At the front of the machine, in proximity to the lower end thereof, a plate F is secured between the uprights or standards A and provided with horizontal slots j . Arms j' are secured to said plate F by means of bolts j^2 passing through the elongated slots j in plate F and vertical slots j^3 in the arms and at the upper ends of the arms j' slides or guideways k are located,—said slides or guideways being retained in proper position relatively to each other by means of a rod k' , which rod is screw threaded at its ends k^2 k^2 and provided on said ends with jam nuts k^3 k^3 whereby the rod is adjustably secured at its ends to the arms j' preferably in proximity to their upper ends. By thus constructing and arranging the slides or guideways k , they may be readily adjusted to conform to molds of different lengths. The table E' above referred to is provided with elongated slots l for the reception of bolts l' whereby said table may be adjusted lengthwise to accommodate itself to a brick machine. Said table E' is also provided with a series of elongated slots m , so that any loose sand adhering to molds placed thereon will fall into the sand box B.

A pulley is mounted on the shaft e for the reception of a strap or belt from any convenient source of power and the hub of said pulley carries a clutch sleeve n adapted to mesh with a clutch sleeve n' mounted to rotate with the shaft e , but have a sliding movement thereon. The clutch sleeve n' is made with a grooved collar n^2 for the reception of the bifurcated end of an operating lever n^3 , said lever being pivoted at a point between its ends, to a suitable bracket n^4 , secured to one of the standards A. By operating the lever n^3 , the mechanism may be quickly thrown out of gear. Mounted at right angles to the shaft e in suitable brackets or bearings o , is a shaft o' , having an arm o^2 at one end thereof adapted to engage the lever n^3 . The other or inner end of the shaft o' is provided with an arm o^4 which extends to a point in proximity to the center of the table E and at its free end is bent upwardly between the brackets h' of said table,—the free extremity of said arm being provided with a cross bar o^5 . By the provision of these devices means will be produced whereby to automatically operate the clutch above referred to and stop the mechanism as each mold passes out of the machine.

In the operation of the machine, before placing the molds in the slides k , the space between the wheels D and the bottom of the sander box is filled with sand. The mold will pass from the slides to the chains g , and will be carried between said chains and the wheels D through the machine. Thus the molds will be carried edgewise to the body of the sand,—

the surplus sand rolling over the edge of the mold or pallet and from that to the next, completely sanding both sides. The mold will be discharged through the space between the tables E, E', being properly guided thereto by means of arms E² (preferably curved) projecting from the table E. The mold, after passing through the space between the tables E, E', will fall, bottom side up, on the arms or brackets of the table E and surplus or loose sand adhering thereto will be permitted to fall back into the sander box B where it can again be used. As the mold falls upon the arms or brackets h' of the table E, it will strike the cross head o^5 at the end of the arm o^4 and depress said arm, thus causing the shaft o' to which said arm is secured to oscillate. As the shaft oscillates the arm o^2 at the outer end thereof will engage the operating lever n^3 and operate the clutch, thus stopping the mechanism. Thus it will be seen that as each mold passes out of the machine, the surplus sand will be returned to the sander box, that the mechanism will be automatically stopped, and that said mechanism will remain at rest as long as the mold is allowed to remain on the table E. As soon as the mold is taken from the table E, the clutch will be again operated to start the machine and the cross bar or head o^5 made to assume its normal position ready to be operated by another mold, by means of a spring o^8 secured at one end to the frame of the machine and at the other end adapted to bear on the lever n^3 . When the molds are taken from the table E, they will be deposited on the table E' (any loose sand falling through the slots in said table) from which they will be transmitted to the brick machine.

My improved sander can be adapted to work on either side of the brick machine by simply changing the shaft e end for end and adjusting the table E' to correspond with the distance of the sander from the brick machine.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope and hence I do not wish to limit myself to the precise details of construction herein set forth; but,

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

1. In a mold sander, the combination with a frame and a sander box, of wheels located in said frame and adjustable relatively to said sander box, and means for causing molds to pass between said wheels and sander box, substantially as set forth.

2. In a mold sander, the combination with a sander box, of a shaft, wheels adjustably mounted on said shaft and means for causing a mold to pass between said wheels and the sander box, substantially as set forth.

3. In a mold sander, the combination with a sander box, of a shaft adjustable relatively to said sander box, wheels adjustably mounted on said shaft, and means for causing a mold

to pass between said wheels and the sander box, substantially as set forth.

4. The combination in a mold sander, of a plate having elongated horizontal slots therein, slides or guide-ways having elongated vertical slots therein, bolts passed through said elongated slots for holding the slides or guide-ways adjustably in position on the plate, and a rod screw threaded at its ends and provided with a pair of jam nuts at each end for securing the rod adjustably in place, substantially as set forth.

5. In a mold sander, the combination with framework and a sander box, of a shaft adjustably mounted relatively to the sander box, wheels mounted on said shaft and adjustable relatively to each other, shafts in proximity to the ends of said sander box, sprocket wheels adjustably mounted on said shafts, idler wheels, and chains or belts passing over said sprocket wheels and idler wheels, substantially as set forth.

6. In a mold sander, the combination with the main frame of the machine, and a sand box therein, of a table supported on the frame over the sand box and adjustable endwise thereon, substantially as set forth.

7. In a mold sander, the combination with a main frame of the machine, and means for conducting molds through the machine, of a table adjustable vertically and horizontally and located in position to catch the molds as they pass out of the machine, and arms depending below said table for guiding the molds to the table, substantially as set forth.

8. In a mold sander, the combination with the main frame, sand box, and a wheel, of an endless chain passing between the wheel and the sand box and adapted to receive molds between the chain and wheel, and means for automatically applying sufficient tension upon the chain, substantially as set forth.

9. In a mold sander, the combination with a main frame having a sand box therein, and

wheel adjustable downward and away from the sand box, of an endless carrier passing through the box, and adapted to receive and carry molds between it and the wheel, and a tension device operating constantly upon the endless carrier to keep it taut, substantially as set forth.

10. The combination with a mold sander, a table and a clutch, of devices intermediate of said table, so constructed and arranged as to receive the molds and be manipulated by the molds passing out of the machine, to automatically operate the clutch to stop the machine, substantially as set forth.

11. In a mold sander, the combination with a table and a clutch, of a lever connected with said clutch, a spring for maintaining said clutch normally locked, a shaft, an arm at one end of said shaft adapted to engage said lever, an arm secured to the other end of said shaft and terminating at the table, and a cross head at the free end of said last-mentioned arm and adapted to be struck by the molds passing out of the machine to automatically throw the clutch out of mesh, substantially as set forth.

12. The combination with the frame of a machine, and a guideway, of arms for supporting the guideway laterally adjustable relative to the frame of the machine, and a bolt connecting the arms, said bolt threaded at its ends and passing through holes in the arms, and nuts on the threaded ends of the bolts on either side of the arms adapted to be accommodated to the relative positions of the arms apart, substantially as set forth.

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

CHARLES H. HORTON.

Witnesses:

J. W. HOUGHTON,
MARY H. HOUGHTON.