F. H. DAM.

MACHINE FOR BORING BLIND-STILES.

No. 169,679. Patented Nov. 9, 1875.

fig. 1

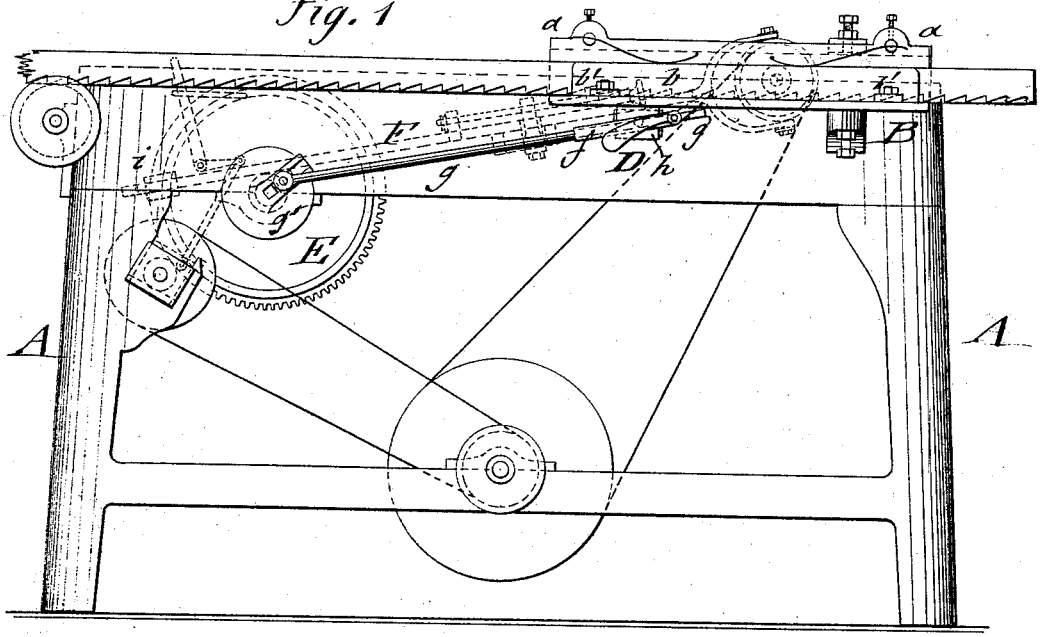
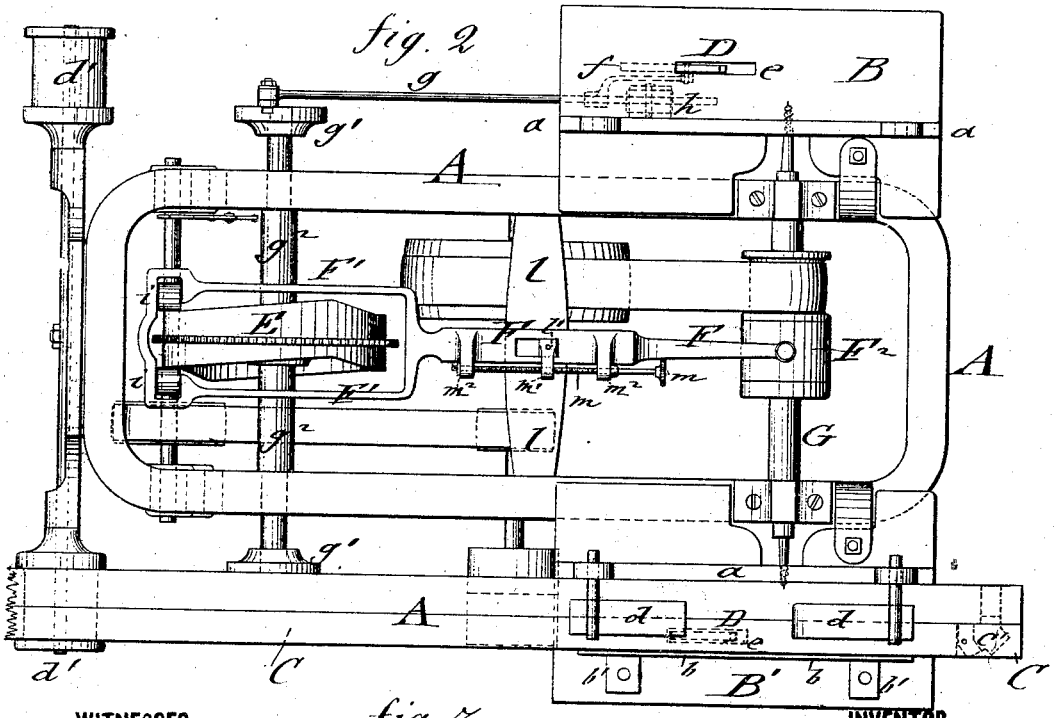



fig. 2




WITNESSES:

C. Neveux
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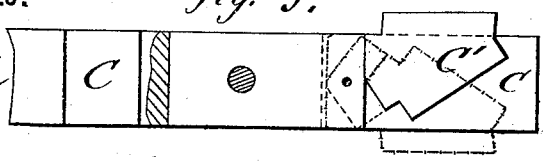
fig. 3.




INVENTOR:

F. H. Dam

BY

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

FREELAND H. DAM, OF ST. CLOUD, MINNESOTA.

## IMPROVEMENT IN MACHINES FOR BORING BLIND-STILES.

Specification forming part of Letters Patent No. **169,679**, dated November 9, 1875; application filed June 6, 1874.

*To all whom it may concern:*

Be it known that I, FREELAND H. DAM, of St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and Improved Blind-Stile-Boring Machine, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved blind-stile-boring machine; Fig. 2, a top view of the same; and Fig. 3 a detail sectional view of feed-rack with pivoted catch-piece.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide a machine for boring blind-stiles, fence-rails, and other articles with holes of uniform depth at equal space from each other, and carrying on the boring operation continuously in a simple and easily-adjusted manner.

My invention consists of a rack with pivoted catch-piece adjusted to a mortise of the stiles for guiding the same, in connection with an intermittently-feeding mechanism, to the boring-tool, to which lateral reciprocating motion is imparted simultaneously with the rotary motion by a sleeve and pivoted forked lever, which is operated by a double cam-wheel from the main shaft, and fulcrumed to an adjustable pivot for producing accurate depth of bore-holes.

In the drawing, A represents the supporting-frame of my improved blind-stile-boring machine, which is constructed of suitable dimensions, and provided with sidewise-extending guide-plates B B′ for placing the stiles and feeding-rack thereon, and exposing them to the action of the boring-tools. The stiles are moved along the main flange *a* of guide-plate B, which flange is suitably perforated for the boring-tool. A vertical guide-flange, *b*, is adjusted by set-screws *b′* at varying distance from main flange *a*, and parallel thereto, for holding firmly different sizes of stiles or other articles to be bored. A rack-bar, C, toothed at the under side, is slotted at one end, and provided in the slot with a pivoted catch-piece, C′, which may be thrown out projecting to either side of the same, and be fastened into a mortise of the stile, so as to be used at either side of the machine. The stile and rack-bar move jointly between main flange and adjustable guide-plate, the stile being held steadily on the base guide-plate by top pressure-springs *d*, and supported at the outer end on loose guide-rollers, *d′*, arranged at equal height with the base-plate B. Intermittent forward motion is imparted alternately to the stiles and rack-bars at both sides of main frame by weighted feed-pawls D, which project through slots *e* of the base-plate B, and are pivoted to side standards *f*, applied to lever-rods *g*. The ends of lever-rods *g* are pivoted eccentrically and adjustably to cam-wheels $g^1$ of main shaft $g^2$, which is rotated in connection with the driving-shaft. The pawl-ends of lever-rods *g* slide in pivoted guide-blocks *h*, hung to the under side of base-plates B in such a manner that, by the forward motion of the lever-rods, the weighted pawls take or engage the rack-bars and feed the stiles forward, while the backward motion of the rods carries the pawls back, and leaves the stiles firmly in position for the action of the boring-tool. The double cam-wheel E is keyed centrally to main shaft $g^2$, and acts by the inclined cam-flanges on side friction-rollers *i* of the forked end frame $F^1$ of lever F, which is fulcrumed to a cross-piece, *l*, of frame A, and pivoted with its similarly-forked opposite end to a box or sleeve, $F^2$, placed loosely between flanges of boring-spindle G, so as to impart lateral reciprocating feed-motion to the same simultaneously with the continuous rotary motion transmitted by belt-and-pulley arrangement from driving-shaft.

The depth of the bore-holes is defined by the inclined flanges of the double cam-wheel E; but for the purpose of obtaining a greater degree of accuracy in the depth of holes, so that the tenons of the blind-slats strike the bottom of holes, the fulcrum *l′* of lever F is made adjustable in slots of cross-piece *l* and lever F by means of screw-bolt *m* passing through a threaded top-piece, $m^1$, of the fulcrum-pin *l′* and supporting guide-lugs $m^2$ of the lever.

The exact feed of the boring-tools, in either direction, is thus easily and quickly produced, and by the alternate action of the same one stile bored while the other stile is fed forward, so that a continuous work of the machine is obtained, especially when a third rack and

stile is always kept in readiness to be placed on the guide-plate as soon as one stile is completed. The boring of the blind-stiles, &c., may thus be performed in a true and labor-saving manner, and by a simple and easily-operated mechanism.

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

1. In a blind-stile-boring machine, the single spindle G carrying a tool at each end and receiving a continuous rotary motion, and an alternate endwise motion in opposite directions, in combination with the stile-feeding bars C receiving an alternate progressive movement, as and for the purpose herein described.

2. The combination of the cam-wheel E, pivoted forked lever F, and loose collar or sleeve $F^2$, with the tool-spindle G and the feed mechanism, as and for the purpose specified.

3. The stile-feeding rack, provided with slotted end and pivoted double catch-piece for fastening into mortise of stiles at either side thereof, substantially as specified.

4. The combination of the fulcrumed lever F, double cam-wheel E for giving reciprocating motion to boring-spindle, fulcrum-block $l'$, and adjusting-screw mechanism $m$ $m^1$ $m^2$ for producing the accurate depth of the holes required, substantially as and for the purpose described.

FREELAND H. DAM.

Witnesses:
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H. M. ATKINS.