No. 650,020. Patented May 22, 1900.

W. McCLELLAN.

FILE CUTTING MACHINE.

(Application filed Oct. 30, 1899.)

(No Model.)

Fig. 2.

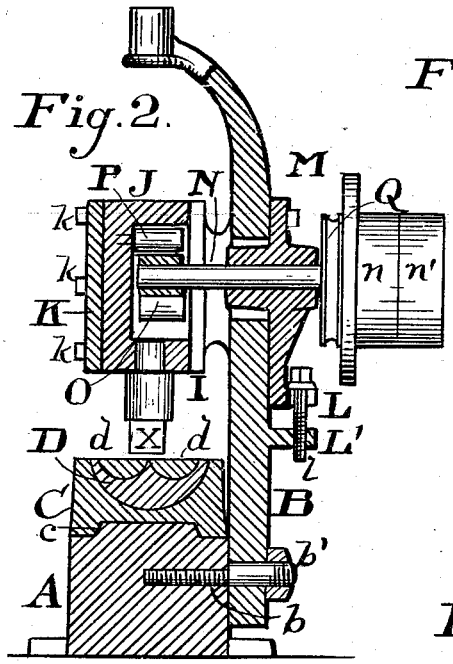


Fig. 4.

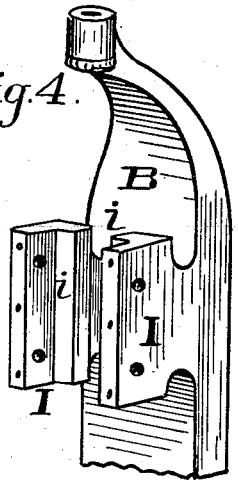


Fig. 3.

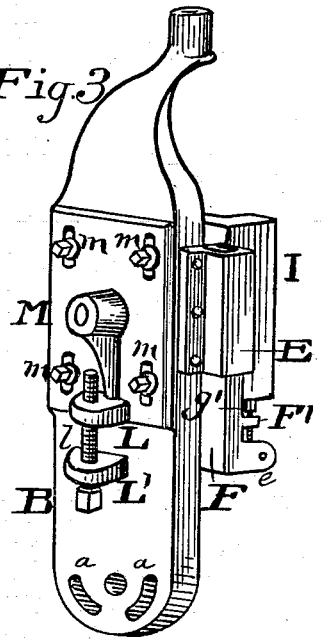


Fig. 1.

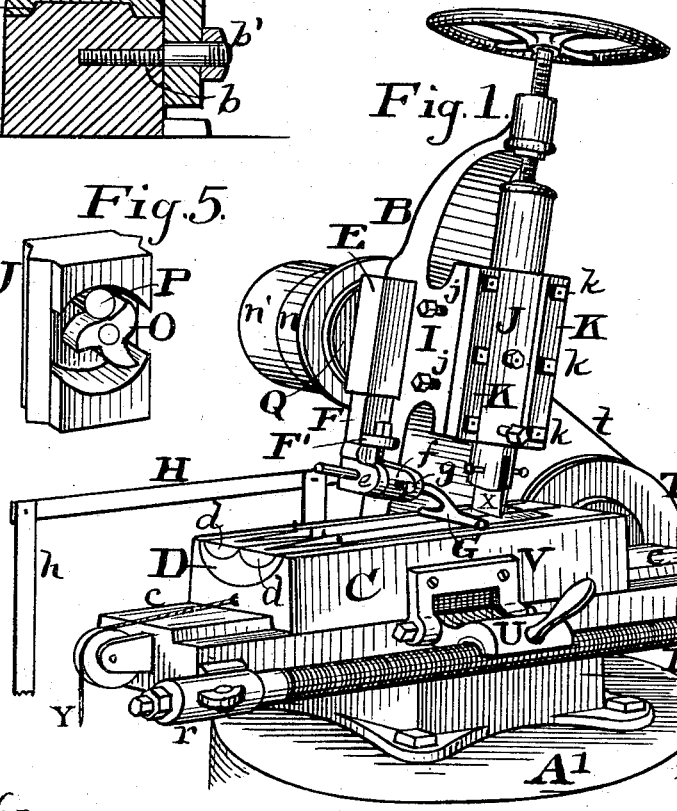
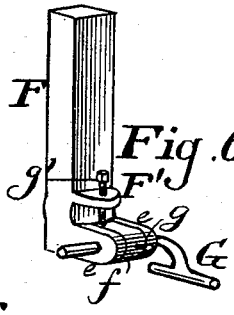


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM McCLELLAN, OF CLEVELAND, OHIO.

FILE-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 650,020, dated May 22, 1900.

Application filed October 30, 1899. Serial No. 735,156. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MCCLELLAN, a citizen of the United States of America, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in File-Cutting Machines, of which the following is a specification.

This invention relates to file-cutting machines; and it consists in certain new and useful improvements upon my former machine for which a patent was granted me May 1, 1883, and numbered 276,698.

The objects of these improvements are to increase the adjustability of the several working parts and to greatly increase and facilitate the working and productions of the machine.

These improvements are enumerated as follows: first, the improved construction of the guideways on the standard, in which the cutting-tool is supported and operated, whereby greater rigidity and precision of the cutting-tool are attained; second, in the addition of a presser-foot for holding down the blanks while being cut; third, in the construction of the blank-holding bed, whereby two or more files may be cut at one and the same time; fourth, in providing an eccentric pin or bolt for attaching the standard to the base-plate, whereby the standard may be readily and nicely adjusted relative to the work-holding bed; fifth, in providing a roller-bearing cam-pin in the tool-holding plunger for reducing friction and facilitating the operations of the cutting-tool.

The nature and operations of these improvements will fully appear from the subjoined description when considered in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of my new file-cutting machine. Fig. 2 is a vertical section through the center of the standard and bed of the machine. Fig. 3 is a detached view of the standard, showing its rear side. Fig. 4 is a front side view of the standard, showing the new guideways. Fig. 5 is a detached view of the tool-holding plunger, showing its rear side and having the roller-bearing cam-pin and cam located in its chamber. Fig. 6 is a detached view of the presser-foot.

A is the base or bed plate of the machine, which supports all the working parts and which is secured upon a suitable foundation A'. To the rear side of said base-plate is attached a standard B by means of an eccentric-pin *b*. (Seen in Fig. 2.) Said pin consists of a screw having a long head offset from the center line of the screw, upon which the standard is put, having its outer end screw-threaded for the nut *b'*. This pin is screwed into the base and may be turned to change the position of its head to slightly raise or lower the standard for adjusting it relative to the base. Other bolts are also fixed in the base, which protrude through the segmental slots *a a* in the standard, by means of which the standard is adjusted and secured at the required angle to said base.

C is a carriage which rides upon the bevelways *c c* of the bed-plate and upon which the blanks are held for cutting. In the top surface of the carriage is provided a semicircular plate D, resting in a semicircular groove, and *d d* are two smaller semicircular plates resting in grooves in the said plate D. Upon the small plates the blanks are laid for cutting. By this arrangement two or more blanks may be cut at one and the same time.

On the side of the standard is provided a presser-foot, consisting of a box E, in which the stem F of the foot is held. Between the ears *e e* on the lower end of the stem F is placed a block *f*, through which and the said ears is placed the stem of the presser-bar G, said bar being secured in the block *f* by set-screw *g*. On the side of the stem F is also made a lug F', through which is placed a set-screw *g'*, which screws into the block *f*, by means of which the presser-bar G may be adjusted for equal bearing on the blanks.

H is a lever fulcrumed at the side of the base A and attached to the stem F of the presser-foot, and having attached to its outer end a connecting-rod *h*, connected to a foot-treadle, (not shown,) whereby the presser-foot may be raised for releasing its bearing upon the blanks whenever desired.

I I are box-guides cast on the standard B, which hold the guideways for the tool-holding plunger J. On the sides of the plunger are formed V-shaped guides, which slide in gibs set in the angles *i i* of the guides I I and held

in place by screws *j j*, and they, together with the plunger, are held in by the side plates K K, secured by nuts *k k*. By this construction a great advantage is gained over the old. As will appear, by removal of plates K K the plunger and gibs are easily taken out of the box-guides I I for replacement by others or other purposes without disturbing any of the other parts of the machine.

On the back of the standard is placed a shaft-bearing plate M, secured by means of screws *m m*, through slots, which permit said plate to be adjusted up or down and screwed into the standard. At the lower end of plate M is formed a lug L, into which is screwed the set-screw *l*, that is held in the lug L′ on the standard.

N is a shaft journaled in the bearing of the plate M, on the outer end of which are fixed the tight and a loose pulley *n n′*. On the inner end of said shaft N is fixed a three-pointed cam O, having its revolutions in the chamber of the plunger J, and by means of which said plunger receives its reciprocal movements.

P is an antifriction-roller fixed in the chamber of the plunger over the said cam O.

R is a feed-screw fixed on the front side of the base-plate A, having its bearings in brackets *r r* at the front corners of said plate. On the right-hand end of said feed-screw is put a bevel-gear S. On end of plate A are bearings for a counter-shaft having a bevel-pinion (not shown) meshing with the gear S for operating the feed-screw. On the opposite end of said counter-shaft is a grooved pulley T, connected by belt *t* with a grooved pulley Q on the shaft N, by means of which motion is transmitted to the feed-screw.

U is a drop-nut pivoted in a bracket V on the front side of the carriage, which engages with the feed-screw R and which in the operations of the machine automatically feeds the carriage, with the blanks, to the cutting-tool X in the lower end of the plunger J. At any time that the operator may desire he may release the drop-nut from its engagement with the feed-screw R, when a weight attached to the lower end of a rope Y, the opposite end of which is secured to the carriage, will quickly draw the carriage back to its original position ready to receive new blanks for repeating the cutting operations.

Having described my invention, what I claim is—

In a file-cutting machine the combination with the file-blank carriage, of the presser-foot mounted on the side of the standard B, and consisting of the stem F slidingly held in the box E, the ears *e e* on the lower end of said stem F, the block *f* between said ears, the presser-bar G inserted through said ears and block, the set-screw *g* in the side of the block for fastening the bar G therein, the lug F′ on the stem F above the block *f*, and the adjusting-screw *g′* through said lug and screwed into the block, and the lever H fulcrumed to the side of the base A and pivotally attached to said stem F, as a means for lifting the presser-foot, all arranged and combined to operate as described.

Signed by me at Cleveland, Ohio, this 27th day of October, 1899.

WILLIAM McCLELLAN.

Witnesses:
GEO. W. TIBBITTS,
CHARLES L. STOCKER.