

W. T. NICHOLSON.

MACHINES FOR STRIPPING FILE-BLANKS.

No. 177,072.

Patented May 9, 1876.

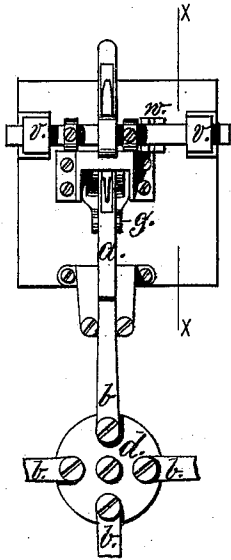


FIG. 1.

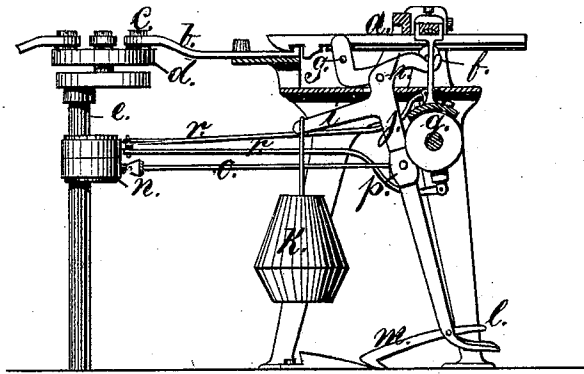


FIG. 2.



FIG. 4.

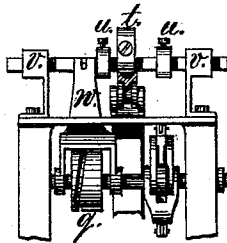


FIG. 3.

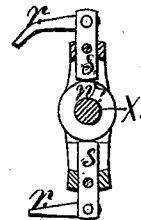


FIG. 5.

WITNESSES.

Franklin Woods
J. C. B. Woods

INVENTOR.

William T. Nicholson

UNITED STATES PATENT OFFICE.

WILLIAM T. NICHOLSON, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO
NICHOLSON FILE COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR STRIPPING FILE-BLANKS.

Specification forming part of Letters Patent No. 177,072, dated May 9, 1876; application filed
December 16, 1875.

To all whom it may concern:

Be it known that I, WILLIAM T. NICHOLSON, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Machines for Stripping File-Blanks; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

The invention described in this application is one of several improvements in machines used for the purpose of stripping or "draw-filing" file-blanks, for the several divisions of which invention I have made three other applications for Letters Patent, all of even date herewith. This part of my invention consists, first, in a new arrangement by which reciprocation is imparted to the file-blank, and by which the file-blank bed can be attached to and detached from the reciprocating device; second, in the arrangement by which lateral reciprocation is imparted to the stripping-file; third, in the arrangement by which the file-blank is held against the stripping-file and released therefrom, as will be more fully described hereinafter.

Figure 1 in the drawings is a top view of one of my file-stripping machines, showing also the arrangement by which four or more machines may be driven from one main shaft. Fig. 2 is a side view of the machine. Fig. 3 is a front elevation of the upper part of the same. Fig. 4 is a sectional view of the stripper-bar, showing the stirrup for securing the stripper-file in view. Fig. 5 is an enlarged view of the peculiar friction-pawls through which motion is transmitted to the shaft *x*, and from this to the laterally-moving stripper-bar.

Similar letters of reference indicate corresponding parts.

In the drawings, *a* is the reciprocating tilting bed, to which the file-blank is secured. *b* is a connecting-bar, secured by a pin to the plate *d*; or the same may be secured in the same manner to a crank, on which the pin can be adjusted nearer to or farther from the center of the main driving-shaft *e*, by which rotary motion is imparted to the crank. The rod *b*

imparts reciprocating motion to the bed *a*, engaging by an upturned lip into a slot in the forward end of the bed, in which it may slide freely, thus changing the rotary motion of the pin *e*, or the crank, if directly connected to the same, into the reciprocating motion of the bed *a*. The bed *a* has a projecting rib on its under side, resting on the ground-rollers *f* and *g*, which rib allows the bed to adjust itself so that the file-blank may bear fairly against the stripping-file. The rollers *f* and *g* support the bed. The roller *f* is located directly under the stripping-file, and is secured to the arm of the hinged lever *j*, resting in the fulcrum *h*, while the roller *g* is supported by an auxiliary lever independent of the lever *j*, but so arranged that when the lower end of the latter is pushed forward by the foot of the operative to engage the pawl *m*, its upper end will come into contact with the auxiliary lever, and, raising the same and the roller *g*, will, by thus tilting the bed *a* longitudinally, disengage it from the rod *b*, while at the same time the roller *f* is depressed. The bed *a* now ceases to reciprocate, and the file-blank may be turned over, or another file-blank may be secured in place. When the operative releases the pawl *m*, the weight *k*, acting through the arm *i* and the lever *j*, replaces the rollers *f* and *g* to their original position, and forces the file-blank against the stripping-file.

As it is desirable that the pressure of the file-blank on the stripping-file should be greater when the blank is passing in the direction against the cutting-edge of the stripping-file than when passing in the opposite direction, friction-blocks are secured to the lever *j* at *p*, and the rod *o* is connected with the eccentric *n*, secured to and rotating with the shaft *e*. The eccentric imparts reciprocating motion to the rod *o*, which, passing between the friction-blocks *p*, increases the pressure of the lever on the bed *a* in one direction, and when passing in the opposite direction diminishes the same, as fully described in another application for Letters Patent describing that part of my invention.

The stripper-bar is supported in the standards *v v* and in the bracket *t*. In the latter there is a friction-roller, which presses on the

stripper-bar directly over the file-blank, so that the bar may be prevented from springing, and be able to reciprocate laterally with the least friction. A concave recess in the stripper-bar receives a semi-cylindrical holder for the stripping-file, which is secured to the bar by the stirrups *u u*, as shown enlarged in Fig. 4. The stripping-file can, therefore, adjust itself in the file-holder or stripper-bar to the surface of the file-blank. Lateral reciprocating motion is imparted to the stripping-file by two rods, *r r*, secured to the eccentric *n* at one end, and to the pawls *s s* at the other end. By the rotation of the shaft *e* and of the eccentric *n* thereon, a reciprocating motion is imparted to the rods *r r*, and an oscillating motion to the pawls *s s*. These pawls are arranged as shown (enlarged) in Fig. 5, so that by the forward motion of the rods *r r* the upper pawl comes into contact with the disk *w*, secured to the shaft *x*, and rotates the same through a portion of a revolution, and at their backward motion the lower pawl comes into contact with the disk *w*, and gives it a further rotation. This slow rotation of the shaft *x* rotates the barrel *g*. In the periphery of the barrel *g* an elliptical groove is formed, in which a pin secured to the standard *n'* slides, thus giving a lateral reciprocation to the stand-

ard, which is communicated to the stripper-bar and stripping-file. By thus imparting a reciprocating movement in a longitudinal direction to the file-blank, and a laterally reciprocating movement to the stripping-file, the file-blank is evenly and thoroughly stripped or draw-filed, and a smooth surface for cutting is secured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a file-stripping machine, the combination of the reciprocating bar *b* and the reciprocating detachable tilting bed *a*, operating together substantially as and for the purpose described.

2. The combination, with the driving-shaft, of the rods *r r*, the pawls *s s*, and the barrel *g*, for imparting rotary motion to the barrel-shaft, and transmitting lateral reciprocating motion to the stripping-file, substantially as and for the purpose set forth.

3. The combination, with the weighted lever *j*, carrying the roller *f*, of the auxiliary lever *g*, for raising the bed *a*, substantially as described.

WILLIAM T. NICHOLSON.

Witnesses :

FRANK S. ARNOLD,
J. C. B. WOODS.