W. T. NICHOLSON.

MACHINES FOR STRIPPING FILE-BLANKS.

No. 177,074. Patented May 9, 1876.

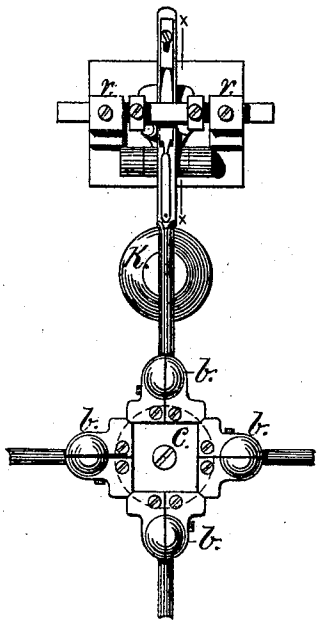

FIG. 1.

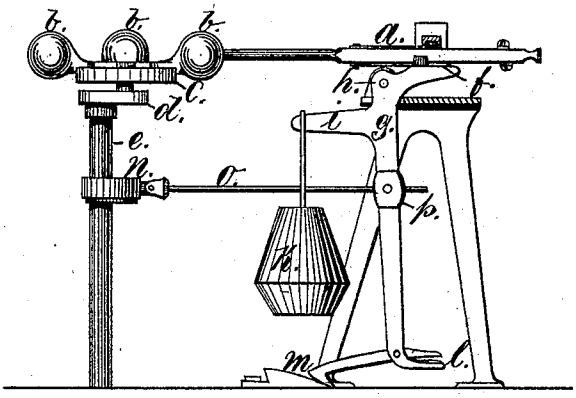

FIG. 2.

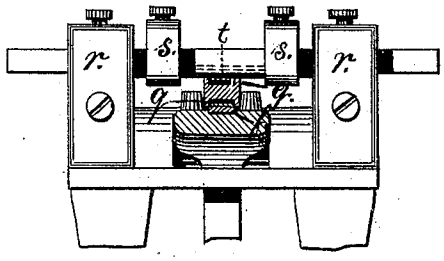

FIG. 3.

WITNESSES.

Frank F. Arnold

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. **177,074**, 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, in the 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 in the combination of a reversible bed for holding the file-blanks with a roughing-file and a smoothing-file, in the manner as hereinafter explained.

Figure 1 is a top view or plan of one of these machines, three others being indicated as connected with and driven from the same central shaft. Fig. 2 is a side view of the machine. Fig. 3 is an enlarged end view of the upper part of the machine.

In the drawings, *a* is a reciprocating bed, in which the file-blanks are secured by adjustable clamps, as is shown in Fig. 1. The file-blank is laid into a recess made for this purpose in both the upper and under side of the bed *a*, and to enable the blank to adjust itself freely to the stripping-file a sheet of rubber or other equivalent elastic material is placed under the file-blank to form a cushion. (Indicated in Fig. 3 as a solid black line, *q q*.) The other end of the bed *a* is connected, by a ball-and-socket joint, with the plate C, which is carried through a circle by the crank-pin secured to the crank *d*, on which the same can be adjusted, so as to give greater or less reciprocation to the bed *a* by increasing or decreasing the distance of the crank-pin from the center of the shaft. *e* is the main driving-shaft, around which the file-stripping machines are placed, so that a number of machines are driven from one shaft. The hinged lever *g*, supported on the fulcrum *h*, is held firmly against the lower file-blank by the weight K, suspended from the horizontal arm *i* to the opposite arm of the lever *g*. A roughing-file is secured at *f*, which, in the reciprocation of the bed *a*, acts upon the lower file-blank, while a smoothing or finishing file, *t*, Fig. 3, is secured to the stripper-bar by the stirrups *s s*, and finishes the upper file-blank.

By connecting the bed *a* with the plate C by a ball-and-socket joint, the bed may be readily turned over, and the file-blank operated upon by the roughing-file turned up and brought in contact with the finishing-file or stripper.

The vertical arm of the lever *g* extends downward to near the floor, ending in a foot-plate at *l*. A pawl, *m*, is secured to the same at this point, which engages in a hook or projection, *m*, when the vertical arm of the lever *g* is pushed forward, and retains the same in this position. The arm of the lever *g*, to which the roughing-file is secured at *f*, is now depressed, and the bed *a* may be freely turned over, and new blanks secured. When the operative releases the pawl *m* with his foot, the weight K, suspended from the horizontal arm *i*, again forces the arm, with its roughing-file *f*, into contact with the lower file-blank, and the upper file-blank is pressed against the upper or finishing stripper-file. The friction-clutch *p*, operated upon by the rod *o*, exerts a thrust against the lever *g* in one direction, thus increasing the pressure of the file-blanks against the stripping-files.

When the rod *o* is moving in the opposite direction, the same friction device exerts a pull on the lever *g*, and thus diminishes the pressure on the files at the return stroke. This feature of the machine is the same which is described and claimed in another application for Letters Patent of even date herewith.

As one end of the bed *a* is secured by the ball-and-socket joint to the plate, and thus describes in its motion a circle, and as the bed under the stripping-bar is passing between two stationary studs the movement of the file-blank is a compound lateral and reciprocating one, and approximates in figure to the form of the figure 8.

The operation of the machine is as follows: The operative having, with his foot, pushed the lever *g* forward, the pawl *m* holds the same in that position. The bed *a* is now loose, and can be freely turned in the ball-and-socket joint *b*. The operative now secures a file-blank in the upper and lower cushioned cavity of the bed *a*, releases with his foot the pawl *m*, when the weight K presses the arm *f*, holding the roughing-file, against the lower file-blank, and the upper file-blank against the upper stripping-file, exerting a firm, but yielding, pressure while the bed and file-blanks reciprocate, performing the peculiar motion heretofore described.

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

The combination of the roughing-file *f*, mounted on the hinged lever *g*, with the reversible reciprocating bed *a* and the finishing-file *t*, substantially as described.

WILLIAM T. NICHOLSON.

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