No. 674,144 Patented May 14, 1901.

A. WEED.

MACHINE FOR CUTTING FILES.

(Application filed Feb. 7, 1900.)

(No Model.)

Fig. 2.

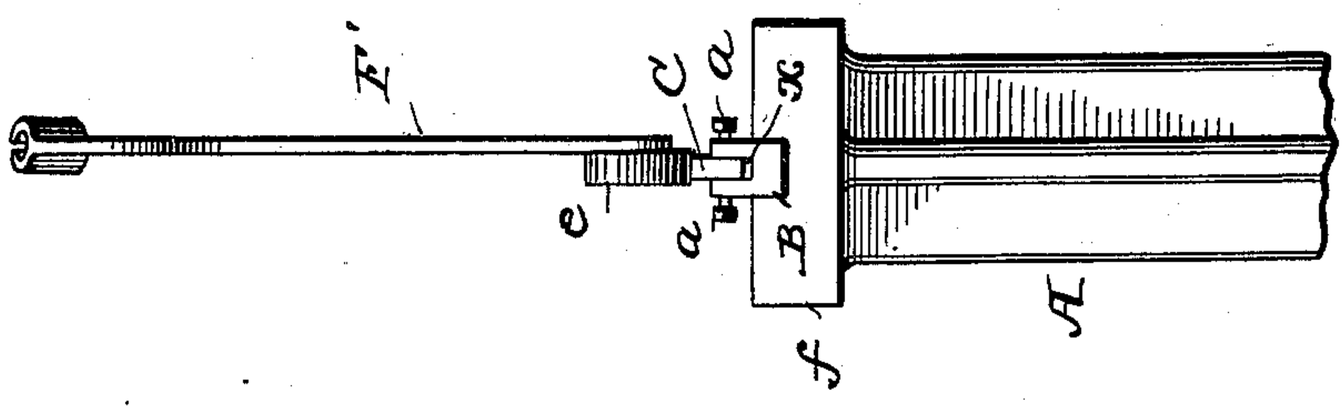


Fig. 3.

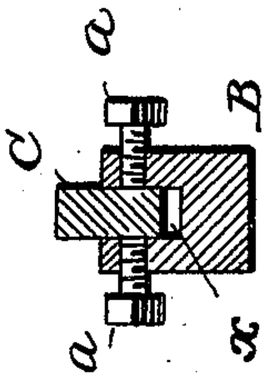
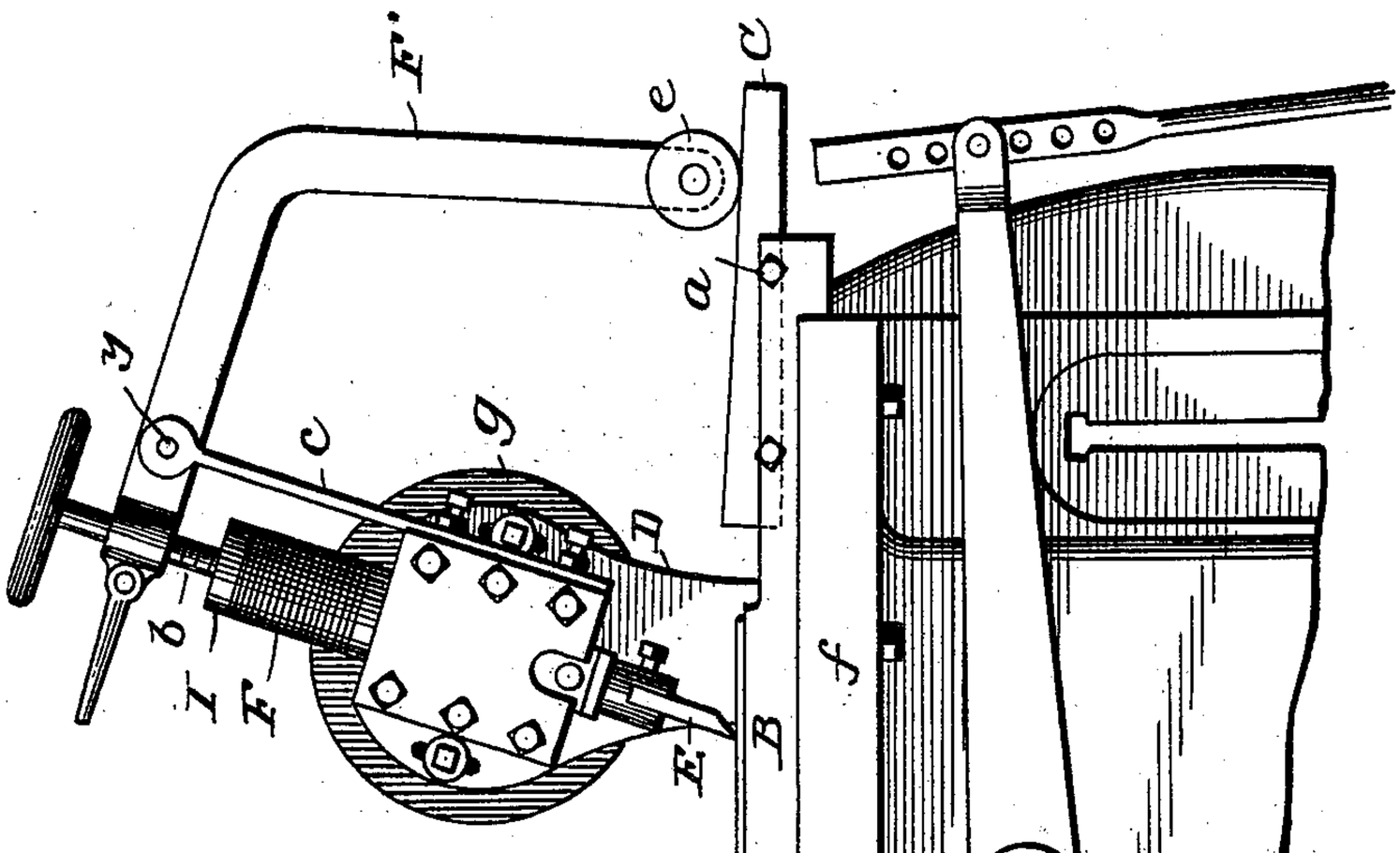


Fig. 1.



Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED WEED, OF ANDERSON, INDIANA.

MACHINE FOR CUTTING FILES.

SPECIFICATION forming part of Letters Patent No. 674,144, dated May 14, 1901.

Application filed February 7, 1900. Serial No. 4,400. (No model.)

To all whom it may concern:

Be it known that I, ALFRED WEED, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Machines for Cutting Files and Rasps, of which the following is a specification.

My invention consists of a machine for cutting files and rasps, in which I combine with the traveling bed and reciprocating cutter certain improved means whereby the cutting energy of the tool is varied, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a side view of sufficient of a file-cutting machine to illustrate my improvement. Fig. 2 is a detail elevation. Fig. 3 is a transverse section through the cam-plate and bed, drawn upon an enlarged scale.

A is the frame of the machine, having a platform *f*, in a groove in which slides the bed B, to which the blank X of the file or rasp is suitably clamped. The bed travels beneath a reciprocating tool E, the carrier of which slides in a bracket D under the action of devices driven from a pulley *g* to lift the tool, while a spring F bears upon the top of the tool-carrier and forces the tool downward. The construction, arrangement, and operation of these parts are so well known that further description is unnecessary.

Against the upper end of the spring F bears a disk I, carried by an adjusting-screw *b*, turning in the end of the lever F′, pivoted at *y* to an arm *c*, extending from the bracket D. The lower end of the lever F′ carries the roller *e*, which bears upon the end of a cam-plate C, fitting in a groove *x* of the bed B and secured in place by set-screws *a*. The upper edge of the cam-plate C is inclined or curved or otherwise suitably formed, so that as the bed B travels forward it will impart motion to the lever F′ to vary the compression of the spring F, thereby varying the tension of the latter and the energy of the action of the tool in cutting the file. As shown, the cam C is so inclined at the upper edge as to gradually increase the tension of the spring F, so that the blows of the tool in cutting the point of the file may be comparatively light and the energy increase as the file is fed forward, securing heavier blows in cutting the body of the file.

The action may be varied by using different cam-plates having edges of different forms or by using a single cam-plate and tilting it to different angles.

It will be seen that the adjustable cam-plate and lever F′, carrying the tension-screw *b*, may be readily secured to well-known forms of machines now in use with comparatively little alteration in the construction of the parts; but it will be evident that various different means may be employed for varying the tension of the spring F or for otherwise varying the energy of the action of the tool as the cutting progresses.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention—

1. The combination in a machine for cutting files, rasps, &c., of a traveling bed, a reciprocating cutter, a spring to actuate the cutter, a pivoted lever one end of which carries a bearing for said spring, and a cam-plate connected to the traveling bed and movable with it and engaging the other end of said lever, substantially as set forth.

2. The combination in a machine for cutting files, rasps, &c., of a traveling bed, a reciprocating cutter, a spring to actuate the cutter, a pivoted lever, an adjustable bearing at one end of the lever against which the spring abuts, and a cam-plate connected to the traveling bed and movable with it and engaging the other end of said lever, substantially as set forth.

3. The combination in a machine for cutting files, rasps, &c., of a traveling bed provided with a groove, a reciprocating cutter, a spring to actuate said cutter, a pivoted lever provided with a bearing at one end for said spring, and an inclined plate adjustably secured in the groove of the traveling bed and engaging the other end of said lever, substantially as set forth.

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

ALFRED WEED.

Witnesses:

HM. GILLMAN, Jr.,

W. C. DUVALL.