

W. T. NICHOLSON.

MACHINES FOR STRIPPING FILE-BLANKS.

No. 177,073.

Patented May 9, 1876.

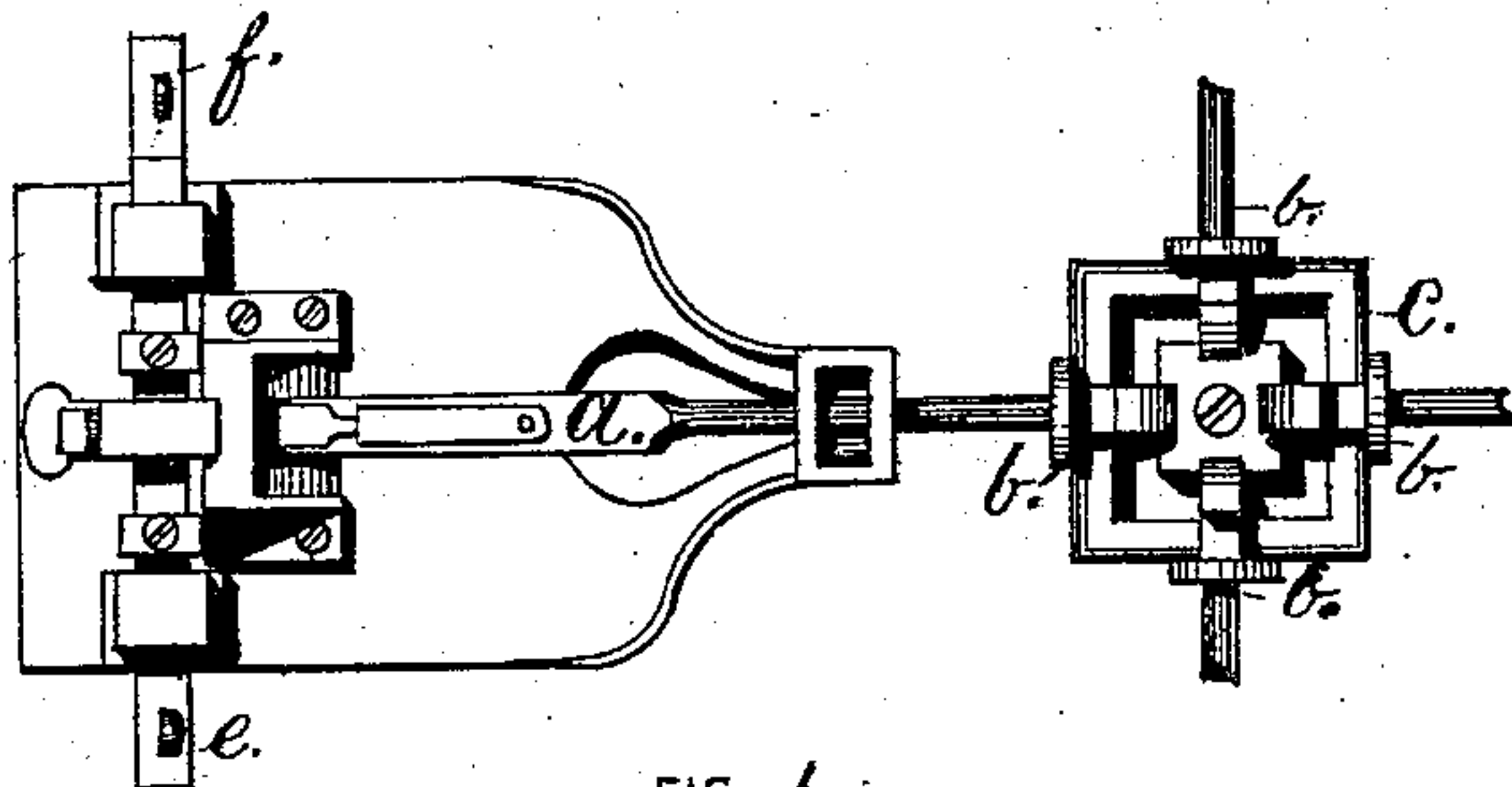


FIG. 1.

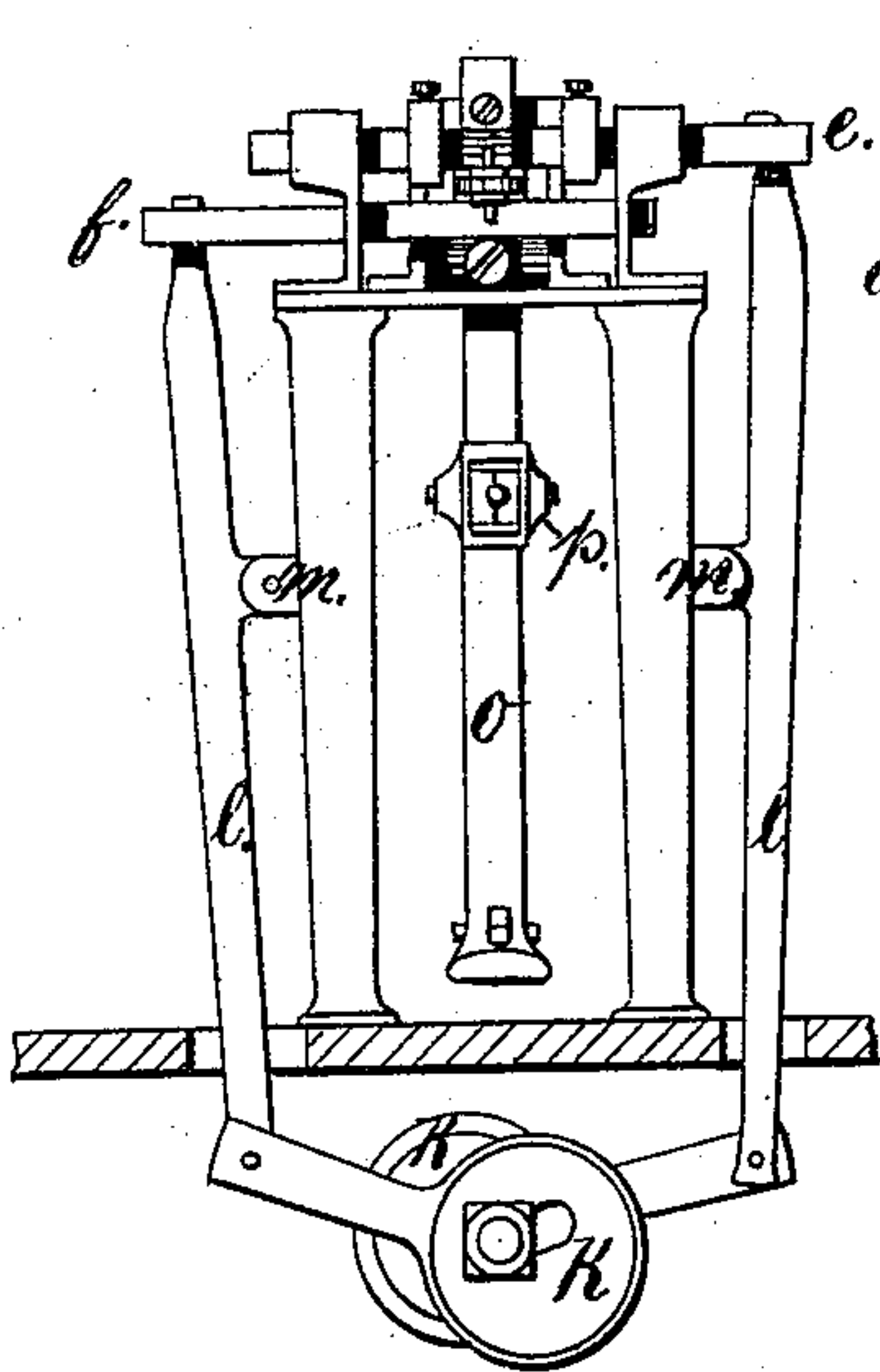


FIG. 2.

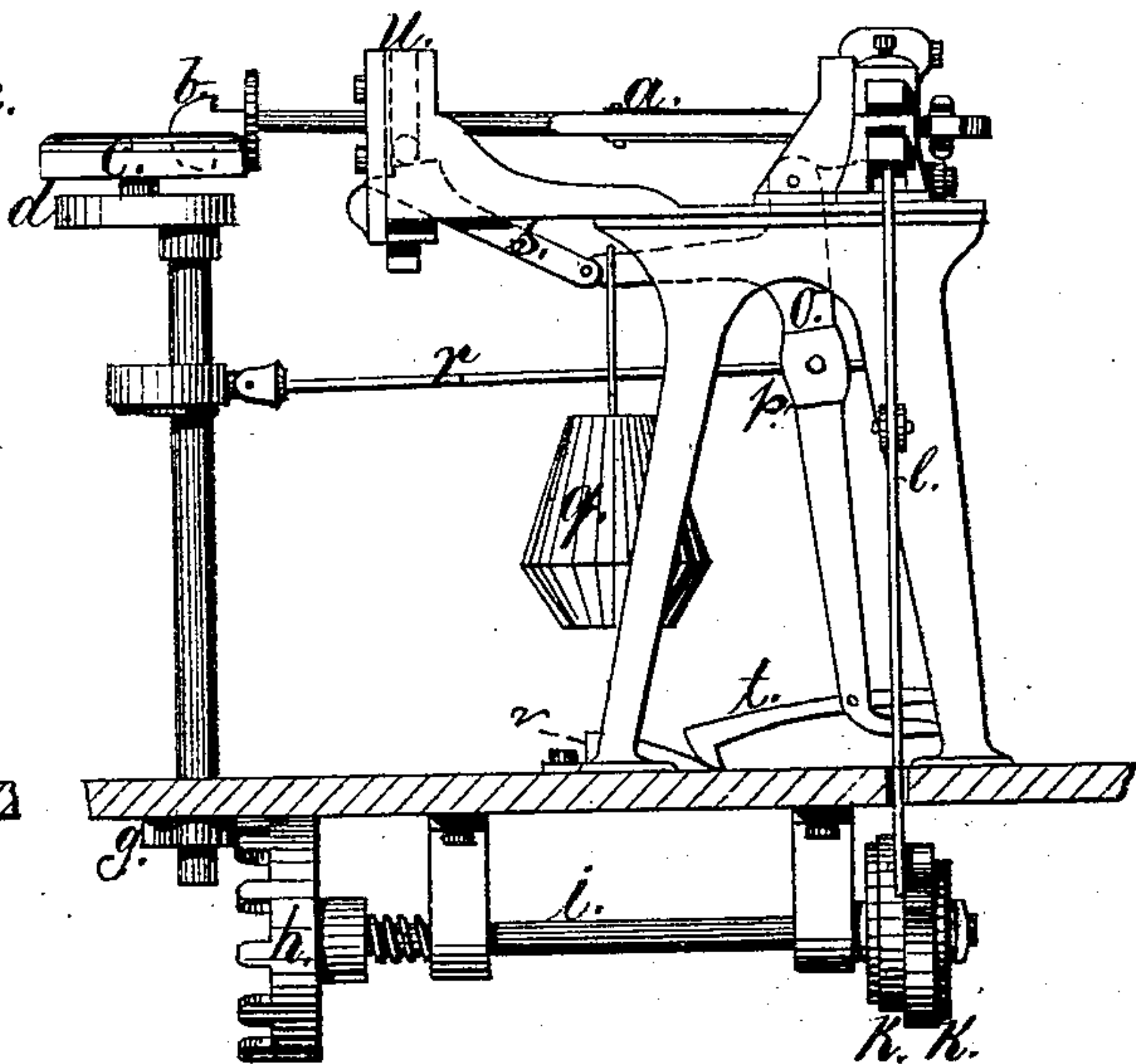


FIG. 3.

WITNESSES.

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IMPROVEMENT IN MACHINES FOR STRIPPING FILE-BLANKS.

Specification forming part of Letters Patent No. **177,073**, 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 certain new and useful Improvements 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 the peculiar arrangement of a reversible bed for holding the file-blank; second, in the application of two laterally-reciprocating stripping-files in opposite directions to two file-blanks secured to a reversible bed; third, in the peculiar device by which the reversible bed is connected with and disconnected from the driving mechanism, as will be more fully described hereinafter.

Figure 1 is a top view of my improved file-stripping machine, parts of three other machines being shown as connected with the same driving device. Fig. 2 is a front elevation of the same, showing the means employed for reciprocating the stripper-bars. Fig. 3 is a side view of the machine.

Similar letters of reference indicate corresponding parts.

In the drawings, *a* is the reversible reciprocating bed, to which two file-blanks are secured, one upon its upper and the other upon its lower face, so that two file-blanks are operated upon at the same time, either by subjecting one blank to a roughing-stripper and one to a smoothing or finishing stripper, so that the file-blank is first operated upon by the one and then by the other stripping-file; or two stripper-files may be used, by each of which the operation is completed, and thus two file-blanks be stripped or draw-filed simultaneously. *b* is a reversible coupling secured to the end of the bed *a*. This coupling en-

gages over a projecting rim on the plate *c*, which, in Fig. 1, is shown as a square plate with which four machines are connected by couplings *b b b b*. In place of the square plate *c*, as shown, a circular plate having a similar rim around its periphery may be used, and four or more machines be driven from one central shaft. The plate *C* is carried on the crank-pin secured to the crank *d* at such distance from the center as will produce the length of reciprocation required for the file-blanks to be stripped. *e* is the upper and *f* the lower stripping-bar, to which the stripping-files are secured in the usual manner. A lateral reciprocating movement is imparted to these files through a cam or pinion, *g*, engaging in the face-wheel *h*, secured to the shaft *i*, to which the eccentrics *K K* are also secured. At each revolution of the main shaft the face-wheel *h* is rotated one, two, or more teeth, thus slowly rotating the shaft *i* and the eccentrics *K K*. The eccentrics *K K* are adjustable on the shaft, so that they may be set to greater or less eccentric motion. The hinged levers *l l*, secured at the fulcrum *M M*, are connected with the stripper-bars *e* and *f*, and also with the eccentrics *K K*. The rotary motion of the shaft *i* is thus changed into reciprocating motion and transmitted to the stripper-bars. The two eccentrics are set, as shown in Fig. 2, in opposite directions, and thus the stripper-bars are made to move and reciprocate laterally in opposite directions. By these means no lateral strain is exerted on the bed *a*, as the two strippers counteract the strain of each other. The stripper-bar *f* is supported by a roller secured to an arm of the hinged lever *O*, and is held firmly against the file-blank by a weight, *q*, suspended from the horizontal arm of the lever *O*, the pressure is increased at the outward stroke or reciprocation of the bed *a* by the rod *r*, secured to an eccentric rotating with the main driving-shaft, which rod *r* passes through the friction-clutch *p*, and thus, by frictional contact, pushes against the lever *O*, and increases the pressure of the stripping-files against the file-blanks, while the same frictional contact diminishes the pressure at the return stroke, by

pulling on the lever O in the opposite direction. This feature of the machine is the same which is described and claimed in another application for Letters Patent of even date herewith. Connected with the horizontal arm of the lever O is the arm *s* projecting forward to the guide-block *u*, supporting a roller placed into said guide-block *u*. When the lower end of the lever O is moved forward, so that the pawl *t* engages with the catch *u*, the arm *s* is also pushed forward and raises the connected end of the bed *a*, and disengages the coupling *b* from the plate C, and the stripper-bar *f*, and the bed *a* are lowered. The bed therefore will cease to reciprocate, and may be turned and new file-blanks secured. When the pawl *t* is released by the foot of the operative the coupling will engage with the groove or rim of the plate C, as the moment this pawl is released the weight *q* will raise the stripper-bar *f*, and and depress the lever *s* by forcing the lever O to assume its original position, and the machine will repeat its operation.

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

1. The combination in a file-stripping machine of the reversible bed *a*, and the laterally-reciprocating stripping-files *f* and *e*, operated substantially as and for the purpose set forth.

2. The combination, with the reversible bed *a*, of the lever O, weight *q*, and lever *s*, the whole operating together as and for the purpose specified.

3. The combination of the pinion *g*, face-wheel *h*, and eccentrics K K, with the levers *l l*, for imparting lateral reciprocating motion to the stripping-files, as and for the purpose described.

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Witnesses:

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