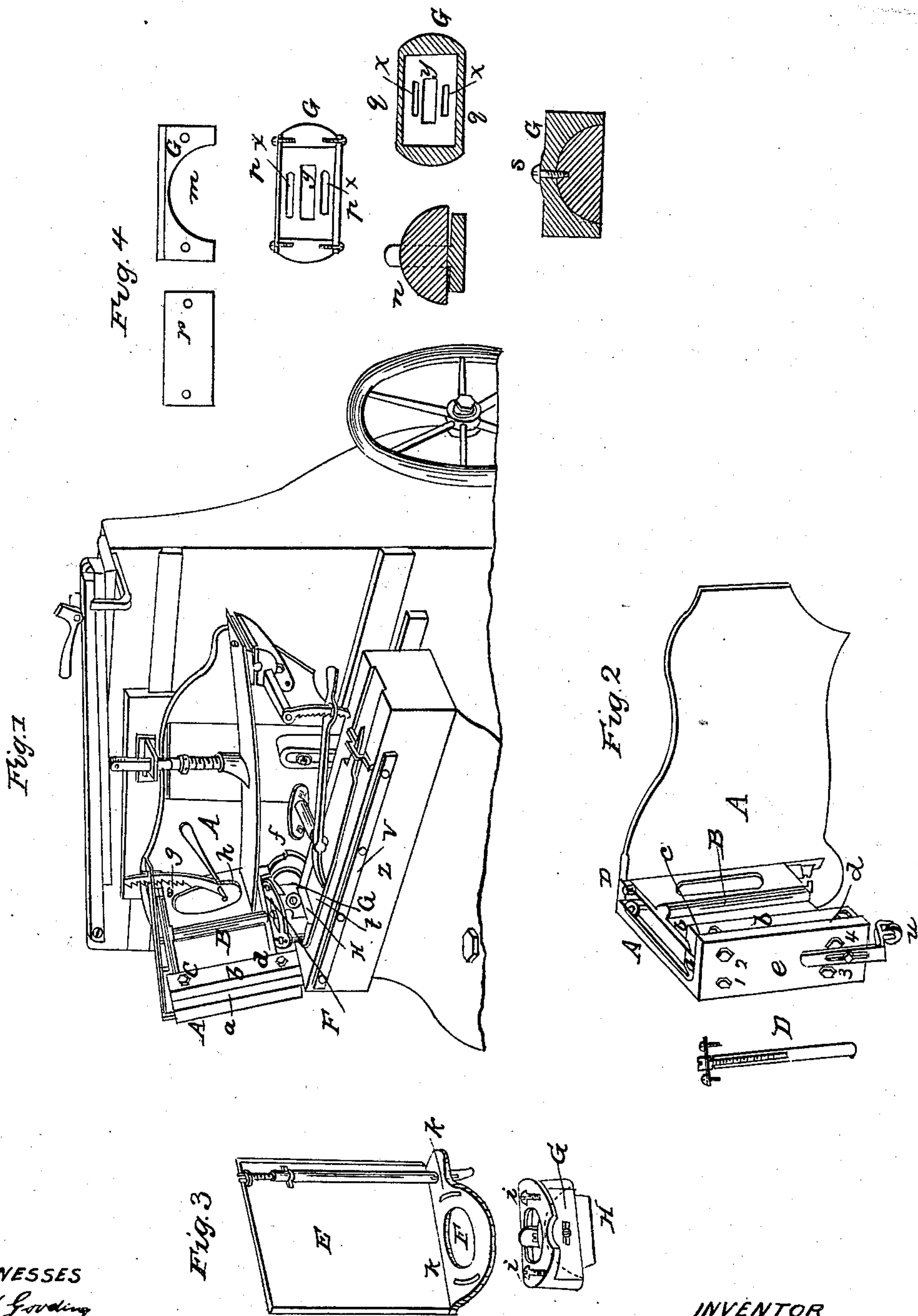


T. E. THURSTON.
File Cutting Machine.

No. 79,878.

Patented July 14, 1868.



WITNESSES
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THOMAS E. THURSTON, OF NEWARK, NEW JERSEY, ASSIGNOR TO HIMSELF
AND JAMES KEARNEY, OF SAME PLACE.

IMPROVEMENT IN FILE-CUTTING MACHINES.

Specification forming part of Letters Patent No. 79,878, dated July 14, 1868.

To all whom it may concern:

Be it known that I, THOMAS E. THURSTON, of the city of Newark, in the county of Essex and State of New Jersey, have made certain Improvements in the Construction of Various Parts of a File-Cutting Machine, (for which a patent was granted to Elisha O. Potter, assignor to himself and C. A. Warland, November 8, 1864;) and I hereby declare the following to be a full and exact description of the same, reference being herein had to the drawings that accompany this specification as part of the same.

My joint assignee, JAMES KEARNEY, having purchased a right of use with a file-cutting machine, found its defects to be such as to prevent perfect work and to materially reduce the expected reasonable profits that induced the purchase. Having by time, thought, experience, and expense remedied the defects, I proceed to show the improvements we desire to secure.

In the drawings, Figure 1 is a perspective view of the machine. Fig. 2 is the support and guide for the hammer and of the carrier of the chisel-holder. Fig. 3 is the carrier of the chisel-holder and the holder of the chisel. Fig. 4 shows various views of parts of the chisel-holder.

The part A as constructed in the original machine did not inclose the guide-pieces *a* and *b*, nor was there any means of graduating their pressure upon the sides of the hammer or the carrier of the chisel-holder. Entire dependence had to be upon the bolts *c* and *d*, which in practice was found to be insufficient for the steadiment and adjustability required.

In Fig. 2 is shown the part A with an inclosure, *e*, cast therewith as an integral part thereof, the set-screws 1 2 3 4 holding the guide-pieces immovable sidewise, leaving them adjustable at pleasure, the two bolts *c* and *d* confining them to the back, as in the original machine.

The hammer B has a lifting-stem and foot that are in the original machine, held by the two set-screws *g* and *h*. These not being found in practice reliable, I have laid aside, and have

substituted the hollow screw-stem and set-screw shown by D, Fig. 2, by which the desired lifting of the hammer by the cam *f* is obtained, and also as the edge of the chisel rests upon the file-blank when the blow is struck, and as the chisels get shortened by grinding to sharpen, I am provided with a means of adjusting with the utmost nicety the distance between the hammer and the head of the chisel and of retaining it immovable from the jarring of the machine when at work.

In the original machine the sliding carrier E has the foot-piece F held upon it by screw-bolts, which soon work loose. As an indispensable improvement, I have the foot-piece F cast as an integral part of E. The chisel-holder G is attached to F by the two screws *i* and *j*, which, being movable in the curved slots *k*, provide for adjusting the angle of the chisel H the file under process of cutting may require.

In the original machine the base-piece of the chisel-holder G has a semicircular concave, *m*, open on both sides, in which the convex semicircle *n*, to which the chisel is attached, is held to *m* by two screws, one of which is shown by *s*, Fig. 4, the part of G on which the screw-heads rests being a segment of a circle described from the same center as the convex *n*, and having slots for the screws to move in, *w*, one on each side of the slot *y*, through which the head of the chisel H passes. In practice the convex *n* was found not to be sufficiently steadied by the screws for the correct performance of fine work. As a necessary improvement I either screw a plate, *p*, one on each side of G, close to the sides of the convex *n*, or have the sides cast upon G, as at *q*, forming an integral part thereof.

As an additional stay or steadiment to A, I attach to *e* the adjustable roller *u*, that runs upon the piece *v*, which is fastened to the block *z*, upon which the file-blank *t* is held under the chisel H.

As by these five items of improved construction the machine is rendered practically available for profitable use, I therefore desire to secure them by Letters Patent.

I claim—

1. Plate A, having the part *e* cast or forged therewith, in combination with parts *a b* and B and E, all combined and arranged in the manner and for the purpose set forth.

2. The improved adjustable stem D, the improved parts E and F, the improved part G, and the adjustable roller *u*, when arranged

and used in a file-cutting machine which has thereon the improved part *e*, all constructed substantially as hereinabove set forth.

THOMAS E. THURSTON.

Attest:

W. M. GOODING,
EDWARD COLLVER.