W. Mc Knight,

Tenoning Machine.

No. 82,143. Patented Sep. 15, 1868.

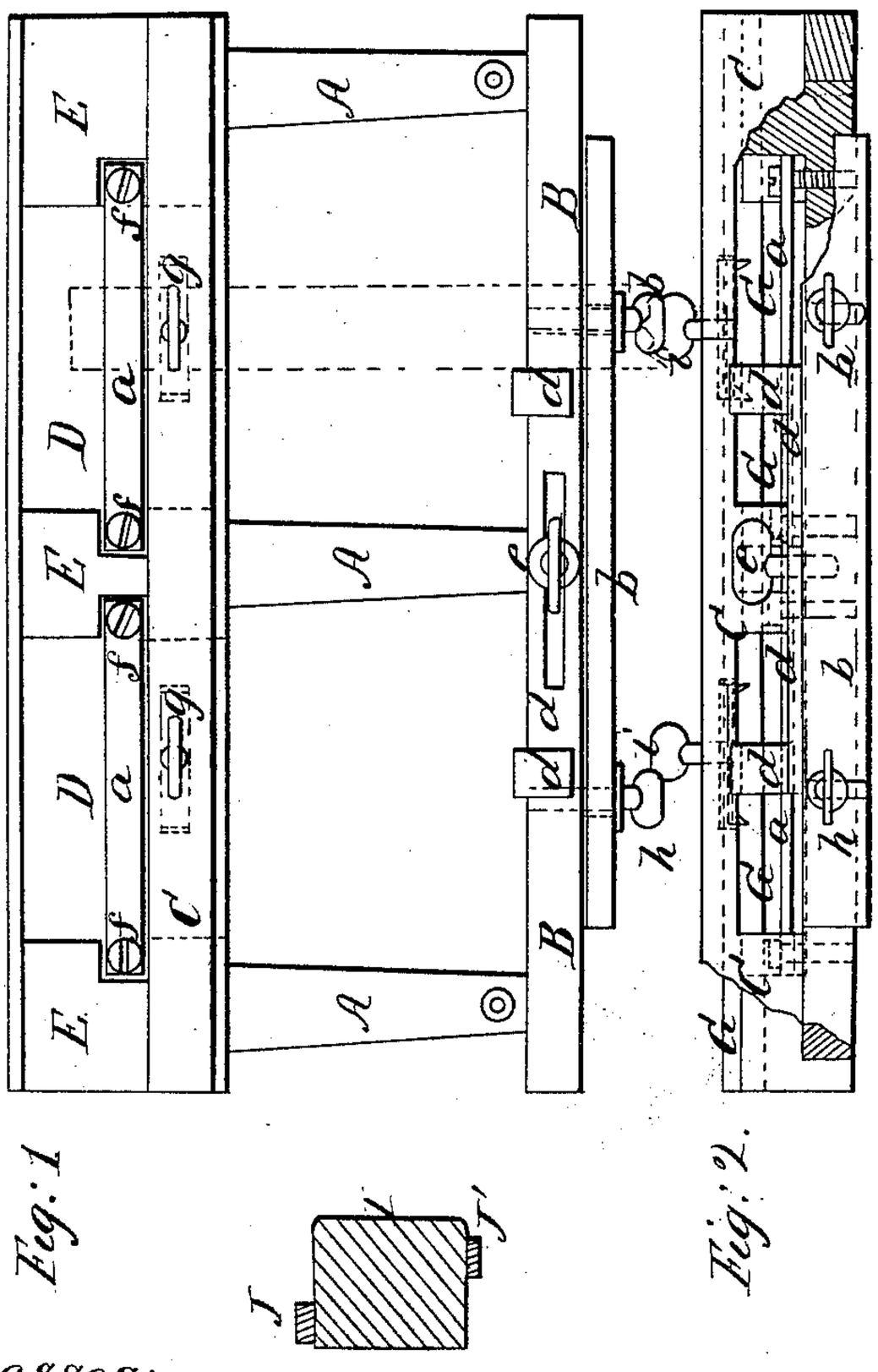

Fig. 1.

Fig. 4.

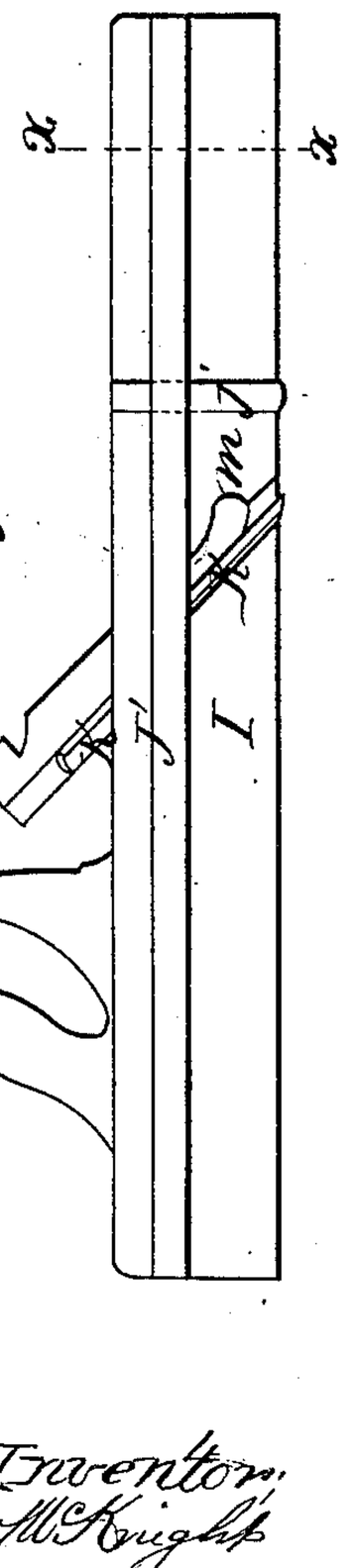

Fig. 3.

Witnesses;
Wm. A. Morgan
G. C. Cottin

Inventor;
Wm. Mc Knight
per Munn & Co
Attorneys

United States Patent Office.

WILLIAM McKNIGHT, OF CLEARFIELD, PENNSYLVANIA, ASSIGNOR TO HIMSELF, JOHN H. FULFORD, AND DANIEL W. McCURDY, OF SAME PLACE.

Letters Patent No. 82,143, *dated September* 15, 1868.

IMPROVEMENT IN TENONING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM McKNIGHT, of Clearfield, county of Clearfield, and State of Pennsylvania, have invented a new and improved Tenoning-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming a part of this specification.

Figure 1 is a top view of my invention.

Figure 2 is a rear elevation of the same.

Figure 3 is a detail side view of the plane.

Figure 4 is a cross-section of the plane, through the line *x x*, fig. 3.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an apparatus by means of which tenons of any suitable angle and slope, both in the tenon and shoulder of the same, may be cut in an expeditious and accurate manner.

It consists of a frame, having devices for adjusting and holding the wood to be cut in such a manner that the tenon, when cut, will be straight, or tapered, or the shoulders of the same will be straight, or mitred, as may be desired, and having also suitable guides for the plane.

It further consists of a tenoning-plane, having a shear-iron, in combination with the frame above mentioned.

In the drawings, A B C D E is the general frame, bearing the adjusting-devices.

The piece of wood, as a spoke or sash-frame, which is to be tenoned, is placed upon the rest-plates *a a* and under the part C, which is recessed for that purpose.

The opposite ends, *d*, of the wood rest on the part *b* and against the upright parts of the slotted sliding rest, *d d d d*, which latter slides to and fro on the part B to adjust the wood to give the proper mitre-slope to the shoulder of the tenon.

This slide-rest is clamped by a set-screw or burr, *e*, when adjusted.

When the tenon is not to be cut tapering, the adjustable rest *b*, which has vertical slots and clamp-screws, *h h*, for the purpose, is raised to bring the said rest *b* on a level with the rest-plate *a*, on which the front end of the wood rests.

These plates *a a* are also adjustable vertically by screws or other equivalent devices, so that each tenon will be cut to a certain uniform depth for which the plates are set, and if the tenon is to be straight or tapering, the bar-rest *b* is adjusted down or up to effect that object.

g g are clamp-screws, for holding the wood down upon the rest-plates *a a*, and the lower ends of these clamp-screws terminate in clamp-plates, (shown dotted in fig. 2,) which bear upon the wood without marring it.

The plane runs on the parts E E, and is kept against the part C by a guide-strip, G.

The plane has an oblique recess, *m*, which passes clear through the stock I, from side to side, so that the shavings can escape freely therefrom, and also that the plane-bit may be permitted to cut down into the wood, leaving a smooth shoulder.

The vertical cutter-bit, *j*, marks the shoulder in advance of the bit *k*, thus cutting the wood across the grain, and making a clean shoulder on the tenon, as aforesaid.

The strips J and J slide in contact with the guide-strip G and the upper edge of the part C, and thus serve to guide the plane more steadily.

The clamping-devices may be variously modified, as also the forms of the rests, and I desire to be understood as not limiting myself to the precise construction of such devices.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is-

The arrangement of the guide C, rest-plates *a*, adjustable rest *b*, and sliding rest *d*, upon the bed, to operate in connection with a plane, as herein shown and described.

WILLIAM McKNIGHT.

Witnesses:

JOHN W. SHUGERT,

EDW. McGARVEY.