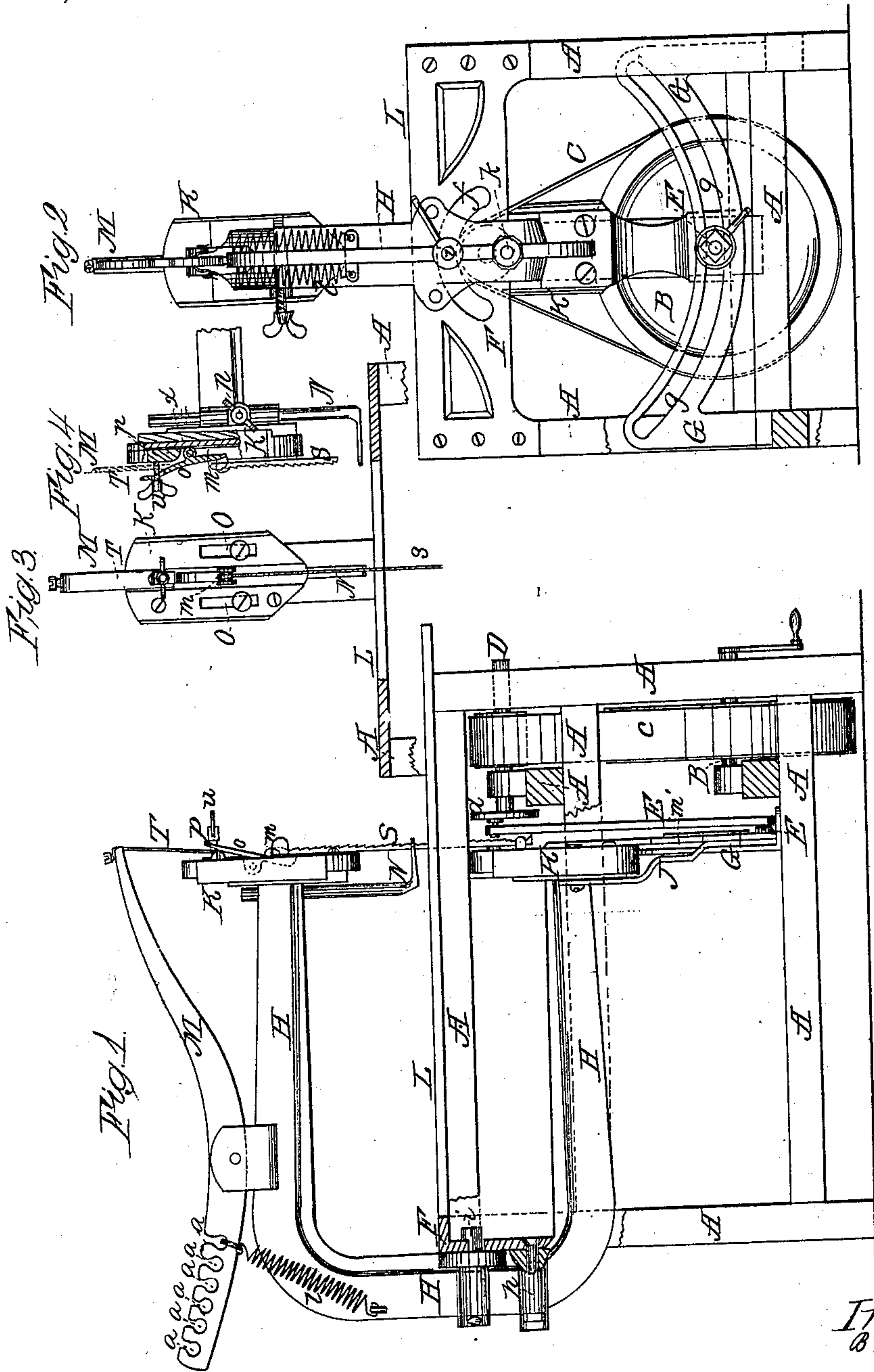


B. Demming,
Scroll Sarring Machine.
No 76,730. Patented Apr. 14, 1868.



Witnesses
L. K. Brown
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BERNARD DEMMING, OF CLEVELAND, OHIO.

Letters Patent No. 76,730, dated April 14, 1868.

IMPROVEMENT IN SCROLL-SAW MILLS.

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, BERNARD DEMMING, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented a new and improved Jig-Saw; and I do hereby declare the following to be a full, clear, and exact description of the same, sufficient to enable those skilled in the art to which my invention appertains to make use of it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation,

Figure 2 an end elevation, showing the lower portion in section,

Figure 3 a front view of the upper end of the saw, and

Figure 4 a side view of the same, showing the upper part of the adjusting-apparatus in section.

In this invention a new device is adopted for adjusting the saw at any inclination to either side, for the purpose of bevel-sawing, and another for regulating and adjusting the rake of the saw.

In the drawings, A A represent the frame of the machine, B the main wheel, C the belt, D the shaft, which directly operates the saw by means of a crank, *d*, and piston, E. F is an iron cross-beam or plate, fastened to the end of the frame A, and having a curved slot, *f*, at its centre, situated convex side up, as shown in fig. 2. G is another iron plate, fastened across the frame under the saw, and containing a long curved slot, *g*, situated concave side up, as seen also in fig. 2.

H is a stout iron yoke-frame, pivoted to the plate F at a point, *h*, at the centre of the circle of which the curved slot *f* forms an arc, in such a manner that, as the yoke-frame H is swung from side to side on its pivot, a stout bolt, *i*, projecting from it into the curved slot, may traverse the whole length of the slot. The lower arm of the yoke H has a stout arm, J, extending down alongside of the slotted iron plate G, and provided with a bolt or pin, *e*, which projects into the curved slot, and as the frame H is swung on its pivot *h*, traverses the whole length of the slot *g*. The frame H is thus supported by its pivot *h*, and by the pins *i* and *e*, projecting from it into and travelling back and forth in the curved slots *g* and *f*. Each pin which thus projects into the slot may be provided with a nut and screw, by which it can be firmly clamped to the plate F or G at any point along the slot, and may thus be made to hold the frame H firmly fixed in any given inclination, to the one side or the other of the machine.

The yoke-frame H being thus adjusted, I fix to the ends of it grooved metallic plates or blocks, K K, one above and one below the platform or table, L, upon which the work is sawed. The blocks *m m'*, in which the saw is hung, slide up and down in vertical dove-tail grooves in the face of the metallic blocks K K. The lower slide, *m'*, also runs through a dove-tail groove in the face side of the arm J, at its lower end, which gives additional steadiness to the motion of the saw. Below the latter groove it is connected to the pitman E by the pin *e*, as above described.

The saw S, being thus held by the sliding blocks *m m'*, is kept at the proper tension by means of a pivoted arm, M, operated by a spring, *l*, which may be adjusted to different degrees of tension by setting it in different notches, *a a a*, upon the arm. A leather strap, T, connects the lever with the sliding block *m'*. N is a guide-foot, adjustable at different heights by means of a set-screw, *n*, its object being to steady the board by holding it down close to the surface of the table. O O are set-screws, by which the blocks K K can be adjusted at different elevations upon the yoke-frame H.

The rake of the saw is adjusted by attaching to the sliding block *m*, a pivoted lever, *o*, to the lower end of which the saw is fastened. A pin, *p*, projects from the slide *m*, above the pivot of the lever, through a hole in the upper end of the lever, and a nut, *u*, screwing upon the end of the pin, serves to force the upper end of the lever in and throw the lower end out, thereby producing any desired rake of the saw. When the lever *o* is pivoted on a projecting lug, as shown at *x*, in the drawings, the tension or weight of the saw will bring the latter to a perpendicular position whenever the nut *u* is unscrewed. Thus, by simply screwing or unscrewing the nut *u*, the saw may be made to rake forward at any practicable inclination, or not to rake at all, as may be desired.

The vertical dove-tail grooves, in which the sliding blocks *m m'* play, may be made adjustable in width by making one of their walls or sides movable, and regulating it by set-screws.

The plate F or G may be marked off as a graduated scale, by which the exact inclination of the saw will be indicated at once to the eye.

The sliding block *m'* may be made heavy, in order to act as a counterbalance to the spring *l*, and render the motion of the saw even and steady.

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

1. I claim the frame H, pivoted at *h*, and having projecting bolts or pins *e z'*, working respectively in slots *g f*, whereby the frame may be fixed at any required inclination, substantially as specified.

2. I claim the combination of the saw S with the lever *o* and slide *m*, the lever being pivoted to the slide, and its inclination being adjustable by means of a pin, *p*, and nut *a*, or some equivalent device, so that, by inclining the lever at different angles to the slide, the saw may be caused to rake more or less, substantially as described.

In testimony of which invention, I hereunto set my hand.

BERNARD DEMMING.

Witnesses:

ROBT. DENHAM,

THOMAS JONES.