

J. G. Clifton, Mortising Machine.

No. 2,394.

Patented Feb. 26, 1867.

Fig. 1

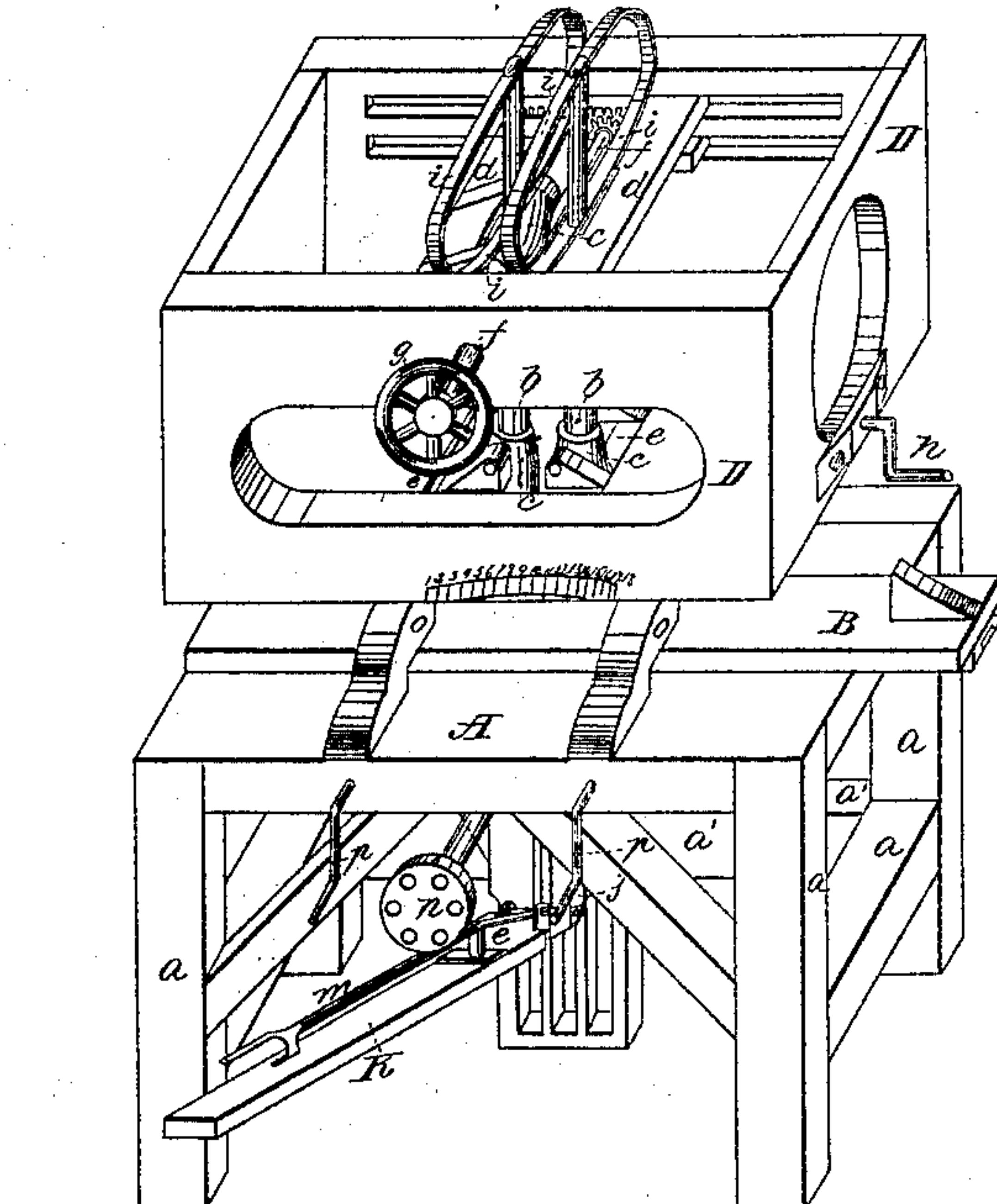


Fig. 3.

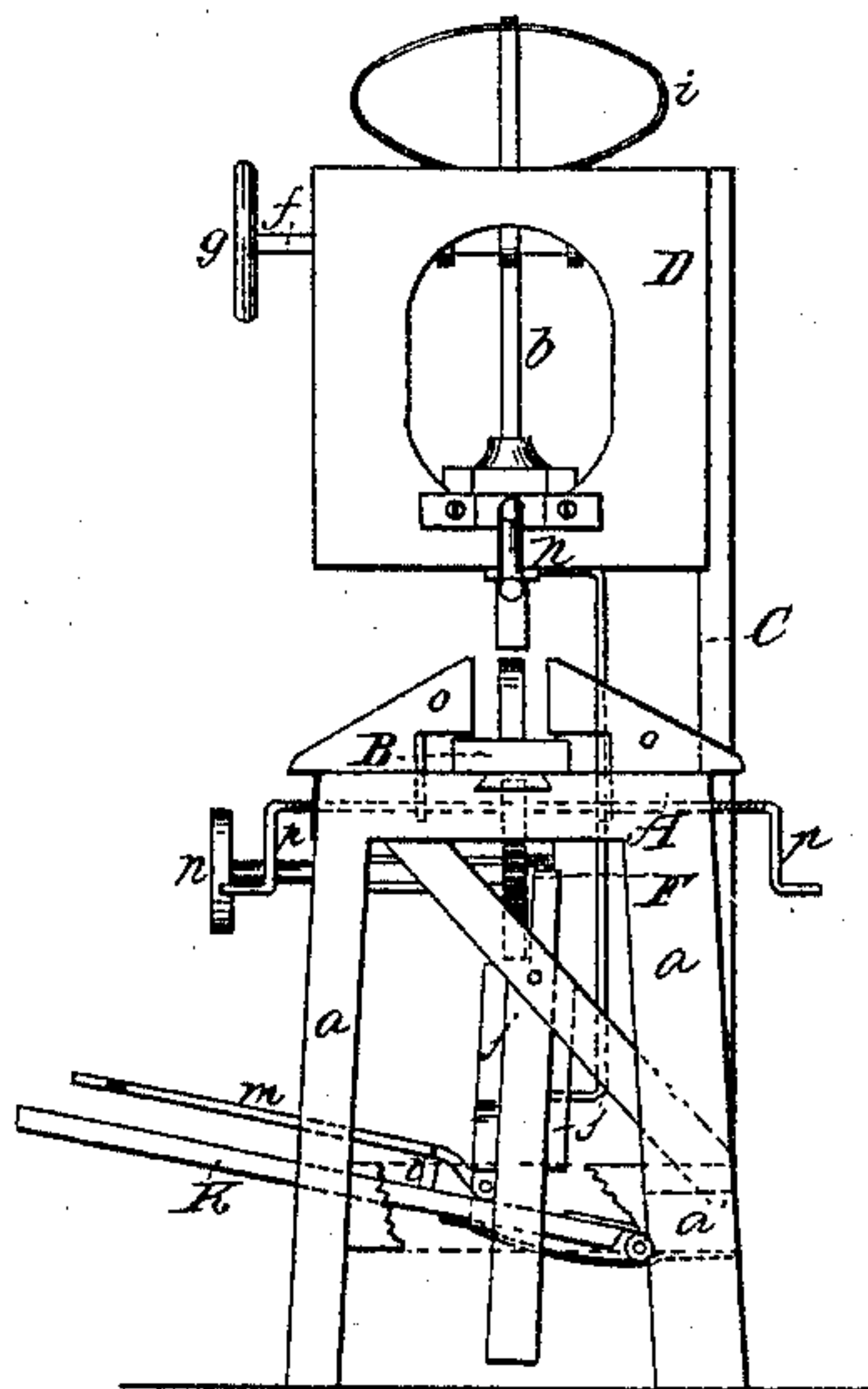
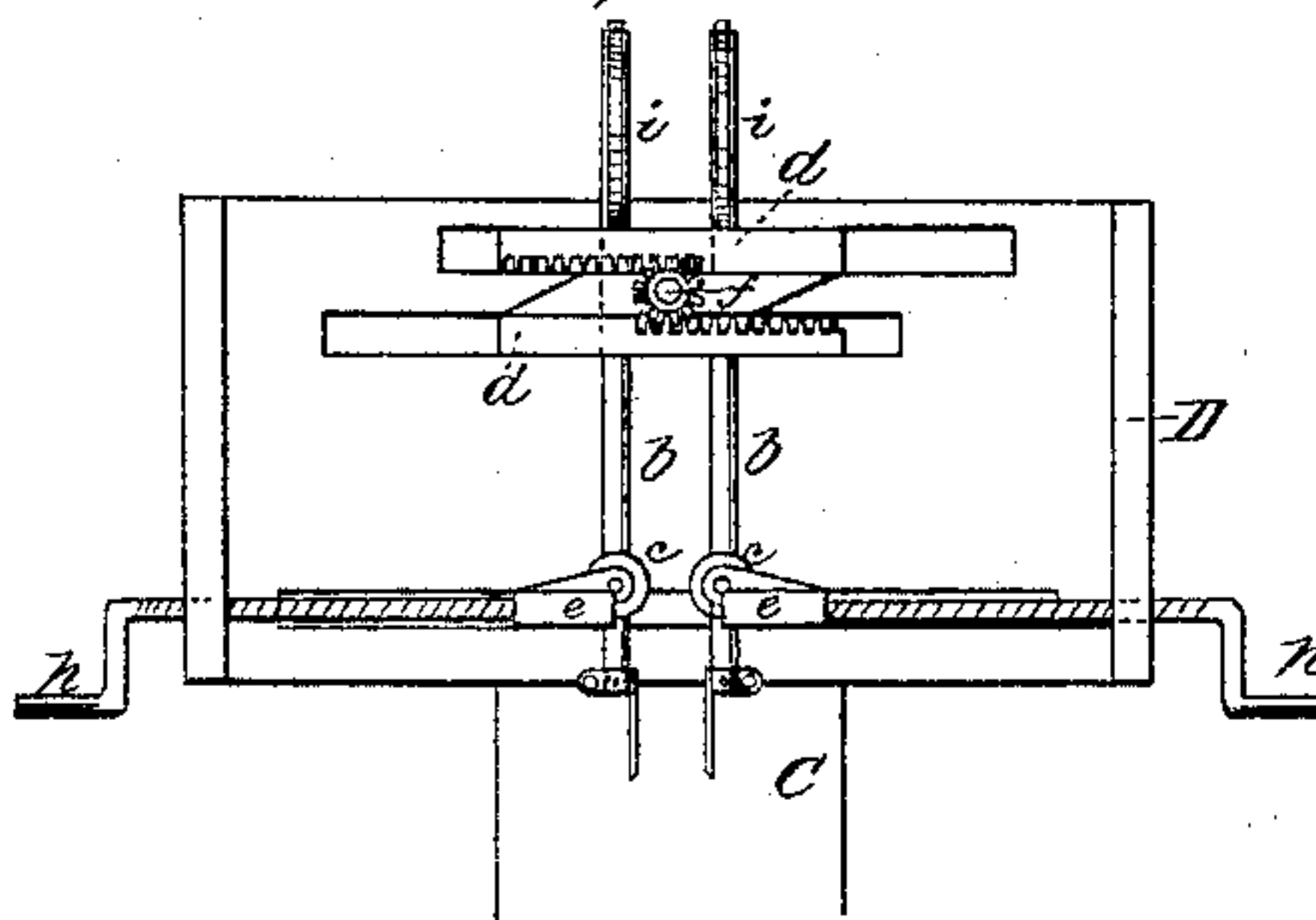


Fig. 2.



Witnesses.
A. H. Ball
A. L. Peck.

Inventor.
John G. Clifton.
By his atty.
H. H. Peck.

United States Patent Office.

JOHN G. CLIFTON, OF MIDDLETOWN, OHIO.

Letters Patent No. 62,394, dated February 26, 1867.

IMPROVEMENT IN MORTISING 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, JOHN G. CLIFTON, of Middletown, in Butler county, in the State of Ohio, have invented a new and useful Improvement in Mortising Machines, for Cutting Mortises in Lumber; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure I is a perspective view of my machine.

Figure II shows the rack frames and their hinged chisel guides.

Figure III is an end view.

The object of my invention is to furnish a mortising machine in which two chisels can be used, capable of adjustment while in operation, so as to cut a mortise at any angle to a vertical line necessary to raise up and relieve the mortise of the chips, and so constructed that either or both of the chisels may be operated at the same time.

The table A, which supports the adjustable carriage B, rests upon a suitable frame and legs, *a*, *a*, and *a'*. Connected to the back of this frame and table there is a projecting timber, C, to which the oblong frame or box D is firmly fastened. Within this box or frame the mechanism for adjusting the chisels is arranged. The chisel-bars *b b* slide freely through holes in the hinged guides *c c* and *c c*, which are hinged to the rack frames *d d* and lower adjusting frames *e e*, all of which frames extend across frame D and work in grooves therein. The rack frames *d d* are capable of adjustment by means of shaft *f*, which is provided with two pinions which work in the racks on both sides of the frame D, at the same time causing the racks, with their chisel-bars, to approach and recede from each other uniformly. The shaft *f*, which actuates the two pinions, is operated by the hand-wheel *g*. The adjusting frames *e e* rest in the same groove, and are adjustable towards and from each other by means of the hand-screws which extend from the frames *e e* (to which they are connected) through the ends of the frame D, and they are furnished with cranks, *h h*. Each of these screws works in a fixed nut in the ends of the box D. There may be two indicator-rods so formed as to extend from the upper pair of hinged guides *c c* over and down the front side of box D, where a scale for measurement is placed. The indicators will necessarily be actuated by the mechanism which adjusts the chisels, causing them to always retain a position parallel with and in front of the chisels and their bars. The guides *c c c c* are short rolls or hubs, with journals in suitable brackets, attached to the inner portion of the sliding adjusting frames, and they admit of the necessary movements for giving to the chisels any desired inclination, which is done by the adjusting frames. Metal springs, *i i*, are connected with the hubs through which the chisel-bars work, and extend around the upper ends of the chisel-bars, and serve to raise the chisels from the mortise as the treadle rises. The lower ends of the chisel-bars are provided with chisel-holders, which are furnished with loops through which a bent rod passes to connect each chisel-bar with its treadle-block, *j*. The treadle *k* is hinged to the rear frame piece *a'*, and may be connected, by a shipping-pin, to either or both of the treadle-blocks *j*. A pendent slotted guide, attached to the braces of the table A, serves to retain the treadle-blocks in position. As above remarked, these blocks are connected, by bent iron rods, to the chisel-bars, and are given a reciprocating vertical movement by the action of the treadle. The centre slot of the pendant serves to retain the treadle in place during its operations. The two outer slots of the pendant guide the treadle-blocks in their action. On the upper side of the treadle *k* there is placed a metal stud, *l*, with a pin at its top, passing through the forked shipper *m*. This pin serves as a swivel to permit the shipper to oscillate and throw the shipping-bolt or pin (at its ends) into connection with one or both of the treadle-blocks. The lower ends of the treadle-blocks *j* are provided with a metal strap, having a suitable hole to receive the shipping-pin or bolt at the inner end of the shipper *m*. This operation is effected by the attendant, whose knee will be embraced by the forked end of the shipper. The carriage B, upon which the lumber to be worked rests, may be moved along the table, by revolving the hand-wheel *n*, which is fastened upon the front end of a shaft extending across the machine under the table A. This shaft carries the pinion F, which works in a rack on the under side of the carriage. Four clamping-blocks, *o o*, actuated by screws and set-nuts, serve to retain the lumber in which mortises are being made. The screws which operate the clamping-blocks are provided with cranks, *p*, which extend beyond the table on each side thereof. There is a retracting spring under the treadle, which is fastened to frame-piece *a'*, and acts upon the treadle from beneath

it. The chisels are capable of adjustment so as to cut at an angle towards each other or both in a vertical line, and they may be operated separately or together. The work may be more expeditiously done by the angling cut, as it aids the discharge of chips from the mortise and prevents the liability of splitting frail or light timber, such as sash, &c. As the work progresses, the attendant may from time to time adjust the chisels towards a vertical position by means of the adjusting screws which move the lower guide frames, and by the aid of the rack frames operated by the hand-wheel *g*. Stops may be set in the grooves in frame *D*, in which the rack frames *d* work, to limit their movement towards the ends of the box frame *D*. Such stops will prevent straining the hinged guides *c c*, through which the chisel-bars work. The best manner of adjusting the chisels is, at the beginning of the work, to set the lower chisel frames so as to bring each chisel in range with or over the "scribe" made for the ends of the proposed mortise, and then adjust the upper ends of the chisel-bars outwardly, which will cause the chisels to point in the direction of the centre of the mortise; and as the work progresses the upper ends of the chisel-bars may be adjusted towards each other until they are brought into a vertical plane.

Having now fully described my invention, what I claim, and desire to secure by Letters Patents, is—

1. The hinged guides *c c* of the chisel-bars *b b*, rack frames *d d*, and adjusting frames *e e*, in combination with their actuating mechanism, arranged and operating substantially in the manner and for the purpose herein described.

2. The arrangement of the forked lever *m* upon the stud *l*, on treadle *k*, operated in the manner described, for connecting with either or both of the treadle-blocks *j*, for actuating the chisels, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 13th day of June, 1866.

J. G. CLIFTON.

Witnesses:

H. P. K. PECK,

A. L. PECK.