A. T. NICHOLS.

Sawing-Machines.

No. 137,022. Patented March 18, 1873.

Fig 1

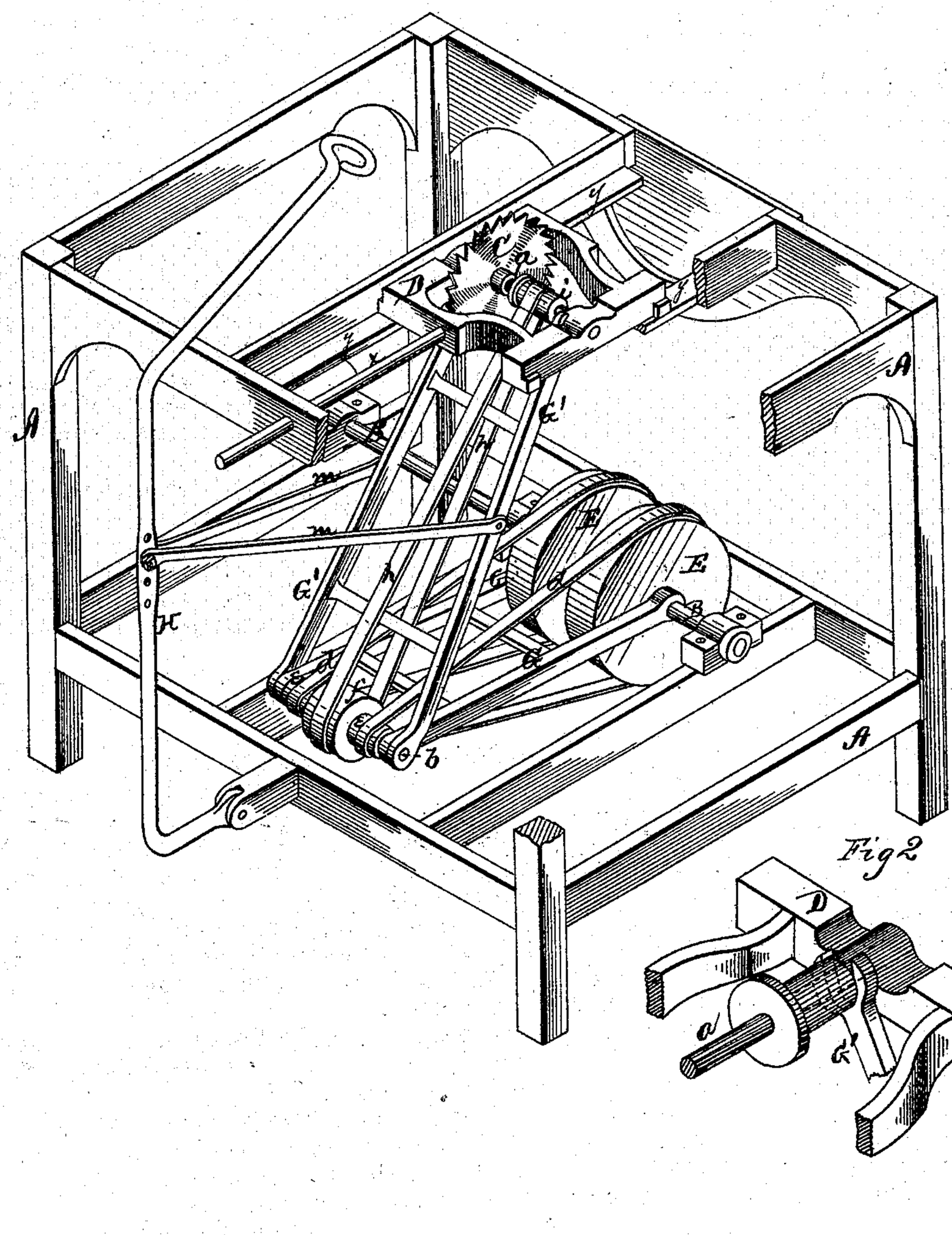

Fig 2

Witness:

Henry N. Miller

C. L. Evert

Inventor.

Albert T. Nichols.

per Scudder Mason

Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT T. NICHOLS, OF WILLIAMSPORT, PENNSYLVANIA.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **137,022**, dated March 18, 1873.

To all whom it may concern:

Be it known that I, ALBERT T. NICHOLS, of Williamsport, in the county of Lycoming, and in the State of Pennsylvania, have invented certain new and useful Improvement in Sawing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangemement of a sawing-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 represents a perspective view of the entire machine with the table removed, and Fig. 2 represents a broken view of a part of the sliding saw-carriage, showing the end of one of the forked bars of the pivoted frame, which moves the carriage.

A represents the frame-work of a sawing-machine, in which is the driving-shaft B. C represents the circular saw placed upon an arbor, *a*, and this arbor mounted on a carriage, D. The carriage is arranged upon slides *y* in the frame, and is provided with a guide-bar, *x*, and when the carriage is moved back and forth on its slides the pin *x* works in an orifice in the frame. On the driving-shaft B are secured two pulleys, E E, placed between the side bars of a frame, G, the ends of which side bars are placed on the driving-shaft. Through the outer end of the frame G passes a shaft, *b*, upon the ends of which is pivoted another frame, G′. The other ends of the side bars of this frame G′ are forked, and grasp a collar around the saw-arbor *a*, or around part or projection on the carriage D, they being held in this position by the belts hereinafter described.

It will thus be seen that the side bars G′ G′ do not bear against the saw-arbor; hence do not create friction upon the same.

The pulleys E E on the driving-shaft B are by belts *d d* connected with pulleys *e e* on the shaft *b*, and between the pulleys *e e* is another pulley, *f*, connected by a belt, *h*, with a pulley, *i*, on the saw-arbor *a*. By the means of these belts the frame G′ is held up to the saw-arbor or the saw-carriage, and the rotary motion is communicated from the driving-shaft to the saw. H represents a lever pivoted to the frame A and connected by rods or bars *m m* with the frame G′. By the use of this lever or any other equivalent mechanical means the saw may be moved horizontally back and forth while in motion without stopping or interfering with or in the least changing its speed, as the frames accommodate themselves to the position of the saw-arbor, and the belts are always kept taut, no change in the position of the saw-arbor making any change in the distance between said arbor and the shaft *b*, or between said shaft *b* and the driving-shaft.

It will be seen that the forked levers G′ G′ are applied so as to move the saw-carriage back and forth on its slides, and in case of breakage or disorder of the parts it is only necessary to separate the belt *h*, and the pivoted frame G′ will drop and be detached from the saw-carriage.

One pulley, E, and one belt from the driving-shaft to the shaft *b* may be sufficient, but I prefer to use two, as above described, because then the frames G and G′ will be held more firmly and squarely in their proper positions.

This device may be used on any machine for sawing or grooving, or running any arbor horizontally.

I do not broadly claim a saw-carrying frame pivoted to the extremity of a horizontal frame extending from the main driving-shaft, as such is not new.

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

The combination with the sliding saw-carriage D and its guide *x*, of the forked levers G′ G′, belt *h*, frame G, and shaft B, with one or more driving-pulleys, E, and belts *d*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of February, 1873.

ALBERT T. NICHOLS.

Witnesses:
C. L. EVERT,
A. N. MARR.