No. 704,373. Patented July 8, 1902.

E. RAWSON.

WOOD FLUTING MACHINE.

(Application filed Jan. 15, 1902.)

(No Model.) 2 Sheets—Sheet 1.

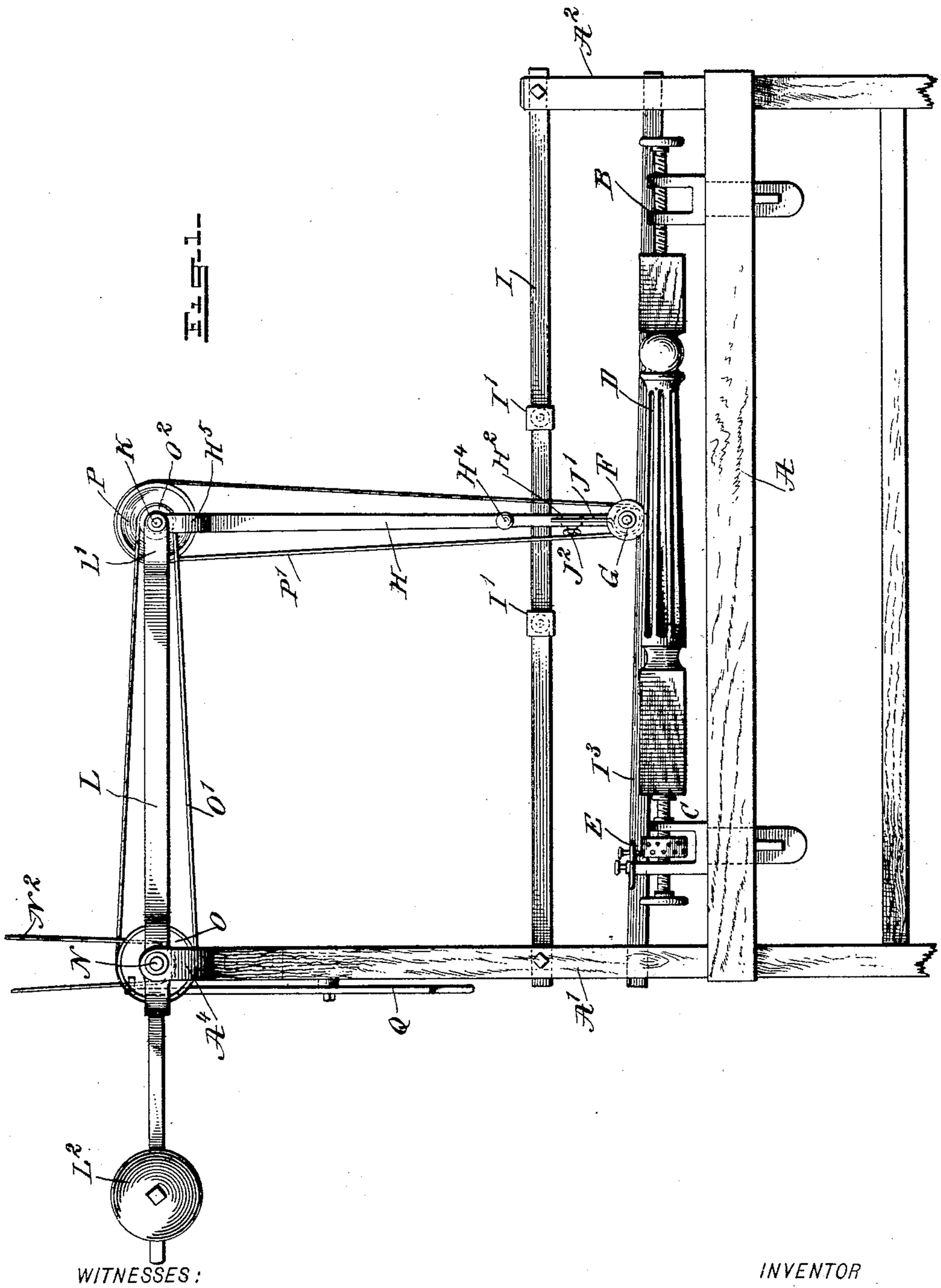


FIG. 1.

WITNESSES:

Geo. W. Naylor.

Henry J. Hoskins

INVENTOR

Edward Rawson

BY Munn & Co.

ATTORNEYS

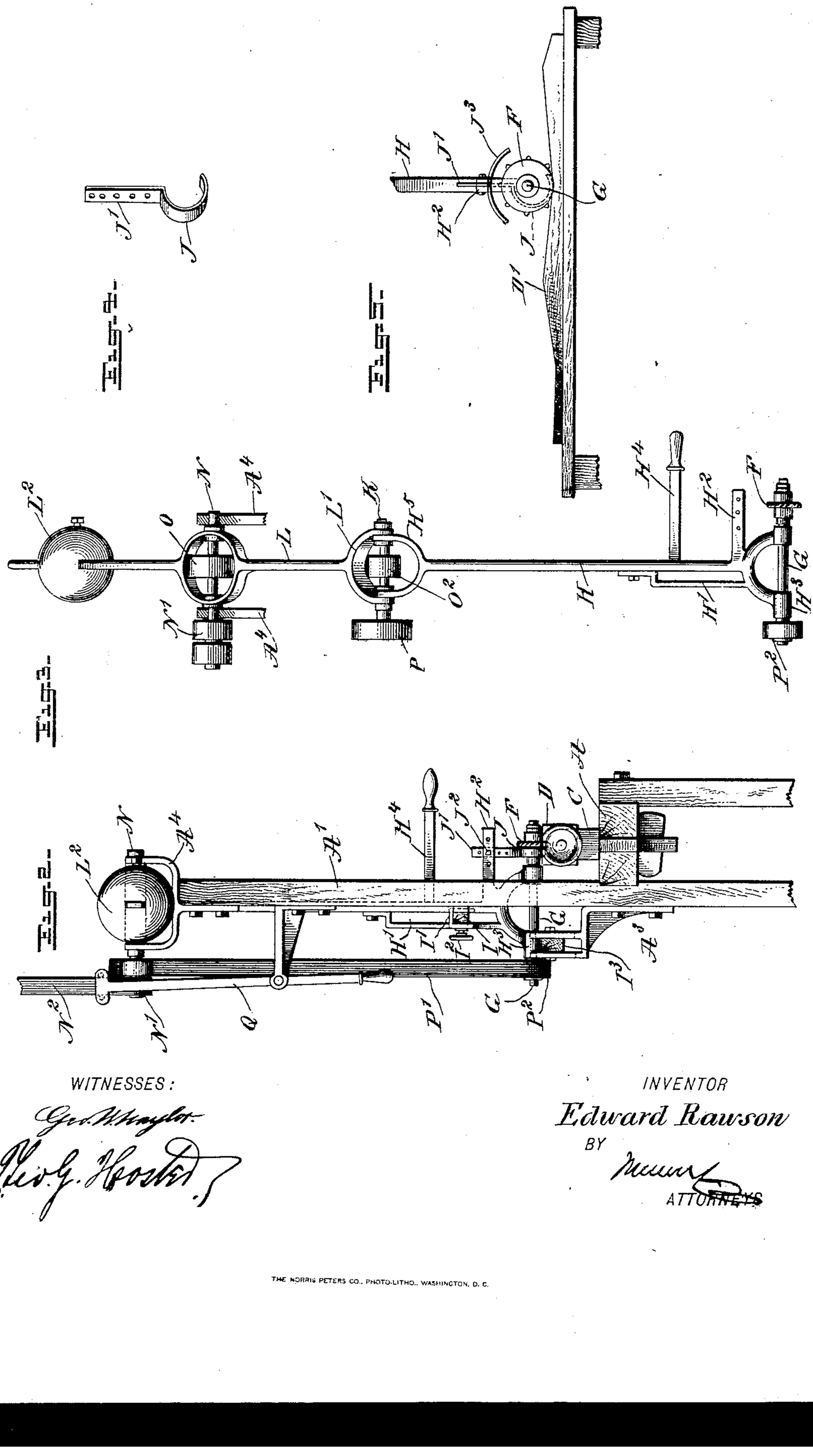
No. 704,373. Patented July 8, 1902.

E. RAWSON.

WOOD FLUTING MACHINE.

(Application filed Jan. 15, 1902.)

(No Model.) 2 Sheets—Sheet 2.



WITNESSES:

Geo. Whaylor.

Rud. G. Hoosten.

INVENTOR

Edward Rawson

BY

Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD RAWSON, OF MOSCOW, IDAHO.

WOOD-FLUTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 704,373, dated July 8, 1902.

Application filed January 15, 1902. Serial No. 89,855. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RAWSON, a citizen of the United States, and a resident of Moscow, in the county of Latah and State of Idaho, have invented a new and Improved Wood-Fluting Machine, of which the following is a full, clear, and exact description.

The invention relates to woodworking machinery; and its object is to provide a new and improved fluting-machine more especially designed for quickly and accurately forming longitudinal flutes on columns, table-legs, and similar articles.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement. Fig. 2 is an end view of the same. Fig. 3 is a plan view of the cutter-head, its supporting-arms and counterbalancing-lever, and adjacent parts. Fig. 4 is a perspective view of the adjustable gage-shoe, and Fig. 5 is an enlarged side elevation of the cutter-head and pattern-bar for different work.

The improved wood-fluting machine is provided with a bed-plate A, on which are adjustably held the tail-stock B and the head-stock C, supporting the column D or similar work in the usual manner, the head-stock C having an index E for obtaining the proper divisions on the column D for spacing the flutes. The cutter-head F for forming the longitudinal flutes in the column D is secured on the arbor G, journaled in the free end of the arm H, provided with a vertically-disposed guideway H′, through which extends the guide-bar I, supported on the standards A′ A^2 of the bed-plate A. The guide-bar I is provided with adjustable stops I′ to limit the longitudinal movement of the arm H and its arbor G and cutter-head F to cut the flutes the proper length. The stops I′ are secured in place on the guide-bar after the desired adjustment is made by set-screws I^2. (See Fig. 2.) The guide-bar I prevents transverse movement of the arm H to insure straight cutting of the flutes by the cutter-head F. On the arm H is also held or formed a bracket H^2, on which is held vertically and transversely adjustable the shank J′ of the gage-shoe J, adapted to ride on the column D adjacent to the cutter-head F to gage the depth of the flute. The bracket H^2 and shank J′ are provided with rows of apertures, and a clamping-bolt J^2 engages a pair of registering-apertures to fasten the gage-shoe J in proper position on the bracket H^2. The bearing H^3 of the arm H has a free rest on top of a second guide-bar I^3 to steady the arm H, arbor G, and cutter-head F, the said guide-bar I^3 being held in brackets A^3, attached to the standards A′ A^2, as shown in Fig. 2. The arm H is provided with a suitable handle H^4, adapted to be taken hold of by the operator to move the arm H longitudinally and cause the cutter-head F to cut the longitudinal flute on the column D. The upper end of the arm H is formed with a fork H^5, hung on the shaft K, also engaged by the forked end L′ of a walking-beam L, fulcrumed on a shaft N, journaled in suitable bearings on a bracket A^4, attached to the standard A′. The walking-beam L is provided with a counterweight L^2, so as to hold the forward end of the walking-beam L normally in an uppermost position and the arm H and cutter-head F in a like position—that is, the cutter-head out of engagement with the work or column D.

When the operator takes hold of the handle H^4, it requires but a slight exertion to move the arm H downward and in a longitudinal direction to cause the cutter-head F to form the flute on the column D to the desired depth and length, it being understood that the stops I′ are adjusted on the guideway I, so as to prevent the operator from moving the arm H too far in either direction to prevent cutting the flutes longer than required.

In order to drive the arbor G and the cutter-head F, the following arrangement is made: On the shaft N are secured fast and loose pulleys N′, connected by a belt N^2 with other machinery to impart a rotary motion to the said shaft N, and on the latter is also secured a pulley O, connected by a belt O′ with a pulley O^2, secured on the shaft K, and on one end of this shaft is secured a pulley P, connected by a belt P′ with a pulley P^2, secured on the

arbor G, so that when the shaft N is rotated the pulleys O O^2 and belt O′ impart a rotary motion to the shaft K, and the rotary motion of the latter is transmitted by the pulleys P P^2 and belt P′ to the arbor G to rotate the latter and the cutter-head F. A belt-shifter Q, fulcrumed on the standard A′, permits shifting the belt N^2 from the fast to the loose pulley, and vice versa.

The machine can be readily adapted for other work besides fluting straight columns—that is, a circular saw may be used on the arbor G for cutting wood, and the cutter-head F may be used for grooving undulating articles D′, as indicated in Fig. 5, the gage-shoe J traveling on the surface of the article to insure uniformity in the depth of the cut. A guard J^3 for flying chips may be arranged over the cutter-head F and secured to the gage-bar J.

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

1. A fluting-machine, having a longitudinal guideway arranged over the work, an arm guided longitudinally in the said guideway and free to move up and down, an arbor journaled on the said arm and arranged to carry the working tool, and a counterbalanced walking-beam on which the said arm is pivoted, as set forth.

2. A fluting-machine, having a longitudinal guideway arranged over the work, an arm guided longitudinally in the said guideway and free to move up and down, an arbor journaled on the said arm and arranged to carry the working tool, a counterbalanced walking-beam on which the said arm is pivoted, and a driving-gear for the said arbor and carried by the arm and walking-beam, as set forth.

3. A fluting-machine, having an arbor for carrying the working tool, an arm, in one end of which the arbor is journaled, the other end being provided with a fork, a vertically-disposed guideway on the arm, a guide-bar extending through the said guideway, a counterbalanced walking-beam having a forked end, a shaft pivotally connecting the fork of the arm with the fork of the walking-beam, pulleys on the said shaft and the said arbor, and a belt for connecting the pulleys with each other, as set forth.

4. A fluting-machine, having a longitudinal guideway provided with stops and arranged over the work, an arm guided longitudinally in the said guideway and free to move up and down, the arm having a gage-shoe, a counterbalanced walking-beam on which the said arm is fulcrumed, an arbor journaled in the free end of the said arm, and a driving-gear for the arbor and carried by the said arm and the said walking-beam, as set forth.

5. A fluting-machine having an arbor for carrying the working tool, a pivoted arm free to move up and down and in one end of which the arbor is journaled, a bracket on the said arm, and a gage-shoe having a shank adjustable vertically and transversely on the said bracket, as set forth.

6. A fluting-machine having an arbor for carrying the working tool, an arm on the lower end of which the arbor is journaled, a counterbalanced beam on which the arm is pivoted, a bracket on the said arm, a gage-shoe having a shank adjustable on the said bracket, a guard arranged over the working tool, and means for driving the arbor, as set forth.

7. A fluting-machine having an arbor for carrying the working tool, an arm in which the arbor is journaled, the said arm being mounted to swing and to move up and down, a vertically-disposed guideway on the arm, and a fixed guide-bar extending through the guideway and provided with adjustable stops, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD RAWSON.

Witnesses:

A. T. SPOTSWOOD,

T. B. MCBRYDE.