

(No Model.)

2 Sheets—Sheet 1.

A. DEROUIN.
WOOD TURNING MACHINE.

No. 453,965.

Patented June 9, 1891.

Fig. 1.

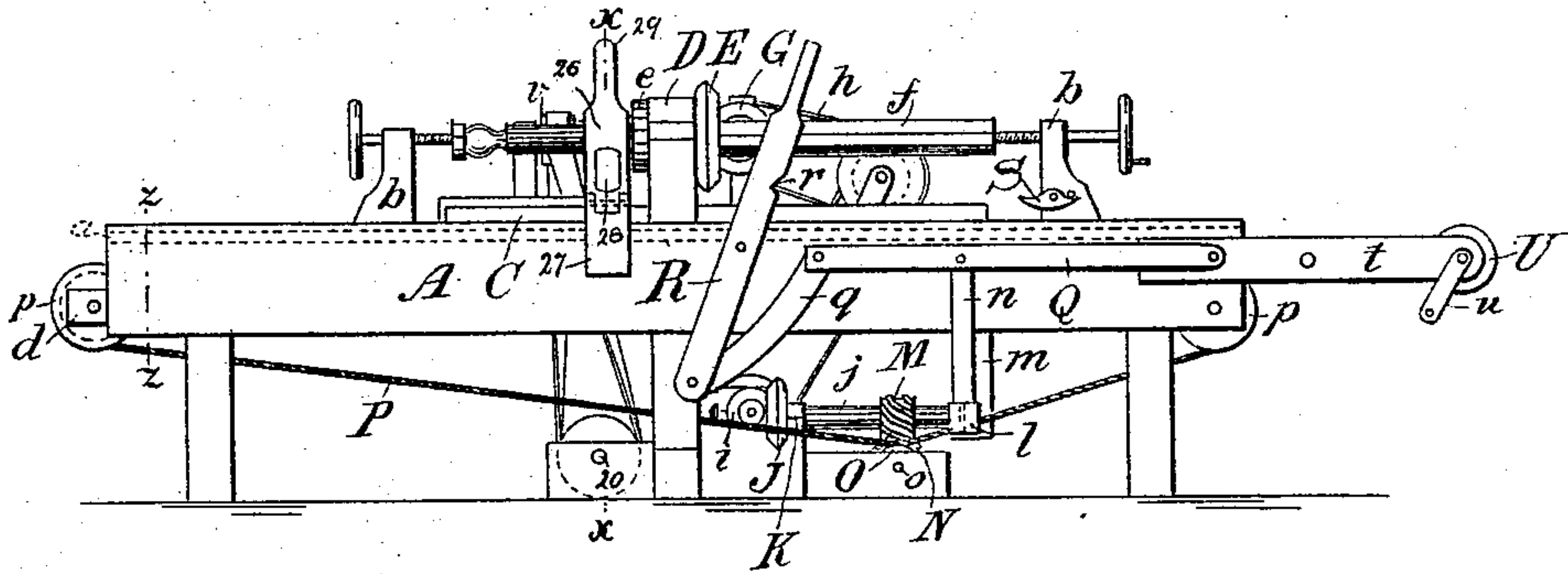


Fig. 2.

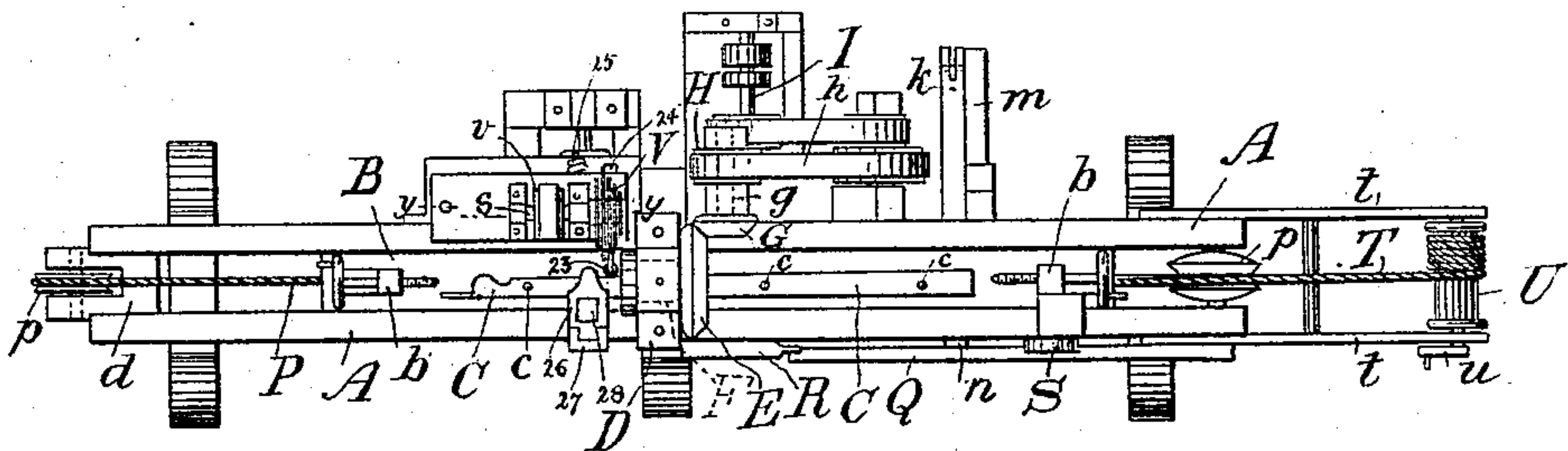
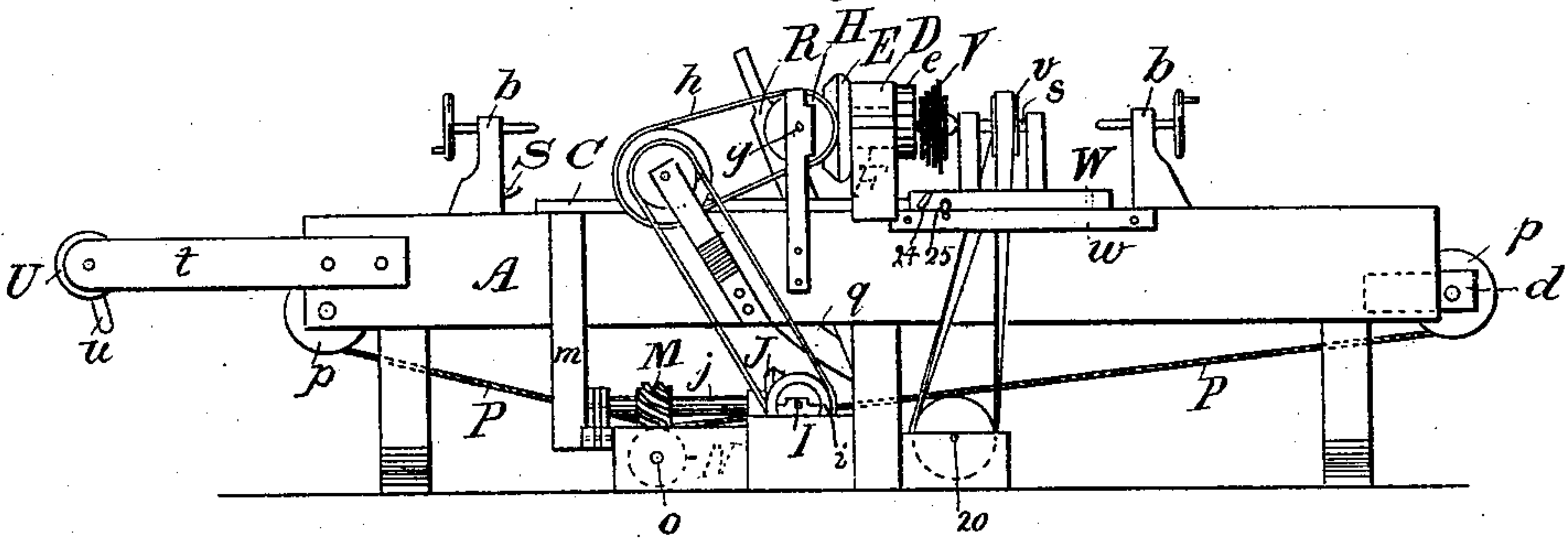


Fig. 3.



Witnesses

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Atty.

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

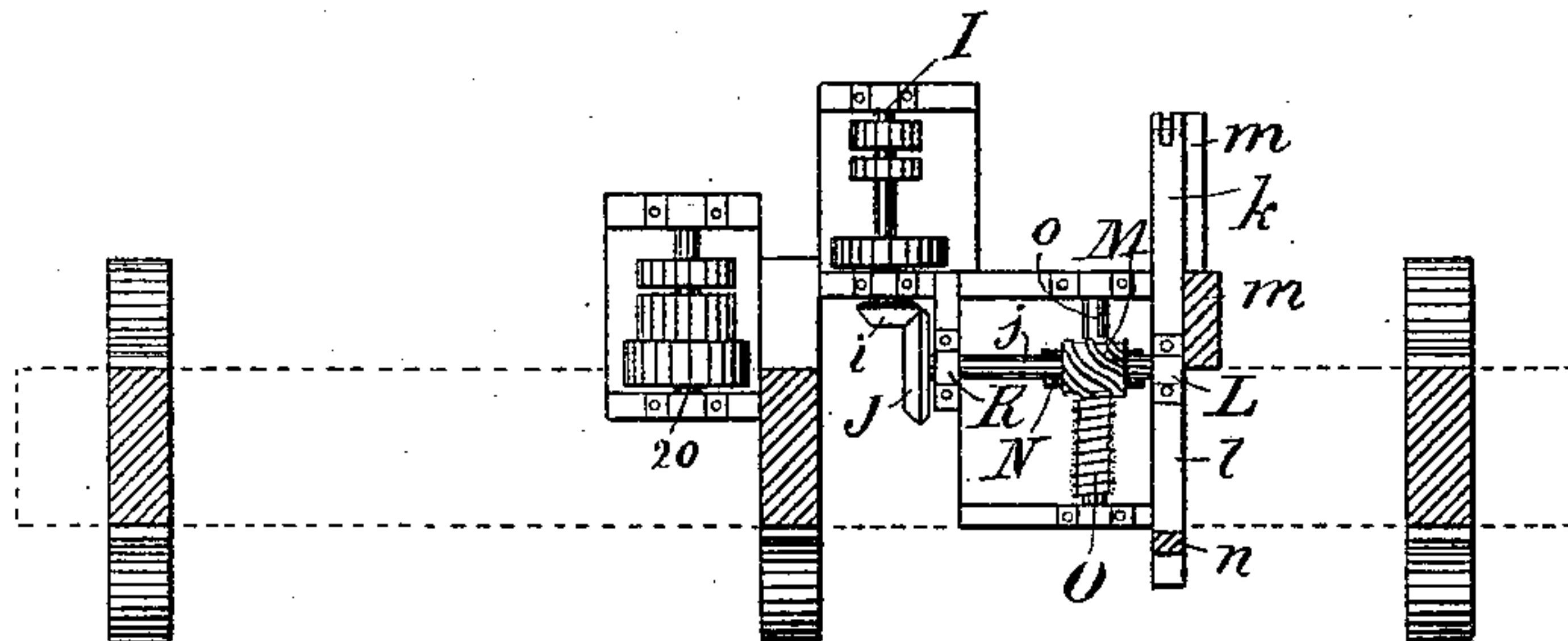


Fig. 5.

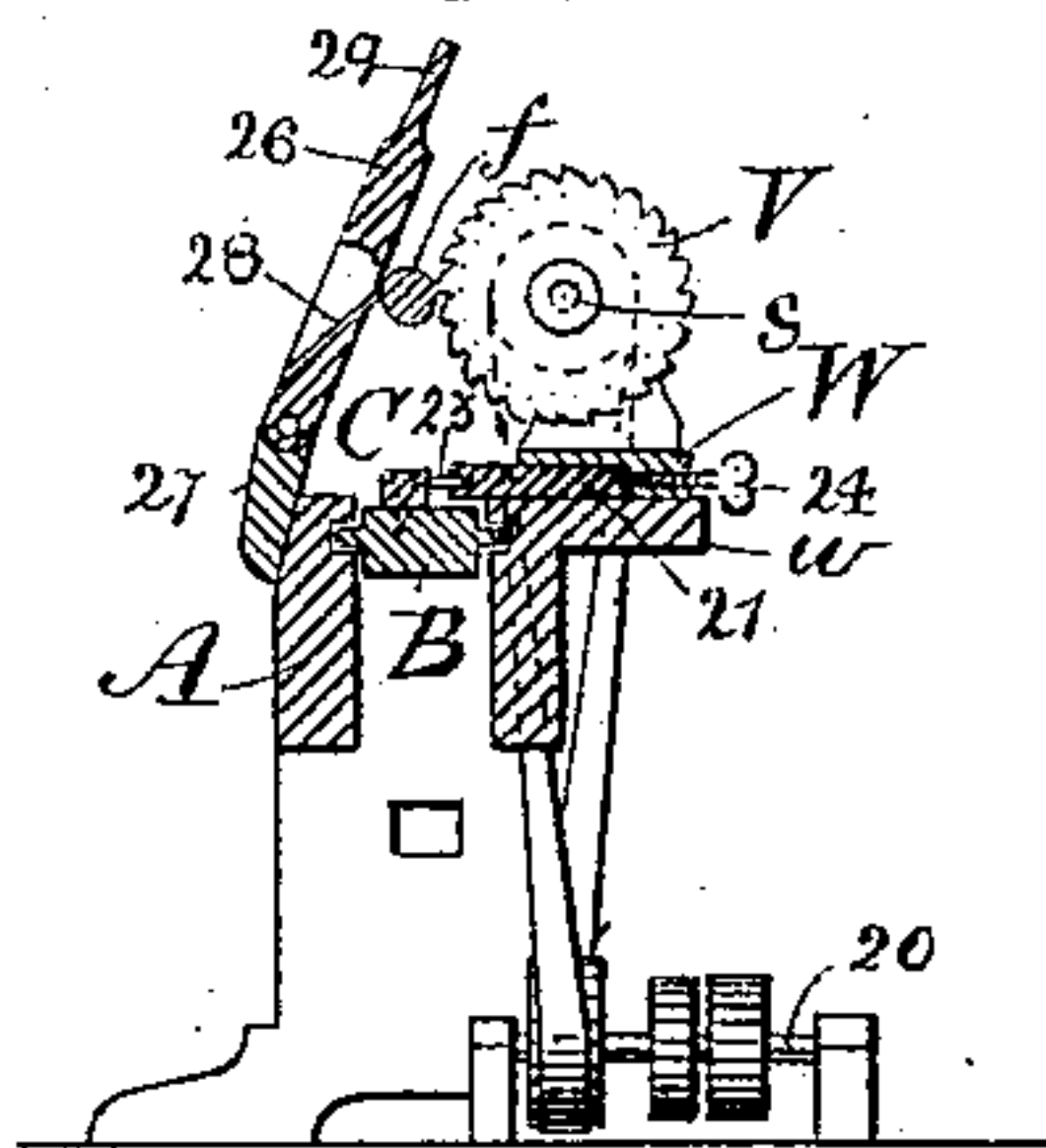


Fig. 6.

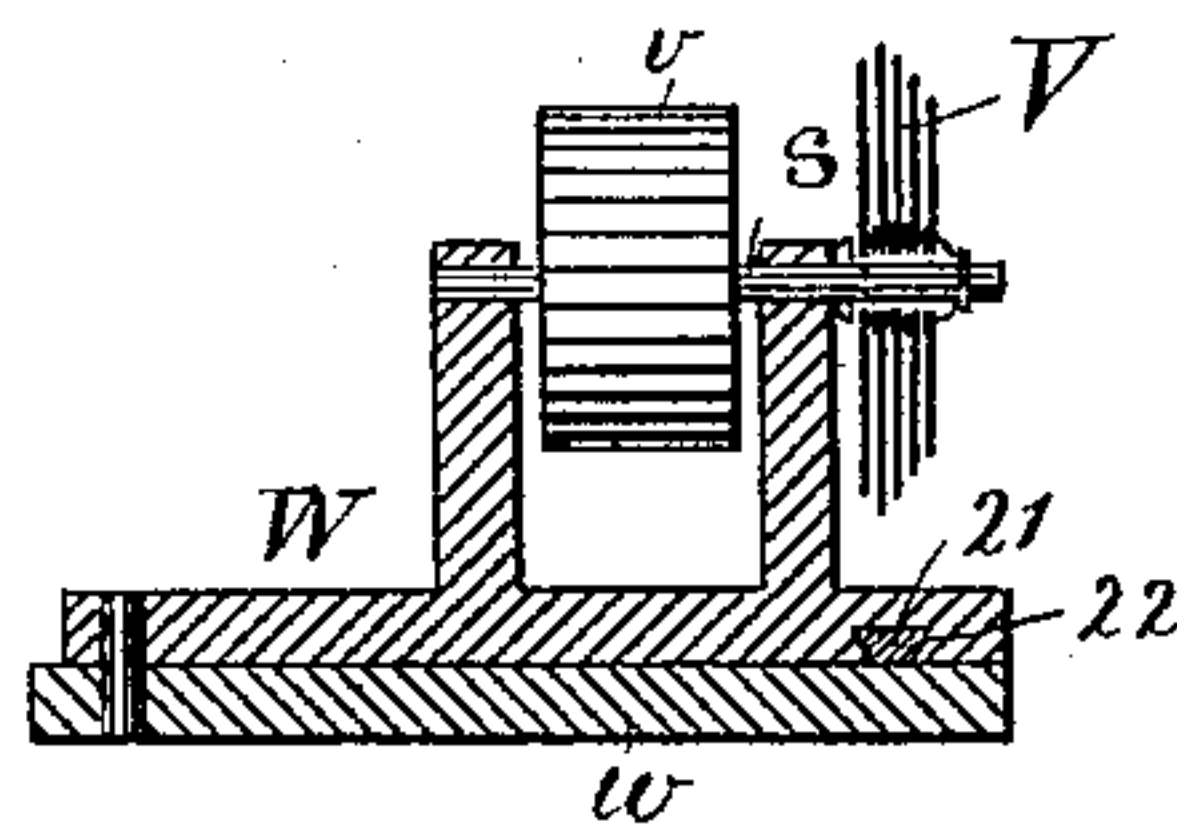


Fig. 7.

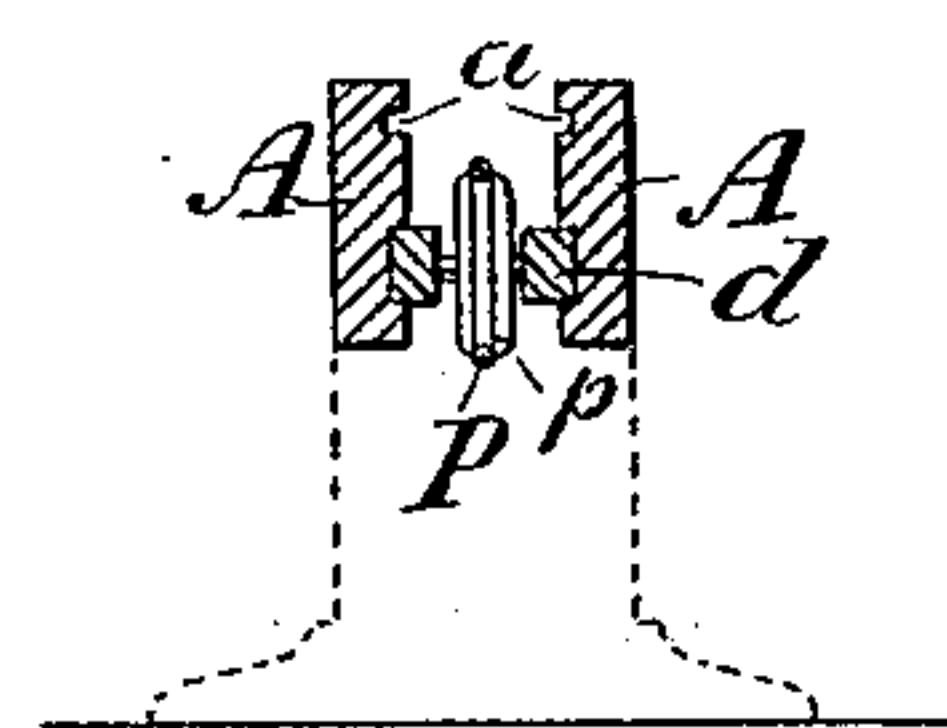
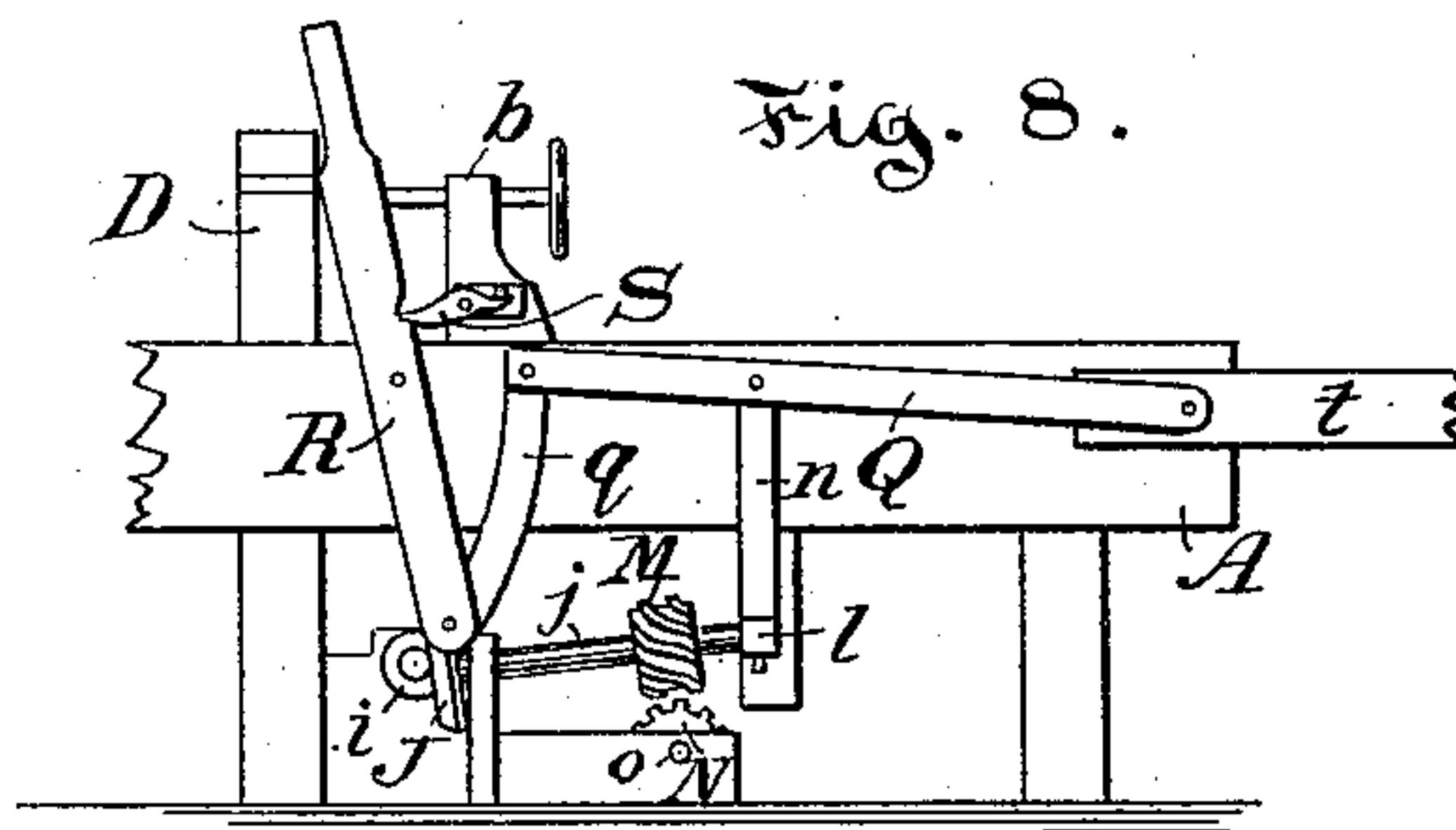


Fig. 8.



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UNITED STATES PATENT OFFICE.

ALFRED DEROUIN, OF GATINEAU POINT, CANADA.

WOOD-TURNING MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,965, dated June 9, 1891.

Application filed April 4, 1890. Serial No. 346,600. (No model.) Patented in Canada January 25, 1890, No. 33,513.

To all whom it may concern:

Be it known that I, ALFRED DEROUIN, a citizen of Canada, residing at Gatineau Point, in the county of Ottawa, Province of Quebec, Canada, have invented certain new and useful Improvements in Wood-Turning Machines, (for which I have obtained a patent in Canada, No. 33,513, bearing date January 25, 1890,) of which the following is a full, clear, and exact description.

This invention relates to that class of wood-turning machines intended more especially for turning pike-poles, cant-hook handles, and similar articles; and it consists in the details of construction and combination of parts hereinafter described and claimed.

Referring to the drawings, Figure 1 is a front elevation of my improved lathe. Fig. 2 is a top view of the same. Fig. 3 is a rear elevation. Fig. 4 is a horizontal section showing the mechanism under the lathe. Fig. 5 is a transverse section on line *x x*, Fig. 1. Fig. 6 is a section on line *y y*, Fig. 2, on a larger scale. Fig. 7 is section on line *z z*. Fig. 8 shows a portion of Fig. 1, the carriage and gearing being in a different position.

A is a table consisting of two sides and provided with suitable supports near the top of each of the two sides, and facing inwardly runs a groove *a*, in which the carriage B of the lathe slides. At either end of this sliding carriage is a head-stock or bracket *b*, in which the usual adjustable screws are placed. On the bed of this sliding carriage a gage C is secured by the screws *c*, one side of which is cut to the exact contour of the article it is desired to produce. A bearing D is secured to the table A near the center, in which is journaled the hub F of a miter-wheel E. A collar *e*, which may be formed integrally with the hub, keeps the miter-wheel E in place.

The hub F is pierced with a hole, preferably octagonal in cross-section, through which the stick of wood *f* passes and receives its rotary motion from the hub and miter-wheel. The stick or blank is of the same cross-section as the hole through which it passes and is made so as to pass through easily. The stick *f* is shown partly turned and partly in the rough, as it appears during the process of turning in Fig. 1.

The rotary motion is imparted to the mate-

rial *f*, as before stated, by the miter-wheel E, which gears with the miter-wheel G on the shaft *g*. Journaled in suitable bearings attached to the side of the table A on this shaft *g* is a pulley H, which is driven by a belt *h*, which receives motion by means of an intermediate belt and pulleys from the driving-shaft I.

The sliding motion of the carriage B is imparted by means of the miter-wheel *i* on the driving-shaft I, which gears with the miter-wheel J on shaft *j*, journaled in bearings K and L. The bearing K is secured fast under the table; but the bearing L is provided with two arms *l* and *k*. *k* is hinged to a bracket or support *m*, secured to the table A. The object of the arm *l* will be hereinafter pointed out. On the shaft *j* is a worm M, which gears with the worm-wheel N on the shaft *o*, journaled in suitable bearings. On this shaft is a drum O, having upon its surface a spiral groove, around which passes a rope P, the ends of which are attached to the opposite ends of the carriage B, the rope P passing over the pulleys *p*, one of which is journaled in a sliding frame *d* to admit of tightening the rope. The other is journaled at the end of the table A. It will be seen that by means of the miter-gear *i* J, the worm-gear M N, and the rope P the carriage B, containing the blank or stick *f* to be turned, is drawn from one end of the table to the other, the rotary motion being given to the blank *f* at the same time by the miter-wheel E.

The carriage B is stopped automatically when it comes to the end of the table in the following manner: The arm *l* of the bearing L is connected by a rod *n* to a lever Q, pivoted at one end to the table A, and at the other end is secured by means of a link *q* to a hand-lever R, which is also pivoted to the table A, and is provided with a notch *r*, which is adapted to be engaged by a dog S, which is pivoted to a stud on one of the stocks or brackets *b* and held in position ready to engage the notch *r* by a pin. Thus it will be readily seen that when the article is turned the dog S engages the notch *r*, pushes back the lever R, and raises the lever Q by means of the link *q*, and the lever Q in turn raising the rod *n* and the arm *l* of the bearing L, which raises the worm M out of gear with

the worm-wheel N and so stops the sliding motion of the carriage. The bearing K is made so as to give the shaft *j* enough play to admit of the worm being raised out of gear.

5 The carriage B is drawn back by means of another rope T, one end of which is secured to the carriage and the other wound on a drum U, journaled in arms *t*, secured to the end of the table A. A crank and handle *u* is

10 provided for winding the drum U. The cutting machinery consists of a group of saws V of different sizes mounted on the same shaft *s*, separated from each other by thin washers. The number and sizes of the saws

15 may vary as the nature of the work demands. This shaft *s* is provided with a pulley *v*, and is mounted in suitable bearings secured to a table W, which is pivoted to an extension *w* of the table A. Holes are pro-

20 vided in the table W and extension *w* for the belt to pass through, which is driven from a pulley on a driving-shaft 20. The pivoted table W is provided with a stud 21, working in a dovetailed mortise 22. This

25 stud 21 is provided with a friction-wheel 23, which is adjusted by means of a thumb-screw 24, so as to press against the gage C. An adjustable spring 25 keeps it to its work and permits the table to follow the design of the

30 gage, the saws V cutting or turning the same design on the stick *f*. The thickness of the finished article is regulated by the thumb-screw 24, acting on the friction-wheel 23. It will be seen that thus far provision is only

35 made for turning the article to the contour desired, leaving the surface rough. This is obviated by means of a planing or smoothing knife 26, which is hinged to a bracket 27, secured to the front of the table A, and is pro-

40 vided with a blade 28 and a handle 29.

It will thus be seen that no skilled labor is required to run this machine, a boy or other operative having simply to put in the rough

45 pieces *f*, draw down the hand-lever R, and then press the handle 29 of the knife 26, which smooths off the stick *f* after it passes the saws V. When finished, the carriage is stopped automatically, as before stated. The opera-

50 tor then throws back the knife and draws back the carriage by means of the drum and

handle, the finished article taken out and a rough one put in.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A wood-turning machine consisting of the 55 combination of the table A, having grooves *a*, sliding carriage B, brackets *b*, having adjustable screws, bearing D, miter-wheel E, hub F, having a bore F', miter-wheel G, pulley H on shaft *g*, pulley *h*, shaft I, miter-gear 60 *i* and J, shaft *j* in bearings K L, hinged arm *k*, arm *l*, worm-gear M N, shaft *o*, drum O, rod *n*, lever Q, link *q*, hand-lever R, dog S, rope P, pulleys *p*, sliding bearing *d*, rope T, drum U, driving-shaft 20, shaft *s*, pulley *u*, 65 group of saws V, pivoted table W, stud 21, mortise 22, friction-wheel 23, thumb-screw 24, adjustable spring 25, and knife 26, substantially as set forth.

2. The combination of the carriage B, hav- 70 ing brackets *b*, gage C, miter-wheel E, hub F, bore F', miter-wheel G, pulley H, driving-shaft I, miter-gear *i* J, worm-gear M N, drum O, rope P, pulleys *p*, sliding bearing *d*, rope T, and drum U, with the table A and grooves *a*, sub- 75 stantially as set forth.

3. In a wood-turning machine, the combina- tion of the sliding carriage arranged to carry the work, the rope attached to the carriage, the drum around which the rope passes and by 80 which the rope is actuated to advance the carriage, the pinion fixed to the drum, the pinion M, engaging the pinion on the drum, the movable bearings in which the pinion M is mounted, and the arm attached to said bearings and 85 arranged to be engaged by the carriage, substantially as described.

4. The combination, with the carriage B and bracket *b*, of the dog S, lever R, notch *r*, link *q*, lever Q, rod *n*, hinged bearing L, worm-gear 90 M N, drum O, rope P, pulleys *p*, and sliding bearing *d*, substantially as set forth.

Signed at Ottawa this 22d day of March, 1890.

ALFRED ^{his} X DEROUIN.
mark

In presence of—

ED. BRUNETTE,
I. B. C. DUNN.