

No. 667,793.

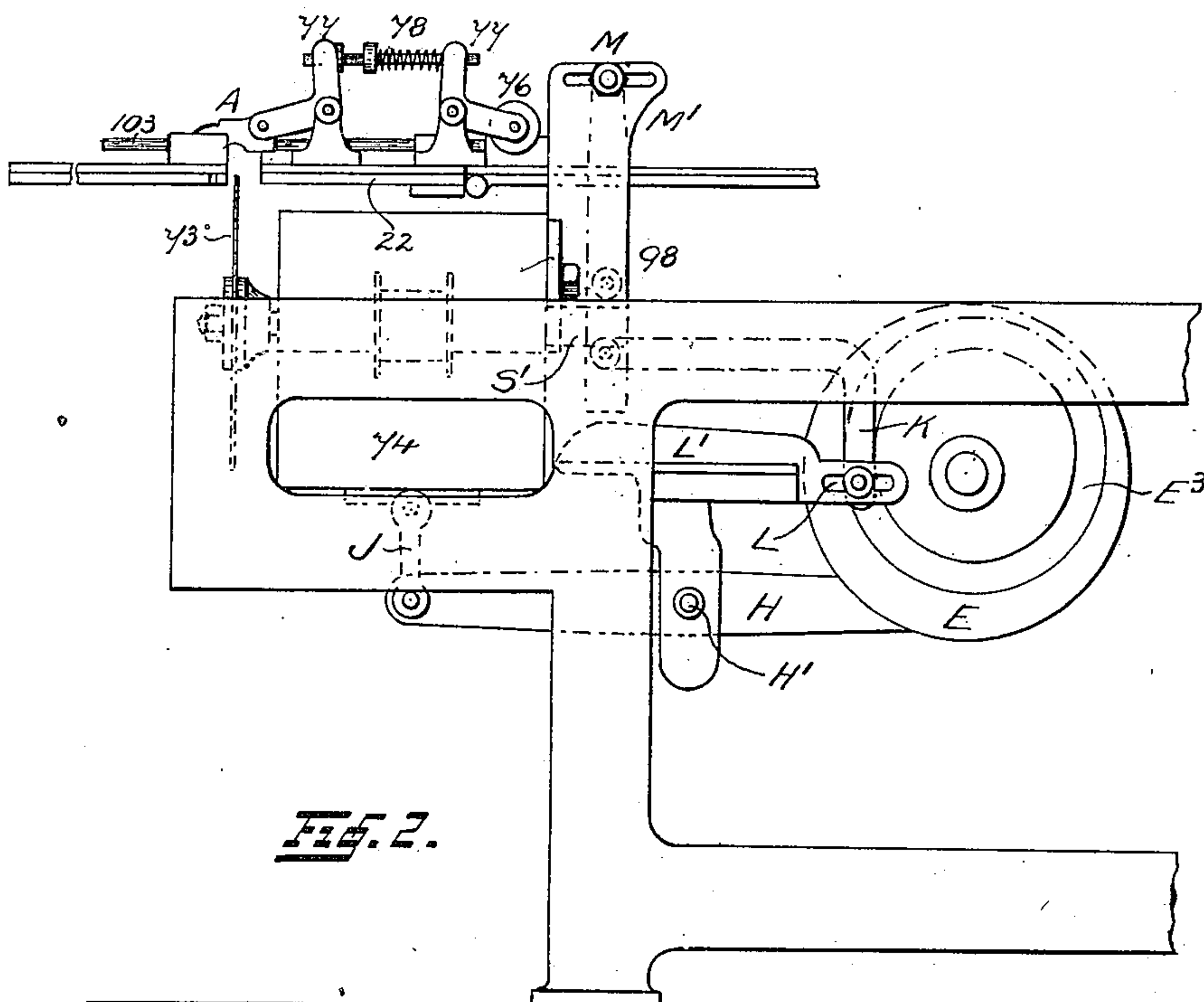
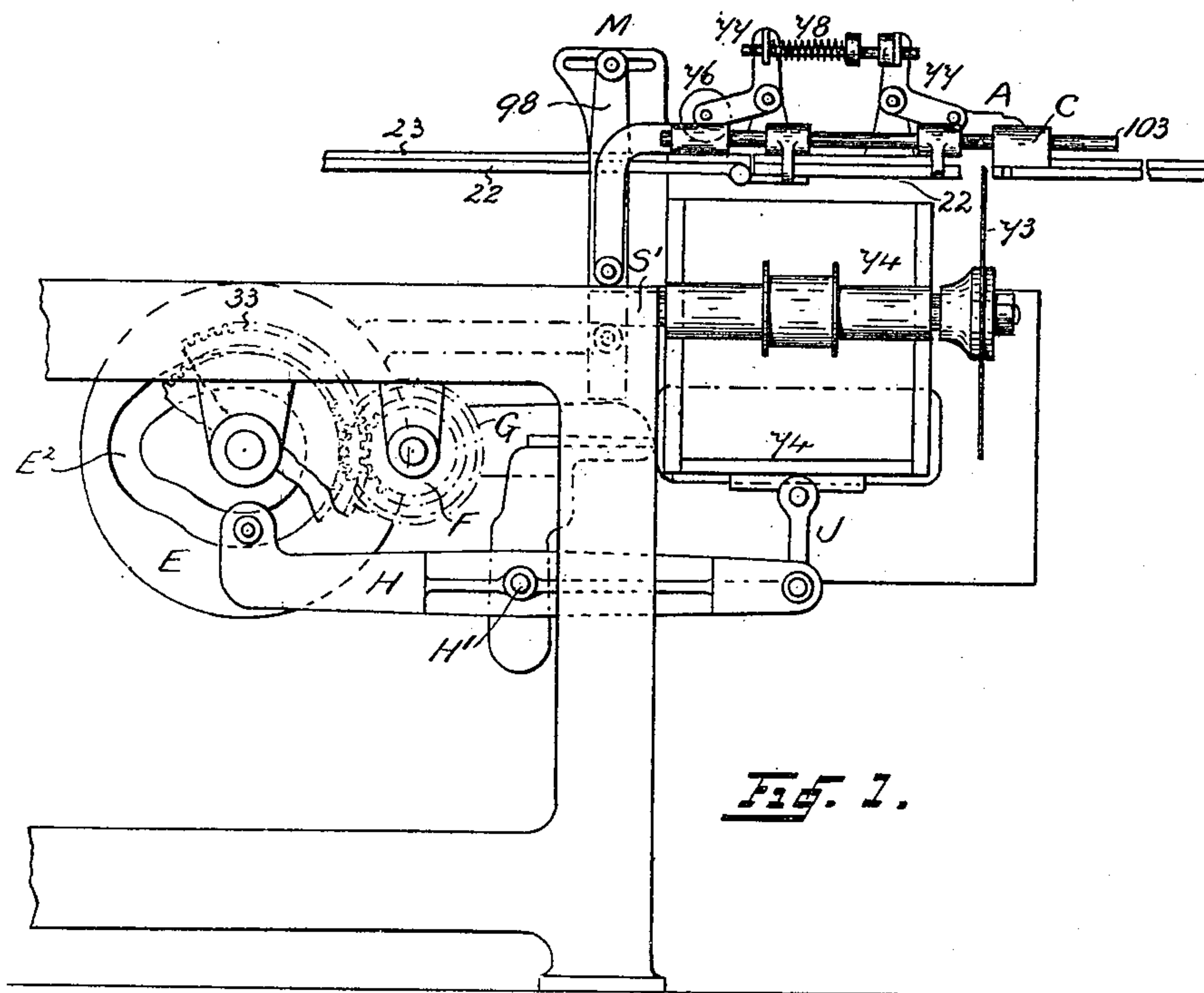
Patented Feb. 12, 1901.

E. POLLARD.
SAWING MACHINE.

(Application filed Nov. 21, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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Ella L. Gyles
Clara D. Frohbach

INVENTOR

Edwin Pollard

84

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2 Sheets—Sheet 2.

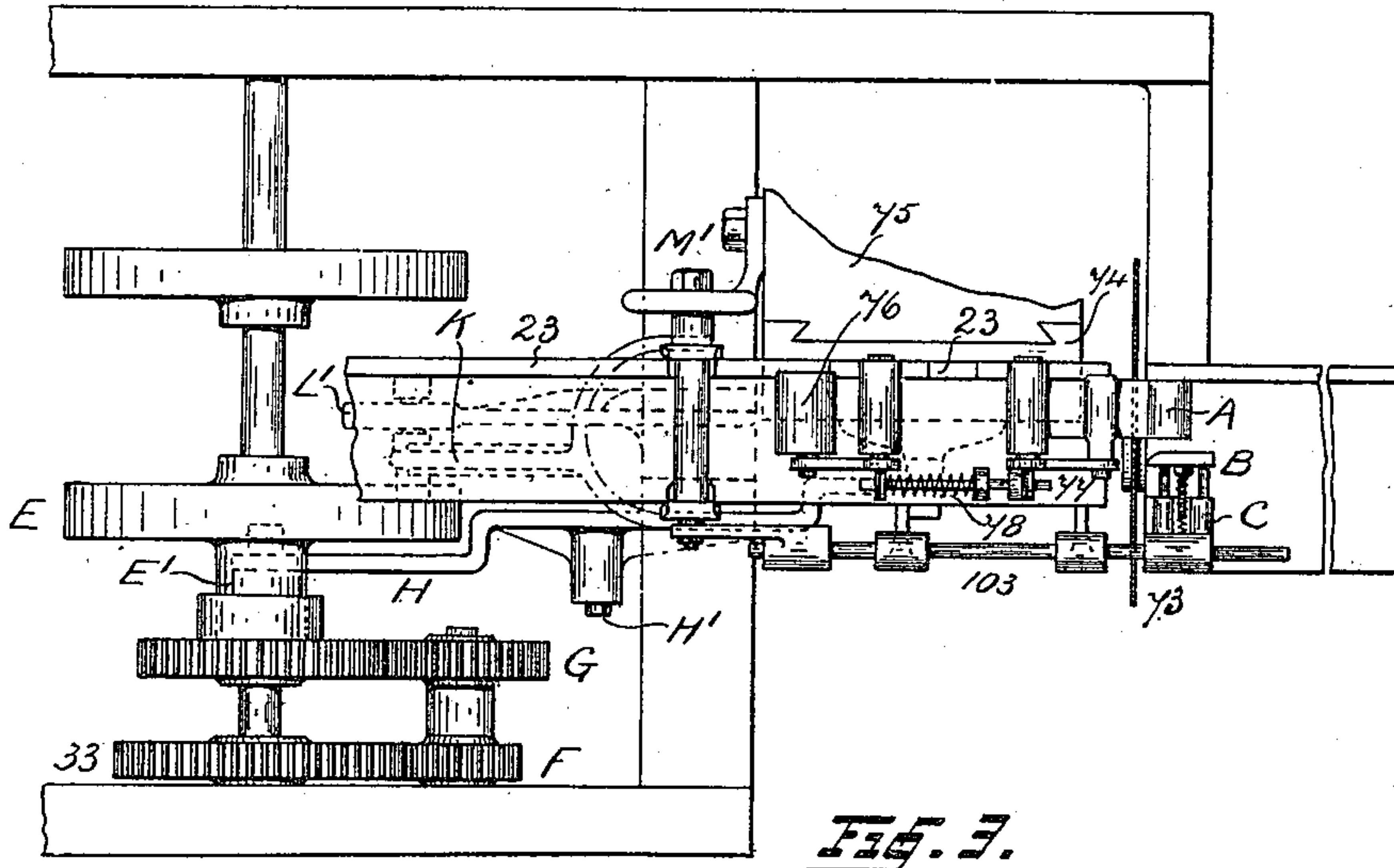


Fig. 3.

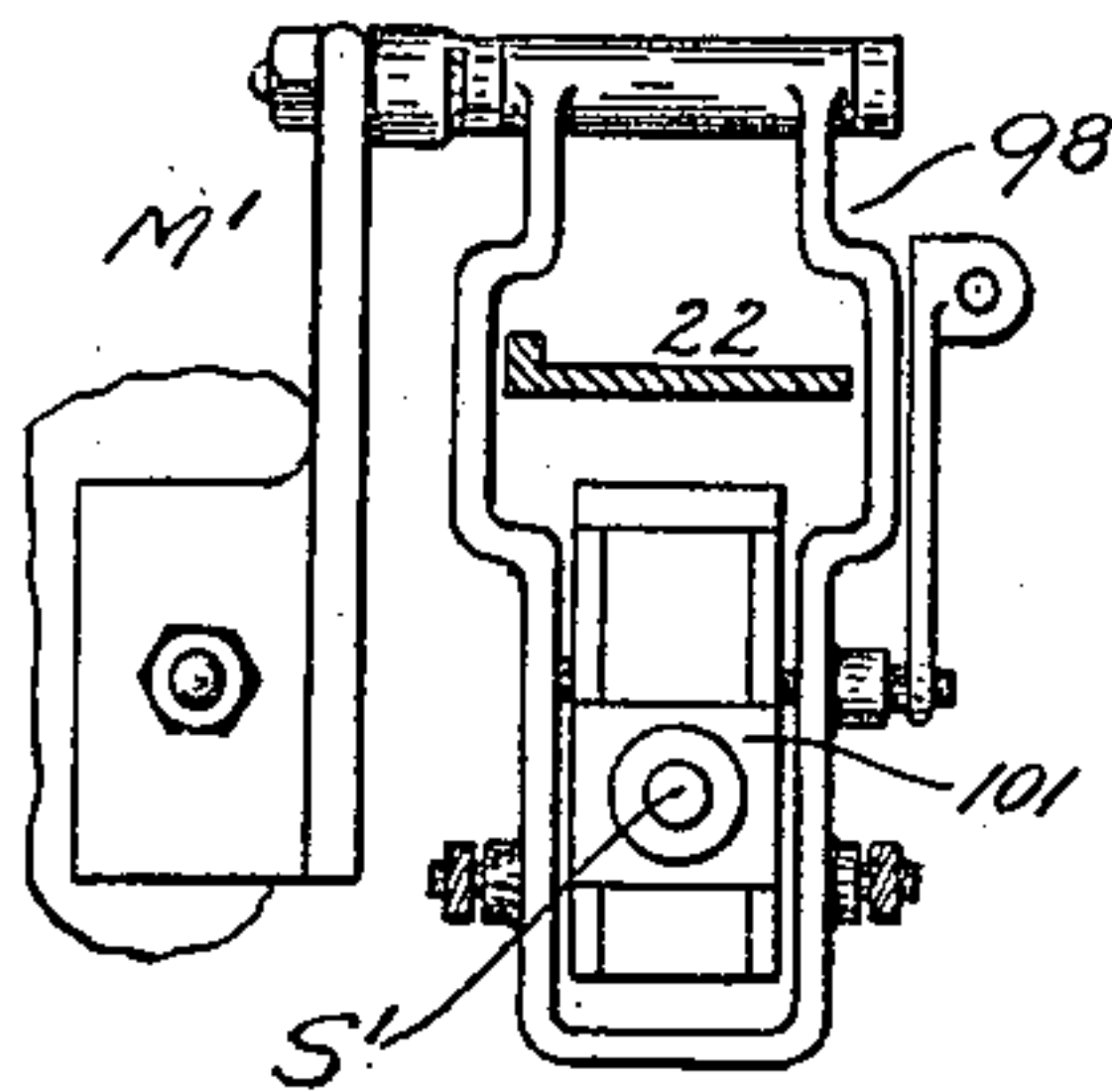


Fig. 4.

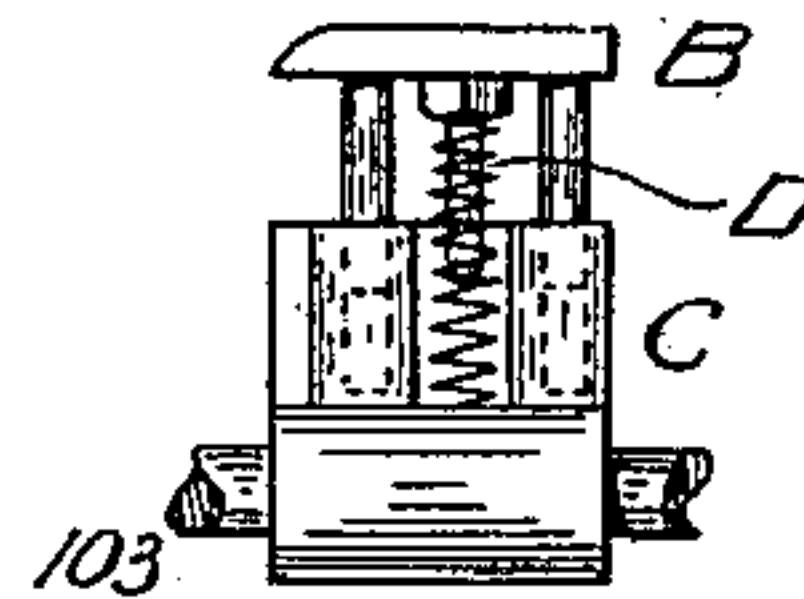


Fig. 5.

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UNITED STATES PATENT OFFICE.

EDWIN POLLARD, OF SILSDEN, ENGLAND, ASSIGNOR TO THE POLLARD & METCALFE, LIMITED, OF SAME PLACE.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 667,793, dated February 12, 1901.

Application filed November 21, 1900. Serial No. 37,217. (No model.)

To all whom it may concern:

Be it known that I, EDWIN POLLARD, a subject of the Queen of Great Britain and Ireland, residing at Keighley road, Silsden, in the county of York, England, have invented certain new and useful Improvements in Sawing-Machines, (for which I have obtained provisional protection in Great Britain on an application numbered 7,715, dated April 26, 1900,) of which the following is a specification.

This invention relates to certain improvements to the machine for grooving and cutting wood into lengths suitable for fire-lighters, disclosed in my United States Specification No. 648,114, dated April 24, 1900, and has for its object the cutting of the grooved laths into lengths as they are passed through the machine, the said laths being grooved and traversed in the manner as described in the before-mentioned specification.

The object of my invention is effected by combining with a circular saw having rotary motion certain mechanism by which a reciprocating horizontal movement and a reciprocating vertical movement of varying speeds of motion are imparted to the said circular saw.

In describing my invention in detail reference is made to the accompanying sheets of drawings, in which—

Figure 1 represents a side elevation of such portions of the machine illustrated by the before-mentioned specification as are required to explain my invention, which is added thereto. Fig. 2 is a similar elevation on the opposite side of the machine, but with the circular cam for operating the reciprocating table of the aforesaid machine removed for more clearly showing a circular cam mounted free on the same shaft and operated in the manner as hereinafter described. Fig. 3 is a plan of the end of the machine to which my improvement is added. Fig. 4 is a detached detailed end elevation of a swinging frame and connection to the end of circular-saw spindle; and Fig. 5 is a detached detailed plan of a press-plate drawn to an enlarged scale.

In describing my improvements and connecting same to the portions of the machine described in the before-mentioned specification I use the same reference-numerals to the

old parts as in the before-mentioned specification and letters to the new parts.

In carrying out my object I mount a rotating circular saw 73 for cross-cutting the grooved laths on a rising-and-falling bracket 74, made to slide on a bracket 75, secured to one of the side frames of the machine. Above the said bracket is a stationary table 22, provided with a pressure-roller 76 and a flat support A, mounted to levers 77, between which are a bar and a compressed spiral spring 78 for the purpose of keeping the traveling grooved lath in contact with the table 22. The grooved lath on passing under the pressure-roller 76 and flat support A is held close to the fence 23 in the manner as hitherto and by a spring press-plate B, supported by a bracket C, secured on bar 103, the plate B being forced outward by the compressed spiral spring D, applied in the manner shown.

On the horizontal shaft, rotated by spur-wheel 33 in the manner as hitherto, I mount a circular cam-plate E, free to revolve on the said shaft and driven at the requisite speed from the spur-wheel 33 through pinion F, gearing therewith, secured to and supported by a short shaft, to which is also secured another pinion G, the latter gearing with a spur-wheel secured on the boss E' of the circular cam-plate E, so that the latter is rotated at a speed to cause the circular saw 73 to be raised slowly every time the continuously-traveling lath has traveled a predetermined distance.

Engaging with the cam-path groove E² is an antifriction-pulley attached to a lever H, fulcrumed on a pin at H'. The opposite end of the lever is coupled to the rising-and-falling bracket 74 by a link J, so that on the rotation of the cam-plate E the lever H is operated and the bracket 74, carrying the revolving circular saw 73, reciprocated in a vertical direction in accordance with the cam-path groove E², so arranged that the said saw is raised slowly during the cross-cutting of the traveling lath, and when the saw has passed through the lath for the saw 73 to descend rapidly a distance to clear the under side of the traveling lath.

In order to give to the circular saw 73 a compound motion by causing it to reciprocate horizontally, traveling in one direction when

the saw is elevated during the cross-cutting of the lath at the same speed as that at which the lath is traveling, and when lowered for the saw to return quickly toward the bracket 74 into position ready for rising and cross-cutting another length from the continuously-traveling lath. This I accomplish in the following manner: On the opposite side of the cam-plate E is formed another cam-path groove E³, (see Fig. 2,) with which engages an antifriction-pulley mounted on a pin secured to arm K. The pin passing through the said arm is of such length as to extend through the horizontal slot L in bracket L', by which the antifriction-pulley is guided in a horizontal direction and kept within the cam-path groove E³. The arm K is connected to a swinging frame or swinging lever 98, suspended at the top by a pin M, projecting from bracket M', and within the frame of the swinging lever is pivoted a sliding block 101, flanged on each side, so as to slide easily within the said frame. The sliding block is connected with the end of saw-spindle S', so that as the

swinging lever 98 is operated by the cam-path groove E³ a varying lateral reciprocating motion is given to the circular saw 73, the saw traveling in one direction at the same speed as the lath during the cross-cutting, and when the saw is lowered it is returned quickly toward the bracket 74, ready for the operation to be repeated.

What I claim as my invention is—

In a sawing-machine the combination of a cam having grooves E² and E³ with bracket 74, having operating connections with one of said grooves, swinging lever 98, having operating connections to the other groove, sliding block 101, circular-saw spindle S' and circular saw 73, substantially in the manner and for the purpose as hereinbefore set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

EDWIN POLLARD.

Witnesses:

JNO. GILL,

JOSEPH P. KIRBY.