(No Model.)

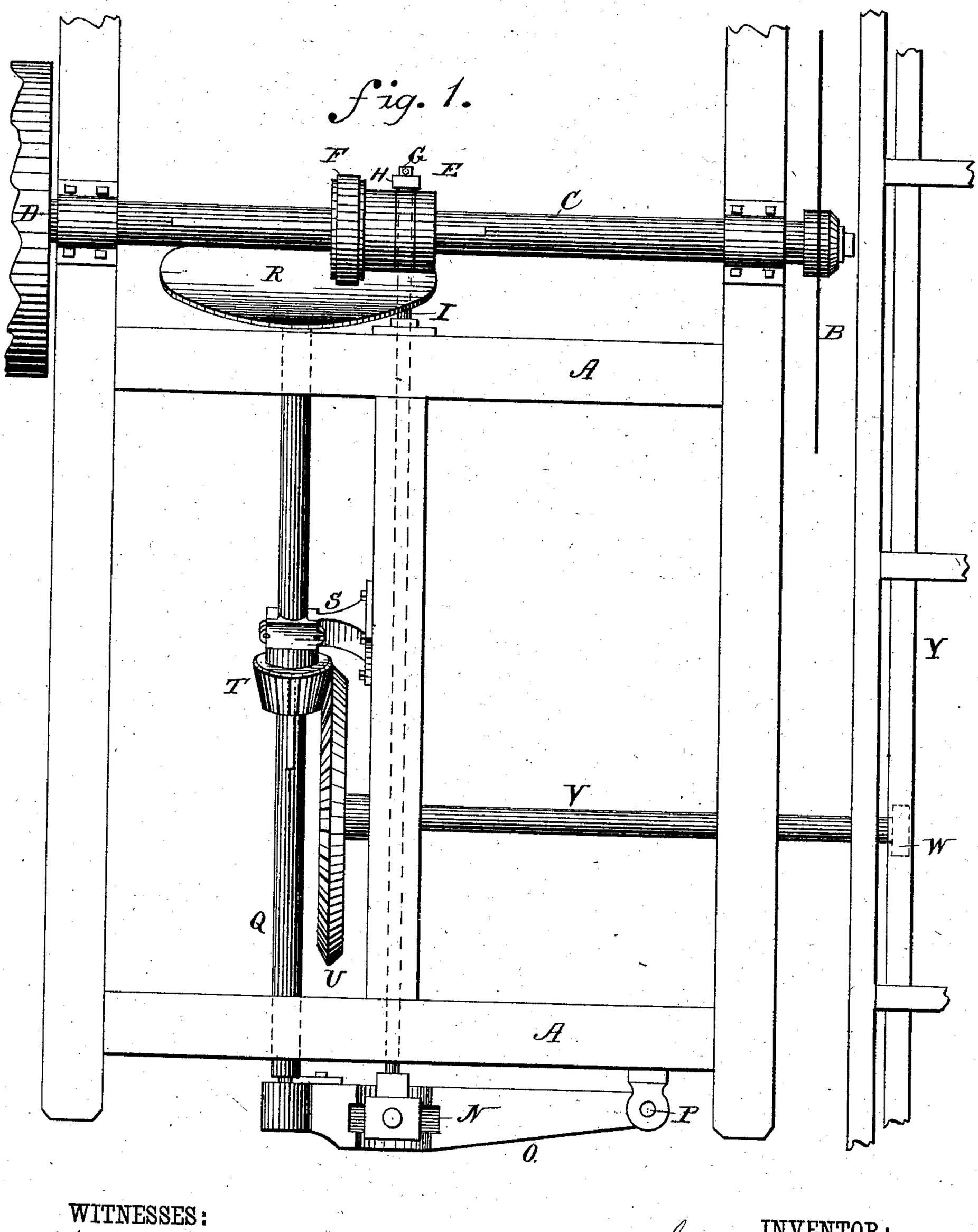
2 Sheets—Sheet 1.

G. F. LIDY.

SAW MILL FEED MECHANISM.

No. 290,078. Patented Dec. 11, 1883.

Fig. 1.



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(No Model.)

2 Sheets—Sheet 2.

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SAW MILL FEED MECHANISM.

No. 290,078. Patented Dec. 11, 1883.

fig. 3.

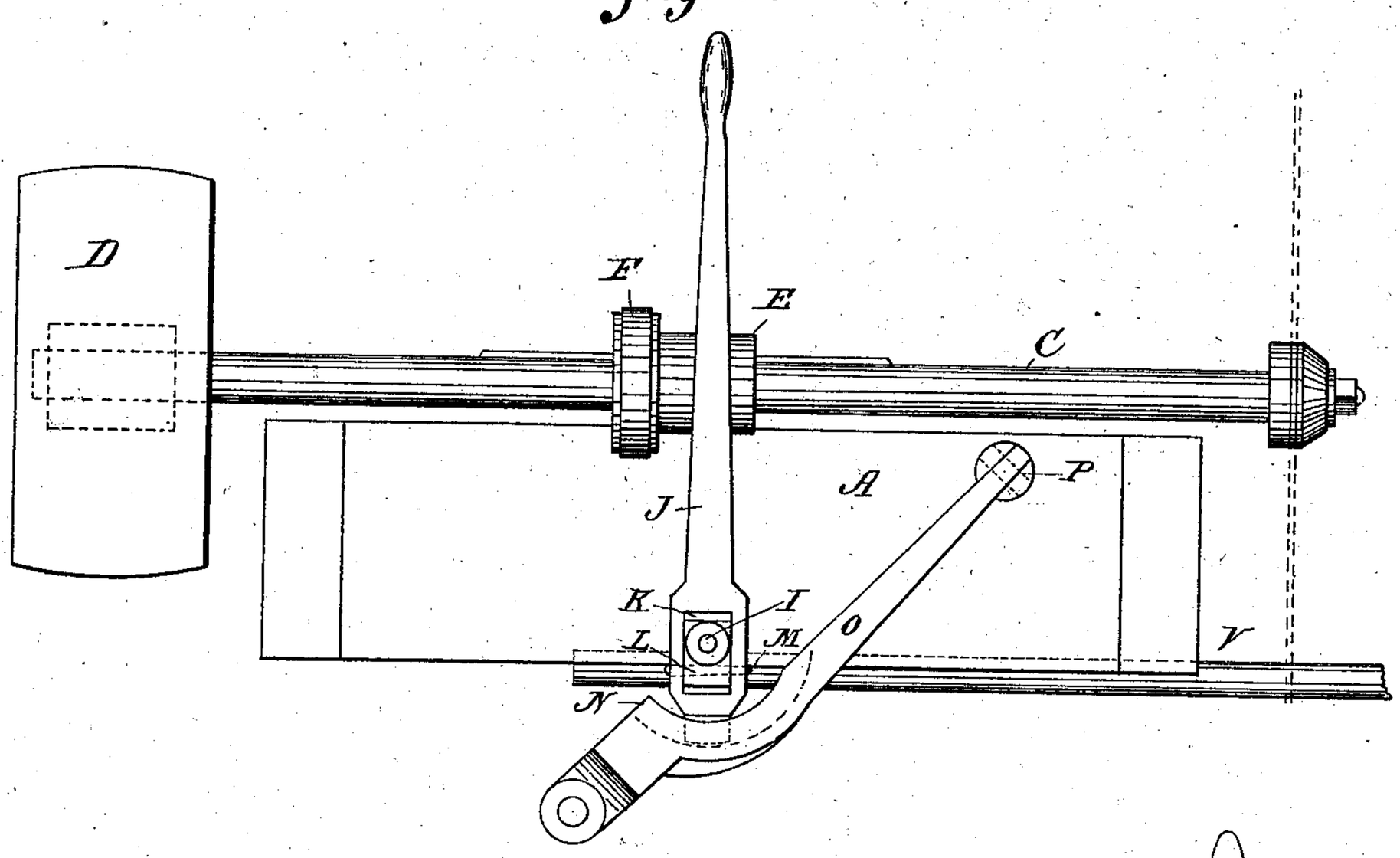
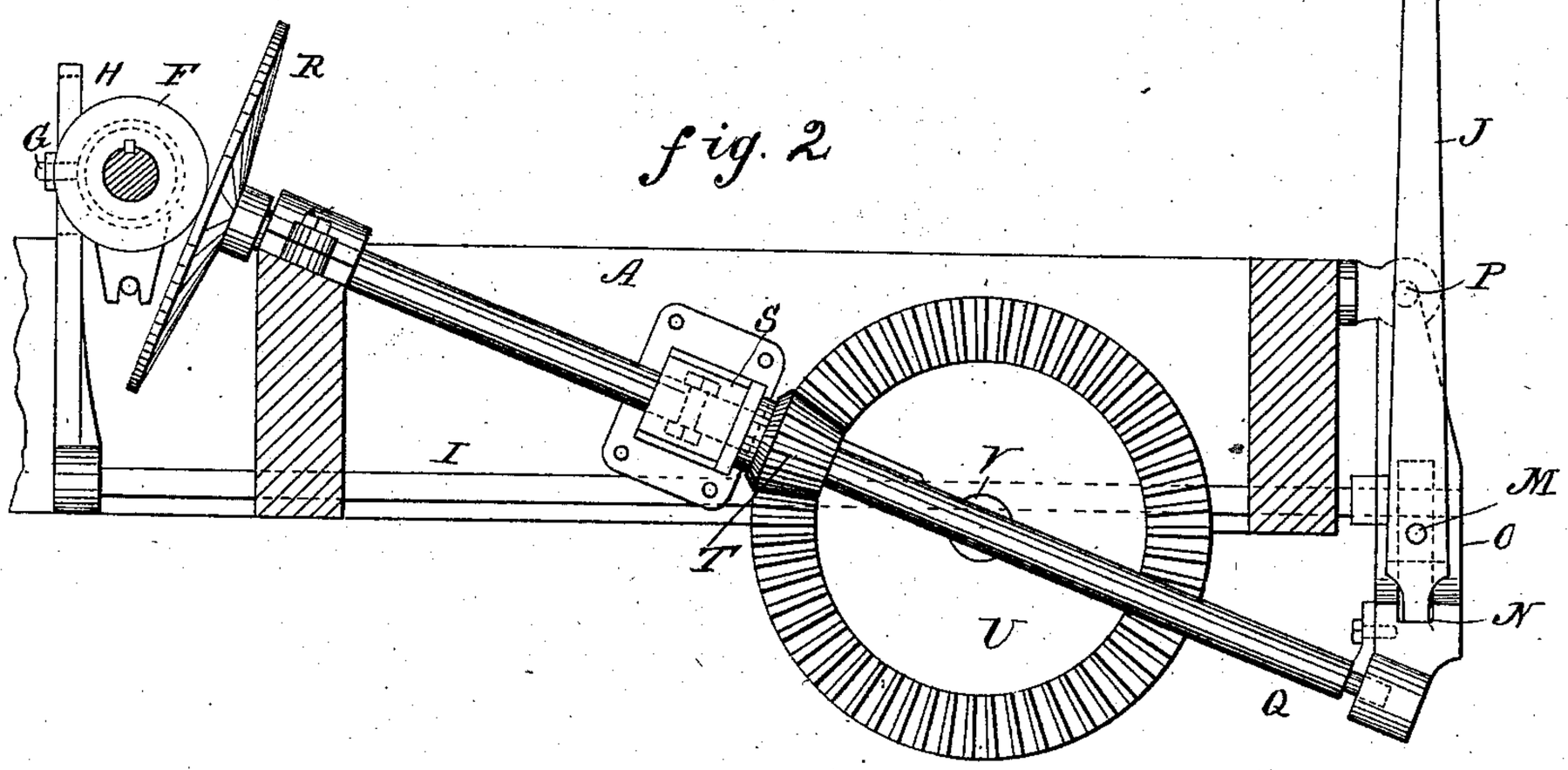


fig. 2



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UNITED STATES PATENT OFFICE.

GEORGE F. LIDY, OF WAYNESBOROUGH, PENNSYLVANIA.

SAW-MILL FEED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 290,078, dated December 11, 1883.

Application filed October 18, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANKLIN LIDY, of Waynesborough, in the county of Franklin and State of Pennsylvania, have invented a new and useful Improvement in Saw-Mill Feeds, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to automatic saw-mill feeds in which a feathered roller is adapted to be adjusted diametrically across the face of a frictional disk for varying the speed and direction of the saw-mill carriage; and the invention consists of the novel construction hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of part of a saw-mill, showing my invention. Fig. 2 is a side elevation of the same, partly in section; and Fig. 3 is an end elevation of the same.

Heretofore it has been common to provide the arbor of a saw-mill saw with a frictional disk, which communicates the motion of the arbor to mechanism for driving the carriage by means of a feathered roller which is adapted to be adjusted diametrically across the face of the disk. Where the frictional disk is mounted on the saw-arbor, however, flat surfaces are apt to be worn on the periphery of the roller whenever the friction between the disk and roller is not suitably gaged to overcome the weight of the carriage. This happens because the weight of the carriage holds the roller stationary, while the frictional contact of the disk grinds the periphery of the roller, causing a flat surface thereon. Such a construction is all the more objectionable, because the roller is ordinarily made of paper or other yielding substance, because of its frictional quality, and the flat surfaces are rapidly formed in such a roller, rendering it irregular and unsteady in its action.

To overcome this objection I locate the paper roller on the saw-arbor, in order that its continuous rotation with the arbor shall cause its periphery to be worn uniformly when the friction is not great enough to drive the disk; and thus prevent any part of the periphery from being flattened.

Referring to the drawings, A indicates the frame-work, B the saw, C the arbor carrying the saw, and D the pulley for driving the arbor.

On the arbor is feathered the sleeve E, carrying the paper roller F, and this sleeve is connected by a finger, G, with a slotted arm, H, which is rigidly attached to a shaft, I, having a lever, J, for rocking the shaft and arm, to cause the sleeve to slide on the arbor. The lever J is connected to the shaft I by means of a squared opening, K, in its lower end, which is fitted over a squared block, L, on the end of the shaft, and a transverse bolt, M, passing through the lever and said block. With this construction the lever may be oscillated in two directions at right angles to each other. The lower end of the lever is fitted in a concentric groove, N, in a swinging bearing, O, pivoted at P to the frame A. This bearing carries one end of a shaft, Q, on the other end of which is rigidly secured the frictional disk R. This shaft Q is also provided with a bearing, S, to which is feathered a bevel-pinion, T, which is also feathered on the shaft Q, and geared with a large bevel-gear, U, mounted on the shaft V. The shaft V is provided with a pinion, W, for driving the carriage Y. With this construction the shaft Q is adapted to receive a slight longitudinal movement by oscillating lever J on pivot M, for throwing the disk into and out of contact with roller F.

As already implied, by rocking the shaft I with lever J, the roller F may be adjusted nearer to or farther from the center of disk R, to vary the speed of the carriage Y, and if shifted from one side of the center of the disk to the other side the direction of the motion of the carriage will be reversed.

What I claim is—.

1. The combination, with a saw-arbor and a shaft for driving a saw-carriage, of a frictional disk, R, secured to one end of the said shaft, the roller F, feathered on the saw-arbor, and means for adjusting it across the face of said disk, substantially as described, and for the purpose specified.

2. The combination of the saw-arbor, the roller feathered thereon, the rock-shaft for shifting the roller on the arbor, the swinging bearing, the lever connected to the rock-shaft and said swinging bearing, the shaft supported

in the swinging bearing and carrying the frictional disk, the pinion feathered on said shaft, and the carriage-driving shaft and the gear mounted thereon, substantially as shown and described.

3. The combination of the rock-shaft having a squared end or block, L, the lever having a squared opening and pivoted by a transverse bolt on said end or block, the swinging arm or bearing O, having a concentric groove, N, in which one end of said lever is loosely fitted, and the shaft Q, supported in said bearing, substantially as shown and described, whereby one shaft may be rocked and the other moved longitudinally by independent movements of the same lever, as specified.

GEO. F. LIDY.

Witnesses:
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