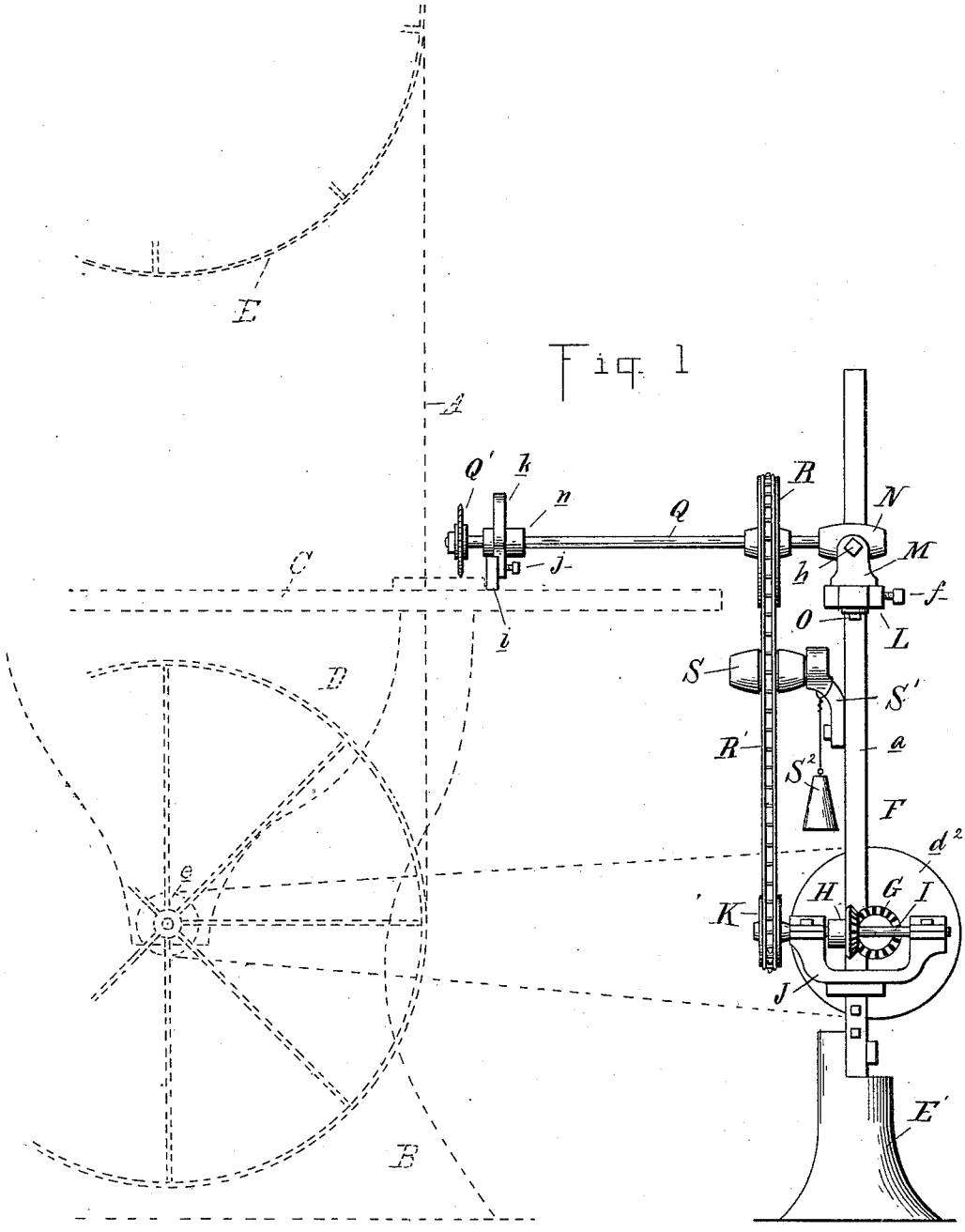
(No Model.) 3 Sheets—Sheet 1.

J. HARLEY.

FEED DEVICE FOR SAWS.

No. 425,223. Patented Apr. 8, 1890.

Fig. 1



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C. C. Altow.

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(No Model.) 3 Sheets—Sheet 2.

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FEED DEVICE FOR SAWS.

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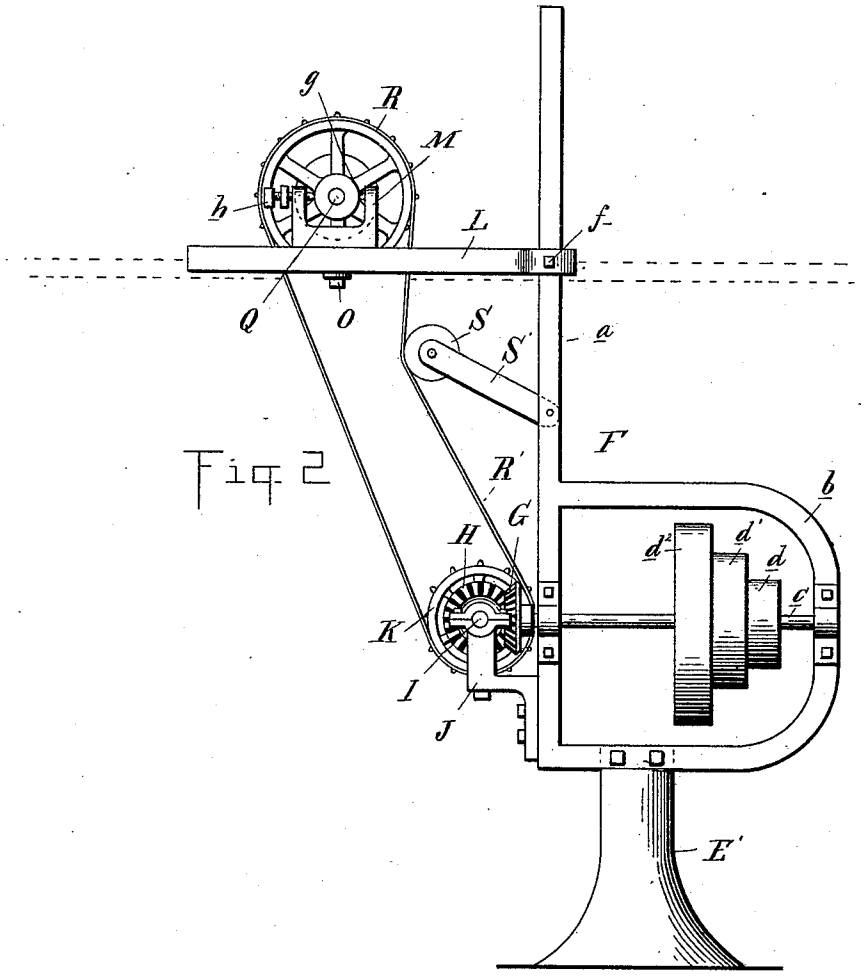


Fig 2

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(No Model.) 3 Sheets—Sheet 3.

J. HARLEY.

FEED DEVICE FOR SAWS.

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Fig. 3

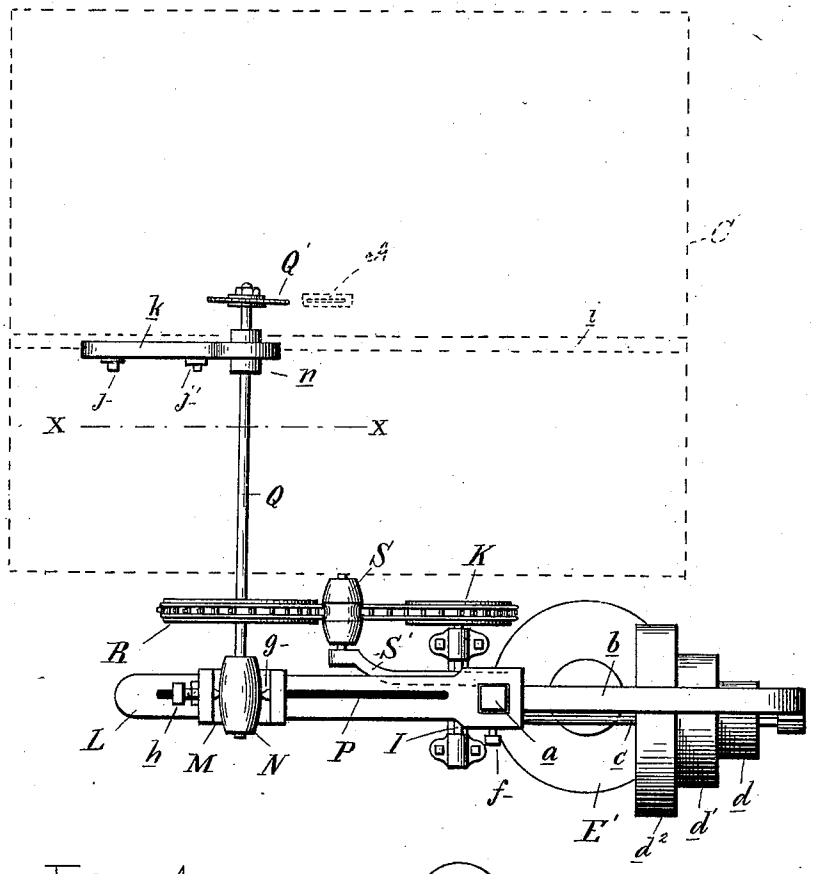
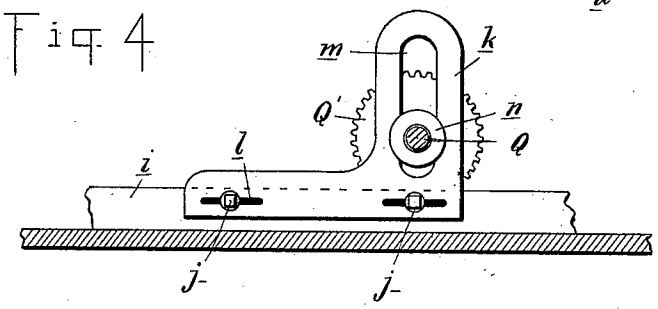


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN HARLEY, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO M. J. MURPHY, OF SAME PLACE.

FEED DEVICE FOR SAWS.

SPECIFICATION forming part of Letters Patent No. 425,223, dated April 8, 1890.

Application filed December 14, 1889. Serial No. 333,813. (No model.)

To all whom it may concern:

Be it known that I, JOHN HARLEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Feed Devices for Saws, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in feed mechanisms for sawmills; and the invention consists in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings which accompany this specification, Figure 1 is a side elevation of a band-saw machine and my improved feed device applied thereto, with the band-saw shown in dotted lines and my device shown in full lines. Fig. 2 is an elevation at right angles to Fig. 1. Fig. 3 is a plan view. Fig. 4 is a vertical section on line *x x* in Fig. 3.

A is a band-saw of any known and usual construction and supported in any desired frame—such as B—having a suitable saw-table—such as C—upon which the work is fed.

D is the lower band-wheel, and E is the upper band-wheel journaled upon suitable shafts in the frame B.

E′ is the standard or base to which my improved feed device is secured.

F is the frame, which consists of a vertical standard *a* and a yoke-shaped frame *b*. In the latter is journaled the shaft *c*, having the drive-pulleys *d d′ d²* secured thereon, to which power is transmitted from any suitable source, preferably from the pulley *e* upon the shaft of the lower band-wheel D. The shaft *c* extends through the standard *a* and is provided at its end with the bevel-pinion G, which meshes with the bevel gear-wheel H upon the shaft I in the bracket J of the frame. Upon the inner end of the shaft I is secured the sprocket-wheel K.

L is a laterally-projecting arm adjustably secured upon the standard *a* by means of the set-screw *f*. This arm carries the yoke-shaped bearing M, in which is pivotally secured the journal N by means of the pins *g* upon one side of the bearing and the set-screw *h* upon the other side thereof. This bearing is adjustably secured in the arm L by means of the bolt O engaging into a slot P in the arm L.

Q is a shaft secured in the journal N at one end and extending across the table C in proximity to the saw, and provided at its free end with the feed-wheel Q′.

R is a sprocket-wheel secured upon the shaft Q in line with the sprocket-wheel K on the shaft I, these sprocket-wheels being connected by means of a suitable sprocket-chain R′, which is tightened by means of the idler S, secured on the arm S′, which is pivotally secured to a standard *a* and provided with a suitable weight S².

i is the saw-guide, of usual construction, secured upon the table C. To this guide is adjustably secured by means of the bolts *j j′* the vertical guide *k*, which is provided with suitable slots *l* to allow of its lateral adjustment, and with the vertical guide-slot *m*, through which the shaft Q passes to allow of its being loosely held therein by means of the sliding bearing *n*.

The feed-wheel Q′ is preferably set at a slight angle to the saw-guide, so that the board is fed tightly up against it, as is usual in such construction.

The parts being thus constructed, their operation is as follows: Power being applied to any one of the cone-pulleys *d d′ d²*, according to the speed desired, it is transmitted, through the shaft *c*, pinion G, gear H, secured upon the shaft I, and the sprocket-wheel K, sprocket-chain R′, and sprocket-wheel R, to the feed-shaft Q and the feed-wheel Q′, which rests upon the top of the board or plank designed to be fed to the saw, and in its rotation will rapidly feed the board to the saw. The feed-wheel is held in contact with the board by its own weight, the weight of the shaft Q and the sprocket-wheel R, and of the idler S and weight S². It is evident that the feed-wheel may be raised or lowered in the vertical guide-slot *m* of the guide *k*, and is free to raise and lower without friction, as it is pivotally secured in the journal N by the means previously described. The shaft Q is vertically adjustable by adjusting the arm L upon the standard *a* by means of the set-screw, the slack in the sprocket-chain being taken up more or less by means of the idler S. This

shaft is also adjustable to or from the saw by means of the adjusting-slot P in the arm L and the bolt O engaging therein, which enables one end of the shaft to be adjusted, and by means of the adjusting-slot and bolt *k*, before described, for adjusting the other end.

In feeding the board to the feed-wheel, as soon as it strikes the under side of the wheel, the latter will lift sufficiently in its revolution to allow the board to come underneath the wheel and feed it, as above described, to the saw.

What I claim as my invention is—

1. In a feed mechanism for saw-mills, the combination of the feed-wheel secured on a shaft, a pivoted horizontally and vertically adjustable bearing for said shaft, and a guide for the free end of the shaft, substantially as described.

2. In a feed mechanism for saw-mills, the combination of a feed-wheel secured upon a shaft journaled in a horizontally and vertically adjustable pivotal bearing at one end and free to move vertically at the other end, and of drive mechanism supported upon the shaft between the feed-wheel and journal, substantially as described.

3. In a feed mechanism for saw-mills, the combination of a feed-wheel secured upon a shaft journaled at one end in a pivotal bearing, having horizontal and vertical adjustments, a vertical guide for the free end of the shaft, and means for horizontally adjusting said guide, substantially as described.

4. In a feed mechanism for saw-mills, the combination of the standard, a lateral arm adjustably secured to said standard, a horizontally-adjustable bearing on said arm, a journal pivotally supported in said bearing, a shaft in said journal, a feed-wheel on said shaft, and intermediate drive mechanism, substantially as described.

5. In a feed mechanism for saw-mills, the combination, with the standards, a lateral arm adjustably secured to said standard, an adjustable bearing on said arm, a journal on said bearing, a shaft in said journal, a feed-wheel on the shaft, and means for driving the shaft, substantially as described.

6. In a feed mechanism for saw-mills, the combination of the following elements: a base, the standard *a*, frame *b* on the standard, shaft *c*, journaled in the frame, having drive-pulleys thereon, shaft I, connecting gears on said shaft, sprocket-wheels K and R, sprocket-chain R′, idler S, shaft Q, and feed-wheel Q′, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 2d day of November, 1889.

JOHN HARLEY.

Witnesses:
M. B. O'DOGHERTY,
P. M. HULBERT.