P. PRYIBIL.

FEED MOTION FOR SAW-MILLS.

No. 180,636. Patented Aug. 1, 1876.

Fig. 1.

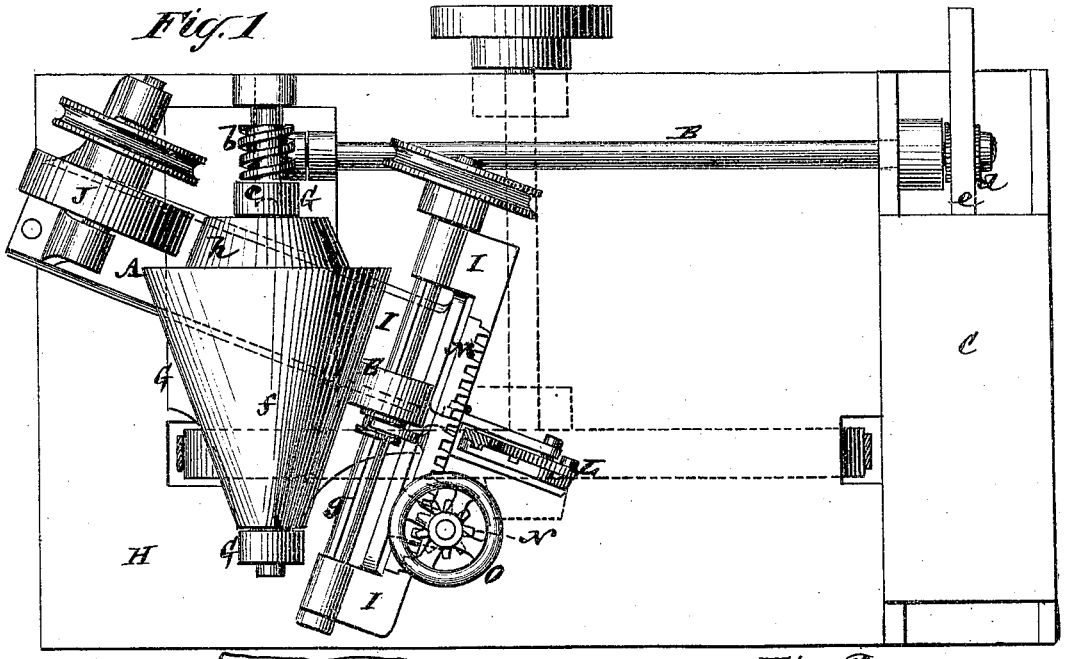


Fig. 2.

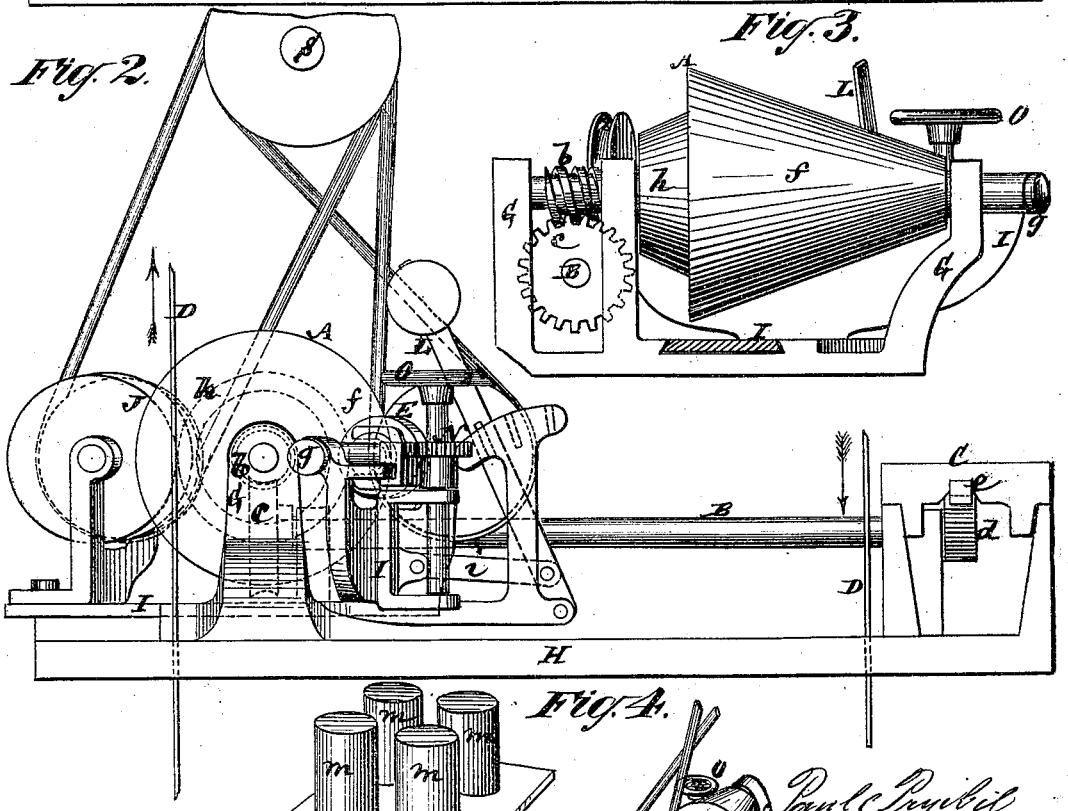
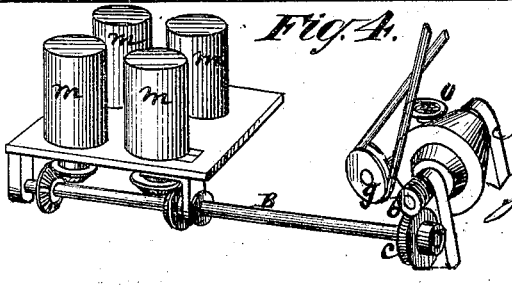


Fig. 3.

Fig. 4.



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PAUL PRYIBIL, OF NEW YORK, N. Y.

IMPROVEMENT IN FEED-MOTIONS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **180,636**, dated August 1, 1876; application filed June 23, 1876.

To all whom it may concern:

Be it known that I, PAUL PRYIBIL, of the city, county, and State of New York, have invented certain new and useful Improvements in Feed-Motions for Saw-Mills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention consists in a combination of a conical friction feeding-drum and a friction-wheel with a main or counter driving-shaft and a feed-shaft, deriving its motion from the friction feeding-drum; also, in a combination of a conical friction feeding-drum, and a friction-wheel operating the latter, with means for adjusting said wheel over or along the drum, and a main or counter driving-shaft and feed-shaft; likewise, in a combination, with a reversely-conical friction feeding-drum, of reverse friction-wheels for operating the feed-drum in opposite directions, as required, and a sliding carriage for throwing either of said wheels into driving contact with the drum. A feed-motion thus constructed, or having these several combinations incorporated with it, provides in a very simple and effective manner, and without employing a complicated system of gearing, for giving a wide range of variable speed to the feed, and for giving, when required, a back run or motion to the stuff under operation.

Figure 1 represents a plan, in part, of my improved feed-motion applied to a log-sawing machine employing a band-saw, or it may be any other kind of a saw, said feed motion or mechanism being constructed so that it is equally applicable to a reslitting sawing-machine. Fig. 2 is an end elevation of the same, and Fig. 3 is a side view of the conical friction feeding-drum with pertaining devices. Fig. 4 is a view, in perspective, of the improved feed-motion as applied to a roller-feed, used in place of a sliding log-carriage, and designed to be employed for reslitting purposes.

Referring, in the first instance, to Figs. 1, 2, and 3 of the drawing, A is the conical friction feeding-drum, which serves to give motion to a feed-shaft, B, by a screw, *b*, on the drum-shaft working into a worm-wheel, *c*, on the feed-shaft. C is the sliding log-carriage, which is reciprocated forward and backward in suitable relation with a band-saw, D, by which the log, as it is moved forward by the carriage C, is cut, said carriage being moved back prior to each fresh cut of the log. The conical friction feeding-drum A serves to give both these motions by or through a pinion, *d*, on the feed-shaft B, and a rack, *e*, on the under side of the carriage. E is a friction-wheel arranged to bear against the main conical body *f* of the drum A, on that side of the axis of the latter which will cause said drum, when driven by the wheel E, to give forward feed to the log-carriage C. The conical friction feeding-drum A has its shaft supported in bearings on a fixed frame, G, bolted to the main base or floor H, and the friction-wheel E has its shaft *g*, which is arranged parallel with the body *f* of the drum, supported in a carriage, I, fitted to slide obliquely across and within the frame G, whereby the wheel E may be thrown into or out of frictional contact with the body *f* of the drum, also whereby a reversing friction-wheel, J, also carried by the carriage I on the opposite side of the axis of the drum A, may be put into driving contact with a reversed conical portion, *h*, of said drum, for the purpose of reversing the feed to run the carriage C back.

When the friction-wheel E is put into driving contact with the drum A, to give forward feed to the carriage C, then the wheel J is thrown out of contact with said drum, and vice versa, as regards the two friction-wheels; or both wheels E and J may be put out of contact with the drum A when it is required to stop the feed in both directions. These several adjustments of the wheels E J relatively to the drum A may be effected by a lever, L, united with the carriage I by a rod, *i*. The throwing of this lever over to the one side puts the wheel E in contact with the drum A; the throwing of it over to the other side releases the wheel E, and puts the wheel J into contact with said drum, and an intermediate adjustment of the lever puts both wheels E and J out of contact with the drum.

The reversing friction-wheel J should be so proportioned in relation with the drum A as to give a quicker motion to the latter than is attainable by the friction-wheel E, in order

that the log-carriage C may be run back quickly.

The friction-wheel E has its shaft *g* grooved or feathered, in order that said wheel may be adjusted along said shaft, to put it in contact with different diametrical portions of the conical body *f* of the drum, for the purpose of varying the speed of the feed as required. This adjustment of the wheel E may be effected by a slide-bar or rack, M, operated by a pinion, N, through a band-wheel, O, on the shaft of the latter. The same result to a certain extent may be attained by dispensing with the sliding of the wheel E on its shaft, and employing a number of friction-wheels, arranged so that either one of them may be put into contact, at pleasure, with different diametrical portions of the drum A.

Both the wheels E and J are driven by pulleys on their shafts, and belts or bands connecting them with pulleys on a main or counter driving-shaft, S, which may be arranged at any suitable distance overhead or elsewhere, and which also serves to drive the band-saw D or other cutter.

When the invention is applied to a reslitting-saw, then the reversing friction-wheel J may be dispensed with, as also the carriage I, for putting the friction-wheel E out of contact with the drum A. Fig. 4 shows such an application of the invention, and in which the feed-shaft B is made to drive, by means of bevel-gears, one or more pairs of feed and pressure rollers, *m m*, through, between, and by which the board or plank to be reslit is fed and guided to the saw.

The invention is accordingly applicable to log-saws, in which a backward and forward motion of the feed is required, or to reslitting-saws, in which no back motion is necessary, or to a Daniels or other planer.

If found desirable, in practice, the friction-wheel F may be made of conical form, corresponding with that of the body *f* of the drum A.

I claim—

1. The combination of the conical friction feeding-drum A and friction-wheel E with the main or counter driving-shaft S and the feed-shaft B, substantially as specified.

2. The combination of the conical friction feeding-drum A and friction-wheel E with the slotted or feathered shaft *g*, the sliding bar or rack M, or its equivalent, the main or counter driving-shaft S, and the feed-shaft B, essentially as described.

3. The combination of a reversely-conical friction feeding-drum, A, the reverse friction-wheels E J, and the sliding carriage I, substantially as specified.

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Witnesses:

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