

C. N. FISHER.
 Feed-Mechanism for Running Saw-Mills.
 No. 218,007. Patented July 29, 1879.

Fig. 1.

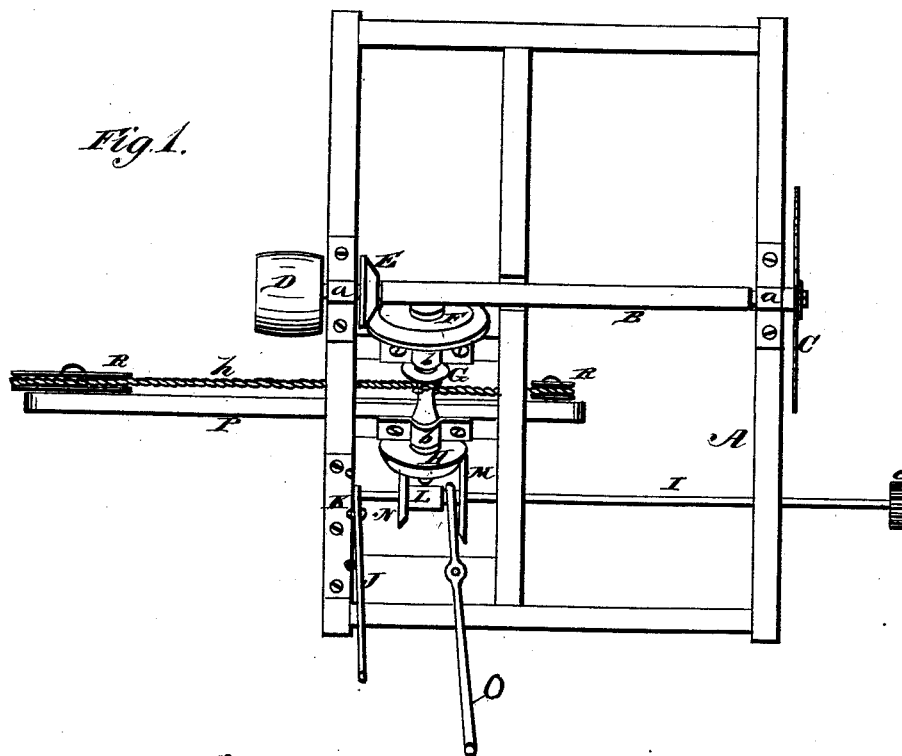


Fig. 2.

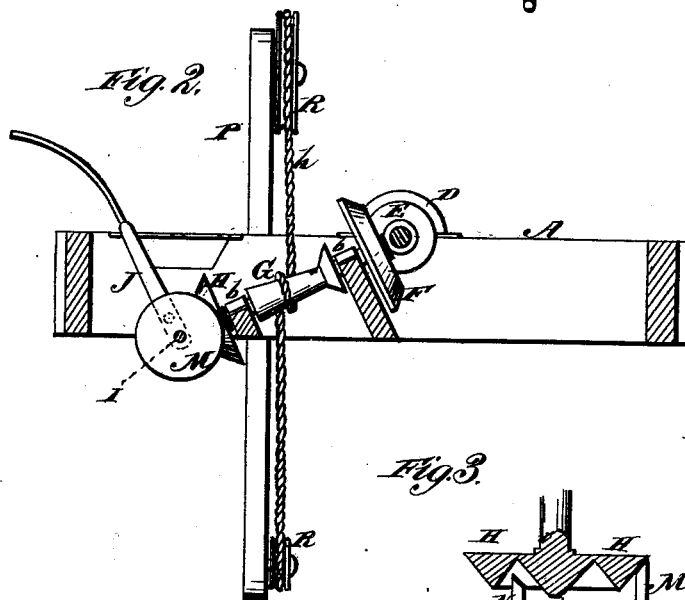
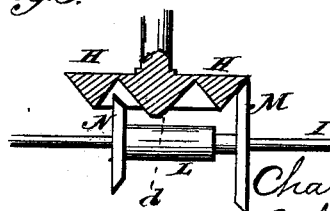


Fig. 3.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE

CHARLES N. FISHER, OF WILLIS, TEXAS, ASSIGNOR OF ONE-HALF HIS
RIGHT TO JOSEPH FRAMPTON, OF SAME PLACE.

IMPROVEMENT IN FEED MECHANISMS FOR RUNNING SAW-MILLS.

Specification forming part of Letters Patent No. **218,007**, dated July 29, 1879; application filed
June 30, 1879.

To all whom it may concern:

Be it known that I, CHARLES N. FISHER, of Willis, in the county of Montgomery and State of Texas, have invented certain new and useful Improvements in Feed Mechanisms for Running Saw-Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan of my feed mechanism for running saw-mills. Fig. 2 is a longitudinal sectional view of the same, and Fig. 3 is a detail sectional view.

My invention relates to saw-mills; and it consists in the construction and arrangement of the mechanism for running the log-carriage, and for regulating the speed thereof, as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents part of the frame or frame-work of the saw-mill, with the saw-mandrel B placed in bearings *a a* thereon. To one end of the mandrel B the saw C is secured in any of the known and usual ways, while to the other end of said mandrel the pulley D is attached, for receiving the belt that communicates motion to the mandrel.

Ordinarily in saw-mills the saw-mandrel is provided with conical and other pulleys, from which, by means of one or more belts, the necessary motion is transmitted to the log-carriage. This arrangement gives more or less vibration to the saw-mandrel, which causes the saw to wobble and not run true, and hence produce more or less unevenness in the lumber.

One object of my invention is to overcome this difficulty.

The pulley D is secured to the end of the mandrel close to the outside of one of the bearings *a*. Close to the inside of this bearing is a small beveled friction-wheel, E, secured on the mandrel B, from which, by intermediate mechanism hereinafter described, the motion is communicated to the log-carriage. The

strain on the saw-mandrel is thus close to and on opposite sides of the bearing, which prevents any vibration of the mandrel. There is no changing or moving of belts, as is usually the case, and which causes the vibration of the mandrel.

The bevel-wheel E is in contact with a large bevel friction-wheel, F, secured on one journal of a drum, G, which has its bearings at *b b*. Upon the other journal of this drum is secured another bevel friction-wheel, H, which is provided with a projecting conical hub, *d*, as shown.

I represents the shaft, from which the log-carriage receives its motion direct by means of a pinion, *e*, secured on said shaft and taking into a rack-bar on the carriage. One end of the shaft I has its bearing in the lower end of a pivoted lever, J, which may be set in different positions and held in a rack, K. On this end of the shaft I is placed a loose sleeve, L, which may be feathered on the shaft; or the shaft may be made square at this point, and the hole through the sleeve made square, so that the sleeve can be moved lengthwise on the shaft, but cannot rotate without it. This sleeve L is, at opposite ends, provided with a large bevel friction-wheel, M, and a smaller similar wheel, N, the former being arranged to be thrown in contact with the friction-wheel H, and the latter with the hub *d*.

O is a lever pivoted to the frame A and connected to the sleeve L, so as to move the same for the purpose of throwing either wheel M or N in gear.

The saw-mandrel B, of course, rotates always in the same direction, and by means of the friction-wheels imparts the necessary motion to the log-carriage, as follows: When the wheel M is thrown in contact with the wheel H the carriage will be moved forward, and when the wheel N is thrown in contact with the cone *d* the carriage will be moved very rapidly backward. By adjusting the lever J in different positions in the rack K the speed of the carriage is regulated, as thereby the wheel M is made to come more or less upon the bevel of the wheel H, or, in other words, changing the distance of the point of contact from the center.

To the side of the frame A is attached an in-

clined beam, P, carrying a pulley, R, at each end, said pulleys being of any desired dimensions; but preferably the upper one is larger than the one at the bottom. Around these pulleys is passed an endless cord or belt, *h*, which is also passed once around the drum G. This endless cord or belt *h* is preferably made of twisted rawhide, but may be made of any suitable material, only so as to have a rough surface, and it forms an elevator to carry off the sawdust. It receives its motion from the drum G.

I claim—

1. In a friction mechanism for transmitting motion from the saw-mandrel B to the shaft I, the friction-wheel H, provided with the cone *d*, in combination with the sleeve L, having the friction-wheels M N, of unequal size, substantially as and for the purposes herein set forth.

2. The combination of the shaft I, lever J, rack K, sleeve L, with friction-wheels M N and lever O, and the friction-wheel H, with cone *d*, substantially as and for the purposes herein set forth.

3. The combination of the endless cord or belt *h* with the pulleys R and drum G, the latter connecting the friction-gear of the saw-shaft with that of the feed-shaft for operating the sawdust-carrier, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES NICHOLAS FISHER.

Witnesses:

JAMES J. SHEEHY,
ROBERT EVERETT.