(No Model.)

T. J. REAMY.

SAW MILL FEED MECHANISM.

No. 294,272. Patented Feb. 26, 1884.

Fig. 1.

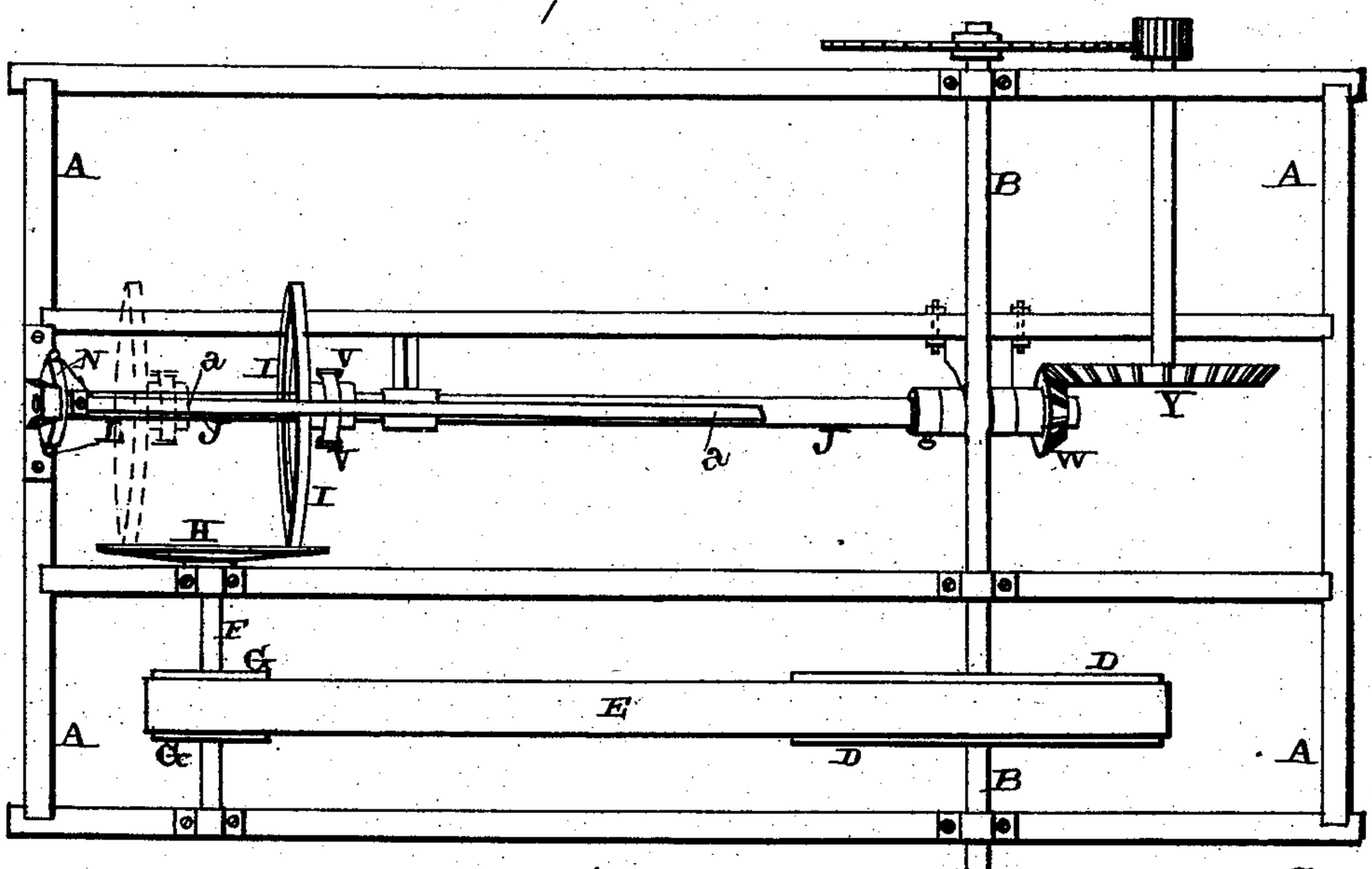


Fig. 2.

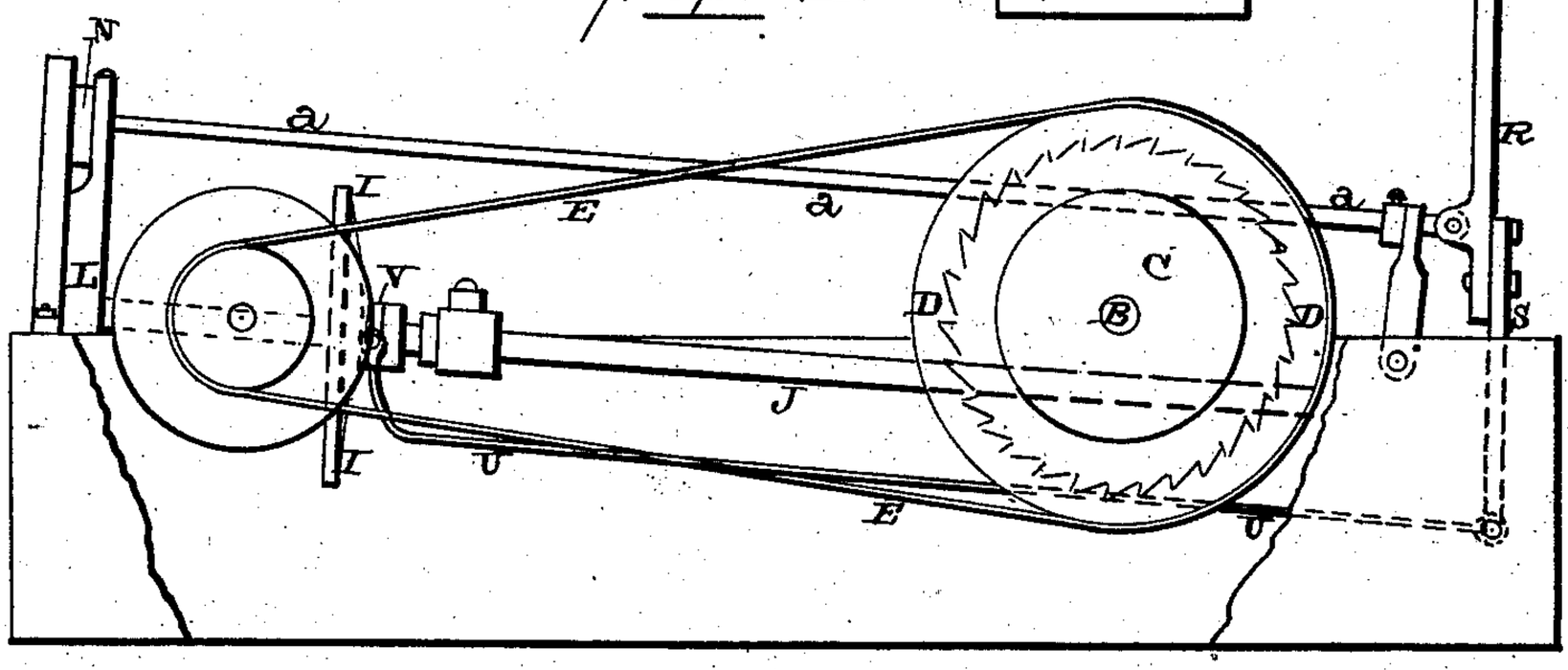
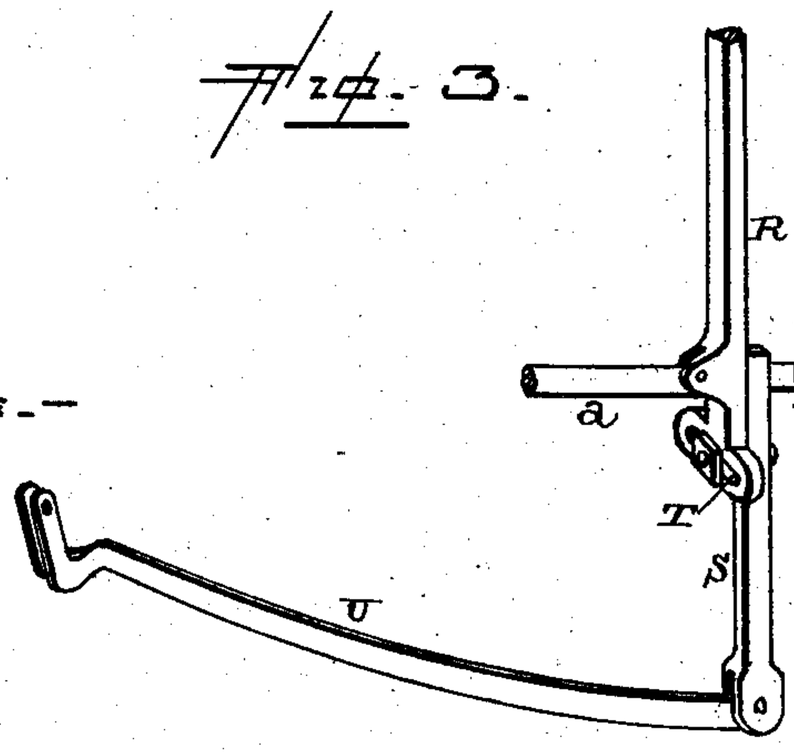


Fig. 3.



Witnesses.
Louis F. Gardner
E. M. York.

Inventor.
Thos. J. Reamy
per
F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

THOMAS J. REAMY, OF RICHMOND, VIRGINIA.

SAW-MILL-FEED MECHANISM.

SPECIFICATION forming part of Letters Patent No. 294,272, dated February 26, 1884.

Application filed September 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. REAMY, of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Saw-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in saw-mills; and it consists, first, in a saw-mill, the combination of the saw-shaft, a short driving-shaft, and a belt for driving both shafts, with the friction-disk placed on the short shaft, the friction-wheel adapted to be moved back and forth past the center of the disk, the shaft having the friction-wheel applied to one end, and a pinion for driving the carriage upon the other, and a rod for moving the friction-wheel in and out of gear with the disk; second, in the combination of the operating-rod by means of which the friction disk and flange are thrown in and out of contact, with an operating-lever made in two parts, and attached to the operating-rod, the yoke connected to the friction-disk, and the rod which connects the lever and yoke, as will be more fully described hereinafter.

The object of my invention is to reverse the movement of the carriage by a single flange or wheel and a friction-disk which can be moved back and forth past the center of the flange, and thus made to move the carriage in one direction upon one side and in the opposite direction upon the other side of the center.

Figure 1 is a plan view of a mill embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a detail view of the levers for moving the disk.

A represents a suitable frame-work, which will preferably be made of the form here shown, and which can be constructed in any way that may be preferred. Journaled upon the top of this frame at any suitable point is the saw shaft or mandrel B, which is provided with the driving-pulley C upon its outer end, and a pulley, D, at any suitable point, either inside or outside of the frame. The belt E is passed over the pulley D, and is made to revolve the short shaft F, provided with a pulley, G, in the same direction as the saw-shaft, but at a much higher rate of speed. Upon the inner end of this short shaft is secured the flange or wheel H, against the outer surface of which the friction-disk I is made to bear, for the purpose of feeding the carriage in either direction that is desired. This friction-disk I is feathered upon the shaft J, which extends along inside of the frame, under or over the top of the mandrel, and which shaft has its outer end journaled in the lower end of a rocking lever, L. The box in the lower end of this lever L forms a rocker, so as to allow the shaft to turn freely. Connected with the upper pronged end of this rocking lever L are the cam N and the operating-rod *a*, as shown in the patent granted to me May 2, 1882. The operation of the rocking lever, the operating-rod, and the shaft J are exactly the same as described in that patent, and need not be more fully described here for that reason. The operating-rod causes the rocking lever L to move the shaft J toward or from the flange H, so as to bring the disk I in or throw it out of contact therewith, at the will of the operator.

Instead of having two friction wheels or flanges, as described in patent above referred to, only a single flange, H, is here used. The friction-disk I will have a greater movement upon its shaft J, so as to bear against the flange H upon either side of its center. When this disk I is in contact with the flange H upon one side of its center, the carriage will be moved in one direction, and when the disk I is moved upon its shaft J so as to come in contact with the opposite side of the flange, the carriage will be moved in the opposite direction. The opposite end of the shaft J from the rocking lever L is journaled in a suitable box or bearing, which is secured to the frame-work A.

In order to move the friction-disk I back and forth upon the shaft there is pivoted upon the end of the operating-rod *a* the lever R S, which is made in two parts, as shown. The upper part, R, which is pivoted directly to the operating-rod, serves simply to turn the rod

itself, for the purpose of shifting the shaft J back and forth in relation to the flange H, and in order to prevent it from communicating this rocking motion to the lower part, S, of the lever it is provided with a slot, T, as shown. The lower portion of the lever S is pivoted to the upper part, R, on a line with the operating-rod *a*, and is again connected to the lower end of the lever R, through the slot T, by means of a suitable clamping-bolt. The lower portion, S, of the lever extends down a suitable distance, and has connected to its lower end the connecting-rod U, which is fastened at its other end to the yoke V upon the friction-disk I. When the lever R S is moved back and forth in a line with the operating-rod, for the purpose of shifting the friction-disk I back and forth upon the shaft J, the two parts R S of the lever form, as it were, one solid part, both of which unite in forcing the disk I back and forth in front of the flange H. When, however, it is desired to turn the operating-rod so as to move the shaft J laterally, for the purpose of throwing the disk I either in or out of contact with the flange H, the lever S is not affected by this movement, because the clamping-bolt, which would cause any movement in this lower part, S, passes through the slot, as shown. The two parts R S being pivoted together in a line with the operating-rod, no movement is imparted to the lower part, S, of the lever, and the upper part, R, is locked laterally. In order to prevent any binding of the connecting-rod U, there is secured upon the hub of the friction-disk I a loose yoke, V, which can turn freely upon the hub, and which will allow the friction-disk to revolve freely without in any manner affecting the yoke. Should the connecting-rod U at any time be moved out of line with the shaft J and the lever R S then moved, the yoke turns sufficiently to prevent any binding in any manner.

To the inner end of the shaft J is secured a pinion, W, which meshes with the gear Y upon the feed-shaft for the carriage. As the shaft J receives all of its motion in either direction from the friction-disk I, and is made to revolve first in one direction and then in the other, according as to whether the friction-disk I is upon one side or the other of the center of the flange H, it will readily be seen that by shifting the friction-disk I back and forth the carriage can be moved in either direction.

By means of the construction above described the carriage can be fed at a variable rate of speed, according to the amount of lumber that is being sawed. If the log which is being sawed is thick at one end and thin at the other, a much slower feed is required at the thick end than at the thin one, and by the construction and arrangement of parts above described this variable feed can be controlled with utmost precision by the sawyer, and the consequence is that a much larger amount of lumber can be sawed than where there is but a single feed.

Having thus described my invention, I claim—

1. The combination, in a saw-mill, of the operating-rod by means of which the friction disk and flange are thrown in and out of contact with the lever R S, which is loosely attached to one end of the operating-rod, the rod U, which is loosely connected to the lower end of the lever, the yoke V, which is connected to the friction-disk, and the shaft J, upon which the friction-disk is placed, substantially as set forth.

2. The combination of the operating-rod A, for moving the friction-disk in and out of contact with the flange, and the operating-lever R S, loosely connected to one end of the rod A, the lower end of the part R being slotted, and the part S being connected to the part R through the slot, with the connecting-rod U, yoke V, the friction-disk, and the shaft J, substantially as specified.

3. In a saw-mill, the combination of the saw-shaft, a short driving-shaft located to one side thereof, and a driving-belt for both shafts, with the friction-disk secured to one end of the short shaft, the friction-wheel adapted to be moved back and forth past the center of the disk, the shaft J, having the friction-wheel applied to one end and a pinion for driving the carriage upon the other, and a rod for moving the friction-wheel in and out of gear with the disk, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

T. J. REAMY.

Witnesses:
F. A. LEHMANN,
E. D. YORK.