(No Model.) 2 Sheets—Sheet 1.

T. J. REAMY.

FEED MECHANISM FOR SAWMILLS.

No. 491,856. Patented Feb. 14, 1893.

Fig. 1.

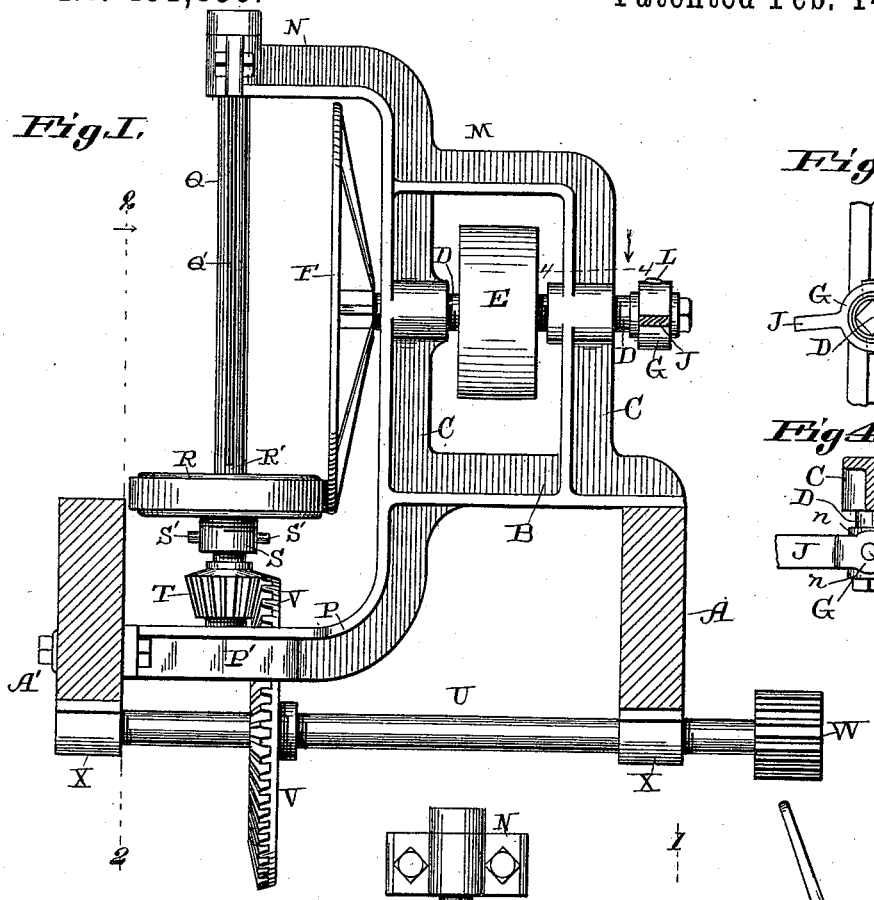

Fig. 3.

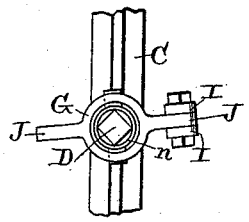

Fig. 4.

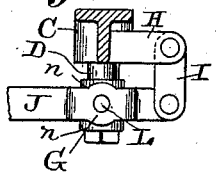

Fig. 2.

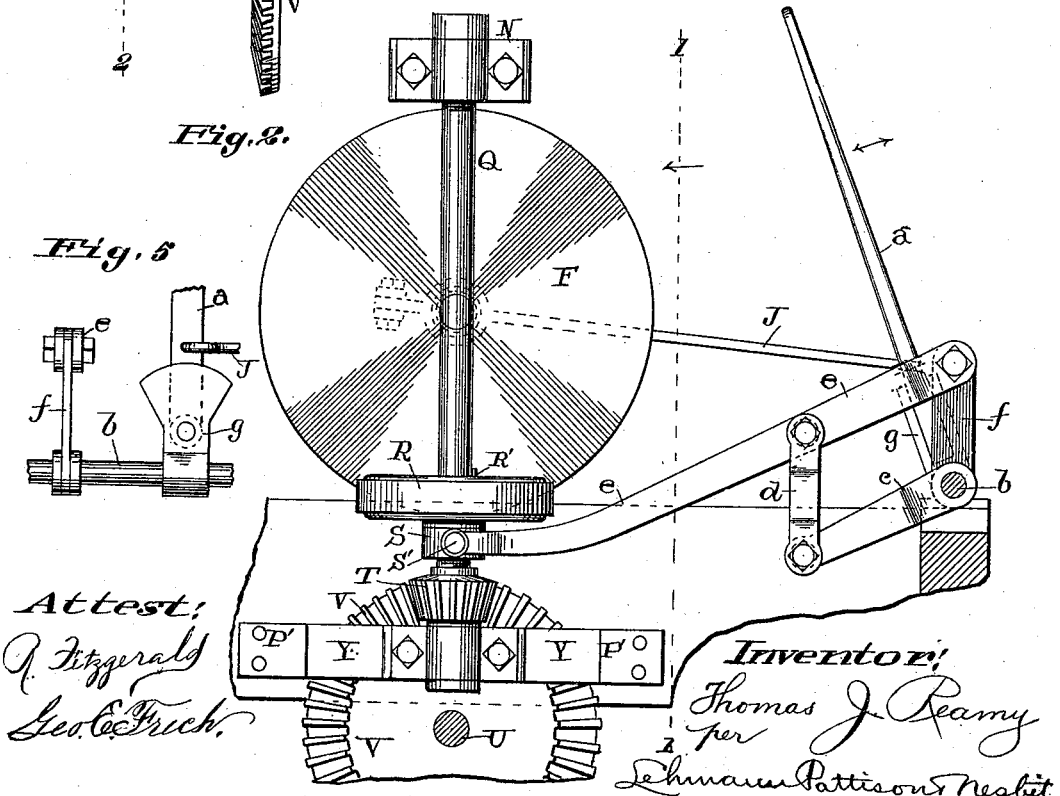

Fig. 5

Attest:
R. Fitzgerald
Geo. E. Frick.

Inventor:
Thomas J. Reamy
per
Lehmann Pattison & Nesbit
attys.

(No Model.) 2 Sheets—Sheet 2.

T. J. REAMY.

FEED MECHANISM FOR SAWMILLS.

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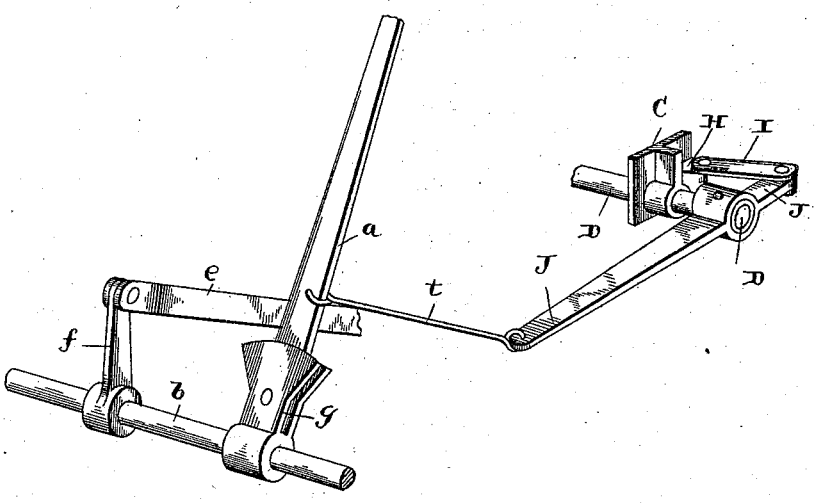
Fig. 6.



WITNESSES—
Geo. E. Frech.
Rob't A. Fitzgerald.

INVENTOR—
Thomas J. Reamy
per
Lehmann Pattison & Nesbit
attys.

UNITED STATES PATENT OFFICE.

THOMAS J. REAMY, OF ST. LOUIS, MISSOURI.

FEED MECHANISM FOR SAWMILLS.

SPECIFICATION forming part of Letters Patent No. 491,856, dated February 14, 1893.

Application filed February 19, 1892. Serial No. 422,158. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. REAMY, of St. Louis, Missouri, have invented an Improvement in Feed Mechanisms for Sawmills, of which the following is a specification.

My invention relates to improvements in feed mechanisms for saw mill carriages; and it consists in the novel construction, arrangement and combination of parts which will be fully described hereinafter.

The object of my invention is to provide a saw mill carriage feed mechanism of the construction shown and described, whereby I am enabled to attach the belt for running it directly from the saw arbor, and to enable the speed to be regulated, and the mechanism stopped, started, and reversed by a single operating lever.

In the drawings:—Figure 1 is a vertical section taken on the dotted line 1—1 of Fig. 2 and looking in the direction indicated by arrow. Fig. 2 is a vertical section taken on the dotted line 2—2 of Fig. 1 and looking in the direction indicated by arrow. Fig. 3 is an end view of Fig. 4. Fig. 4 is a horizontal section taken on the dotted line 4—4 of Fig. 1 and looking in the direction indicated by arrow. Fig. 5 is a side view of a portion of the shaft or rod to which the operating lever is connected, and showing the parts connected therewith. Fig. 6, is a perspective view showing the relative position of the operating levers and their connections.

A and A′ indicate two parallel sides of a frame to the upper side of the portion A of which one end of a mechanism supporting frame is secured. The supporting frame consists of a horizontal portion B from which extend the parallel vertical arms C which are connected at their upper ends by means of a horizontal portion M.

Journaled in the vertical portion C is a horizontal shaft D, which carries rigid therewith a pulley E. This pulley is placed upon the shaft between the two uprights C and is sufficiently smaller than the space between them to allow the shaft D an endwise movement for a purpose to be described farther on. Secured to the inner end of this horizontal shaft D is a vertical friction disk F.

Projecting outward and upward as shown from the horizontal portion M is an arm N which has journaled in its extremity the upper end of a vertical shaft Q. The lower end of this vertical shaft Q is journaled in a cross piece Y which extends across between and has its ends connected to the bifurcated ends P′ of the downwardly and outwardly extending arm P which projects from the outer end of the horizontal portion B of the supporting frame as illustrated. These bifurcated ends P′ are secured to the inner side of the portion A′ of the frame and supporting the outer end of the mechanism supporting frame as will be under-stood. Sliding longitudinally upon this shaft Q is a friction wheel R which is provided with a friction material of any suitable kind upon its periphery, for the purpose of engaging the disk F and being driven thereby. Made longitudinally in this shaft Q is a groove Q′ in which a feather R′ of the friction wheel R fits and slides as the friction wheel moves up and down, thus causing the shaft Q to revolve therewith. Also placed upon this shaft Q is a collar S which is loose thereon, and this collar is provided with laterally projecting pins S′ which pass through perforations made in the bifurcated end of a lever *e*. The opposite end of this lever is pivoted to the upper end of a link *f*, which has its lower end loosely placed around the shaft *b*, which is suitably journaled and supported. Rigidly connected to this shaft *b* and extending inward is an arm *c*, which has its outer end connected with the lever *e* between its ends by means of a link *d*. Also secured rigidly to this shaft *b* to one side of the link *f*, is a sleeve having a projection *g* with bifurcated ends between which the lower end of an operating lever *a*, is pivoted. In this manner the shaft *b* is rocked, and through the medium of the arm *c* and link *d* the lever *e* is raised. The raising of the lever *e* carries with it at its outer end the collar S and the sliding friction wheel R, which can be moved to any desired point upon the shaft Q as will be understood. The object of sliding this friction wheel upon the shaft Q is to take it nearer to or farther from the center of the disk F thus regulating the speed of the shaft Q, or to carry it up past the center of the disk F which will reverse the direction of the revolution of the shaft as will be understood. Thus it will be seen that by the operating le-

ver *a*, the sliding friction wheel is moved upon the shaft Q for the purpose of regulating the speed of the shaft Q and for reversing it.

The friction wheel R is started by moving the shaft D outward thus causing the disk F to engage there-with, and is stopped by moving the said shaft inward, which moves the disk out of contact with the pulley. This movement of the shaft D is obtained through the medium of the lever *a* which having its lower end pivoted between the ends *g* of a sleeve secured to the shaft *b* is allowed a movement at right angles to that allowed to it by the rotation of the shaft *b* as will be understood. A lever J has one end pivotally connected to the outer end of a link I, and the inner end of this link is pivoted to a stud or projection H, upon the vertical portion C. The opposite end of this lever J, is connected with one end of a link or rod *t*, and the opposite end of this link *t* is connected with the lever *a*, as illustrated in Fig. 6. This lever or bar J has a circle or sleeve G formed therein near the link I, which incloses a collar *n* that is loose upon the shaft D. This collar while it allows the shaft D to revolve freely therein, is held to the shaft against endwise movement by means of an annular groove made in the shaft, as will be understood, and is provided with laterally extending pins L that pass through perforations made in the circle G of the bar J. By this means when the lever *a* is moved in a direction at right angles to the rotation of the shaft *b*, the shaft D is moved in and out as may be desired. The construction just described therefore enables the adjustment of the friction wheel R and the disk F through the shaft D to be controlled and regulated by a single lever *a*, and thus the mechanism stopped, started, and the speed thereof regulated by this lever.

Motion is transmitted to the saw mill carriage by means of a pinion W that is secured to the inner end of a shaft U which is journaled to the under sides of the frame A and A′, as illustrated. This pinion W engages a rack upon the carriage in the usual manner, and which is so well known and understood that any illustration thereof is not needed here. Placed upon this shaft U between its ends and just to one side of the lower end of the shaft Q is a bevel gear V which engages a bevel pinion T secured to the lower end of the shaft Q. In this way motion is transferred from the shaft Q to the shaft U and from the shaft U to the saw mill carriage.

It will be seen from the above description that I provide a horizontal driving shaft D, to which a belt can be carried straight from the saw arbor, which is a great advantage.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A saw mill feed mechanism comprising a shaft for operating the carriage, a shaft carrying a longitudinally sliding friction wheel, an endwise moving shaft carrying a friction disk which engages the friction wheel, a rocking shaft, an operating lever pivotally connected with the said shaft to swing at right angles to its rotation, a lever having its inner end to move the friction wheel, a link connected with the rocking shaft at one end and its outer end connected to the outer end of the said friction wheel lever, an arm extending from and secured to the rocking shaft, a link connecting the free end of this arm and the friction wheel lever between its ends, a lever pivotally connected at one end and its opposite end connected with the operating lever, the said pivoted lever having its opposite end connected with the endwise moving shaft, all operating substantially as specified.

2. A saw mill feed mechanism comprising a shaft for operating the carriage, a shaft carrying a longitudinally sliding friction wheel, an endwise moving shaft carrying a friction disk which engages the friction wheel, a rocking shaft, an operating lever pivotally connected with the rocking shaft to swing at right angles to its rotation, a lever *e*, having its inner end loosely connected with the sliding friction wheel and its outer end loosely supported to allow endwise movement thereof, an arm rigidly connected at one end with the rocking shaft and its opposite end loosely connected with the said lever *e*, and a connection between the pivoted operating lever and the endwise moving shaft, substantially as specified.

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

THOMAS J. REAMY.

Witnesses:
GEO. QUIGLEY,
S. P. MEADE.