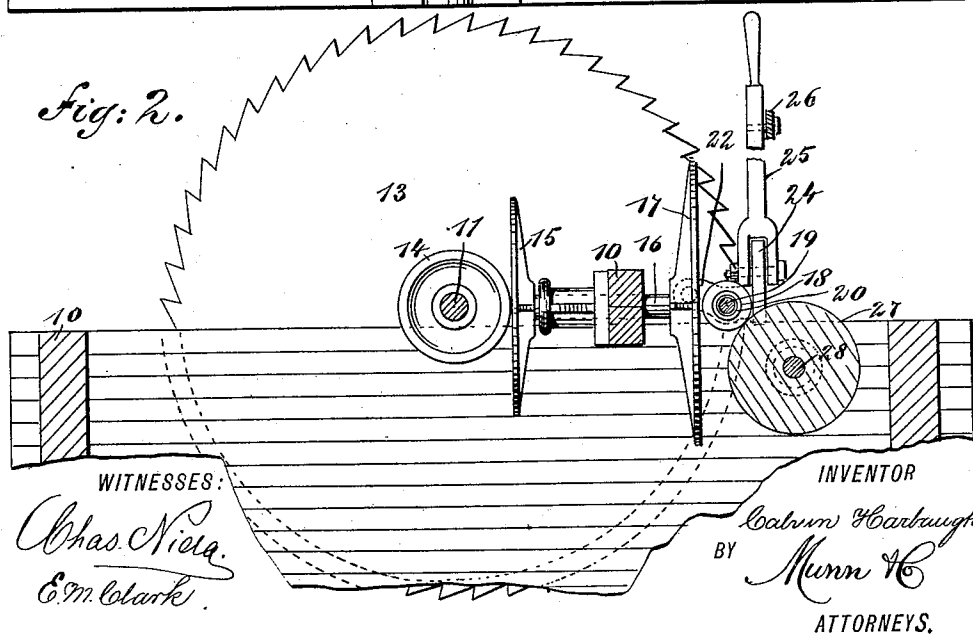
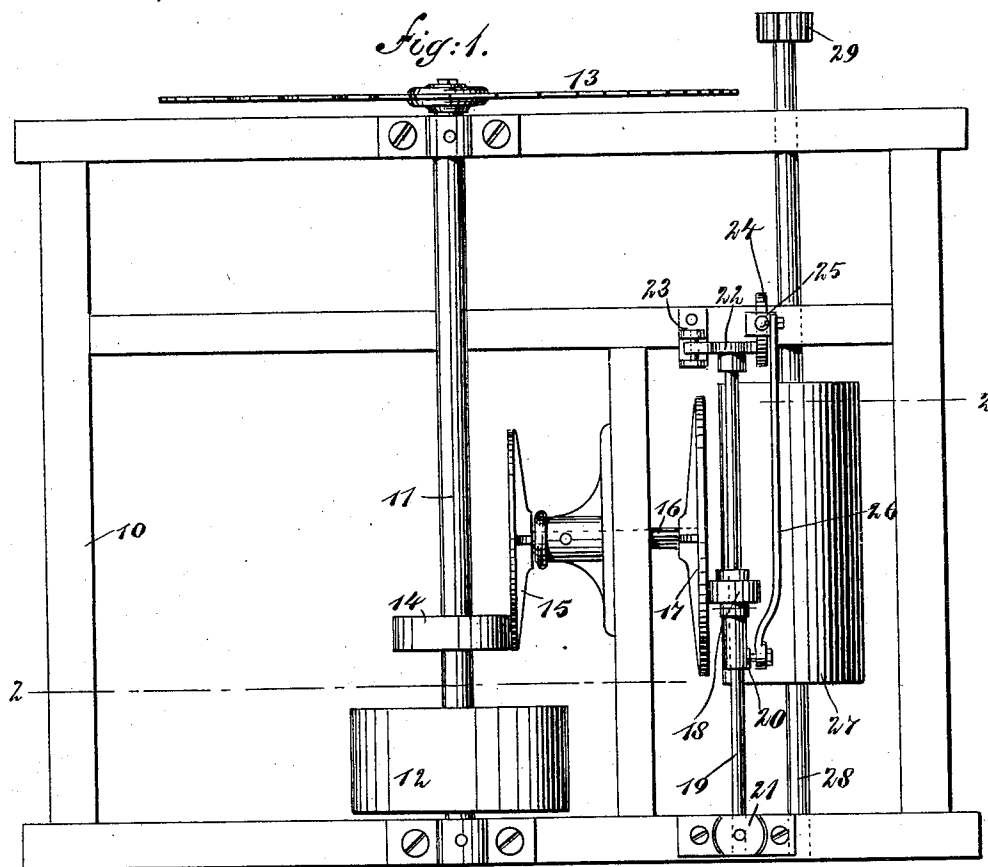


C. HARBAUGH.
VARIABLE FEED FOR SAWMILLS.

Patented July 19, 1892.



UNITED STATES PATENT OFFICE.

CALVIN HARBAUGH, OF PLEASANT HOME, OHIO.

VARIABLE FEED FOR SAWMILLS.

SPECIFICATION forming part of Letters Patent No. 479,272, dated July 19, 1892.

Application filed August 25, 1891. Serial No. 403,684. (No model.)

To all whom it may concern:

Be it known that I, CALVIN HARBAUGH, of Pleasant Home, in the county of Wayne and State of Ohio, have invented a new and Improved Variable Feed for Sawmills, of which the following is a full, clear, and exact description.

My invention relates to improvements in sawmill-feeds; and the object of my invention is to produce a simple, cheap, and effective feed which may be driven by the saw-mandrel and which may be quickly and easily changed so as to drive the saw-carriage at any desired rate and in either direction.

To this end my invention consists in certain features of construction and combination of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a plan view of the feed embodying my invention, and Fig. 2 is a broken vertical cross-section on the line 2 2 in Fig. 1.

The frame 10 has a saw-mandrel 11 mounted therein, and the mandrel carries at one end the usual driving-pulley 12 and at the opposite end a saw 13. Near the driving-pulley 12 on the mandrel 11 is a friction-pulley 14, which is secured to the mandrel and which frictionally engages a disk 15, having one flat surface adapted to fit the friction-pulley 14, and this disk 15 is secured to one end of a shaft 16, which shaft is mounted in the frame 10 at right angles to the mandrel 11, and the shaft 16 has at its opposite end a disk 17, similar to the disk 15, which frictionally engages a friction-pulley 18, which pulley is mounted loosely on a sleeve 20, held to slide on a shaft 19 and moved by a lever mechanism, which will be hereinafter described. The shaft 19 is arranged parallel with the saw-mandrel, and one end of the shaft is mounted in the box 21 so as to be moved slightly in a vertical plane, and the opposite end of the shaft is mounted in a loose box 22, which box is hinged to ears 23, so that the shaft may be swung, and the opposite side of the box 22 is secured to a cam 24, which cam has a vertical lever 25 secured to it, and the lever 25 connects with the sleeve

20 by a rod 26. It will thus be seen that by moving the lever 25 parallel with the shaft 19 the sleeve 20 will be caused to slide on the shaft, and by swinging the lever at right angles to the shaft the shaft will be lowered or raised, as the case may be. Adjacent to the shaft 19 is a friction-drum 27, which is adapted to be engaged by the friction-pulley 18, and said drum is secured to the usual feed-shaft 28, which projects at one end beyond the saw 13 and carries on this projecting end a pinion 29, which is adapted to engage the rack of the saw-carriage and move the same. It will be seen that by manipulating the lever 25 the friction-pulley 18 may be depressed so that it will at once engage the friction-disk 17 and the friction-drum 27. Consequently the drum will be turned and the feed-shaft driven, and by moving the sleeve 20 the pulley 18 may be made to bear upon the disk 17 near one edge or nearer the center, so as to give the desired speed to the feed-shaft, and when the shaft is to be reversed the pulley 18 is forced across the center of the disk, and this movement will reverse the friction-pulley, and consequently the feed-shaft.

From the foregoing description it will be seen that the mechanism is extremely simple and that the speed and direction of the feed-shaft may be easily controlled by the lever 25.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the saw-mandrel and the feed-shaft arranged parallel therewith and provided with a friction-drum, of friction-disks driven by the mandrel, a movable shaft, a friction-pulley mounted on said shaft and engaging one of the friction-disks and the friction-drum, and a lever mechanism for moving the said shaft and the friction-pulley thereon, substantially as described.

2. The combination, with the saw-mandrel having a friction-pulley thereon and the feed-shaft arranged parallel therewith and provided with a friction-drum, of a shaft mounted transversely between the feed-shaft and mandrel, friction-disks secured to the transverse shaft, one disk contacting with the friction-pulley on the mandrel and the other being arranged adjacent to the friction-drum, a swing-

ing shaft mounted between one of the friction-disks and the friction-drum, a friction-pulley held to slide on the shaft and adapted to contact with a friction-disk and the friction-drum, and a lever mechanism for moving the friction-pulley, substantially as described.

3. The combination, with the saw-mandrel and the feed-shaft arranged parallel therewith and provided with a friction-drum, of a friction-disk arranged adjacent to the friction-drum and driven by the saw-mandrel, a

vertically-swinging shaft mounted between the friction-disk and the friction-drum, a loose pulley held to slide on the shaft and to contact with the friction-disk and the friction-drum, and a lever mechanism for moving the pulley and shaft, substantially as described.

CALVIN HARBAUGH.

Witnesses:

FRANK SHILLING,
ELMER ST. JOHN.