No. 674,997. Patented May 28, 1901.

E. CHRISTENSEN.

POWER SAW SHIFTER FOR GANG EDGERS.

(Application filed Dec. 28, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

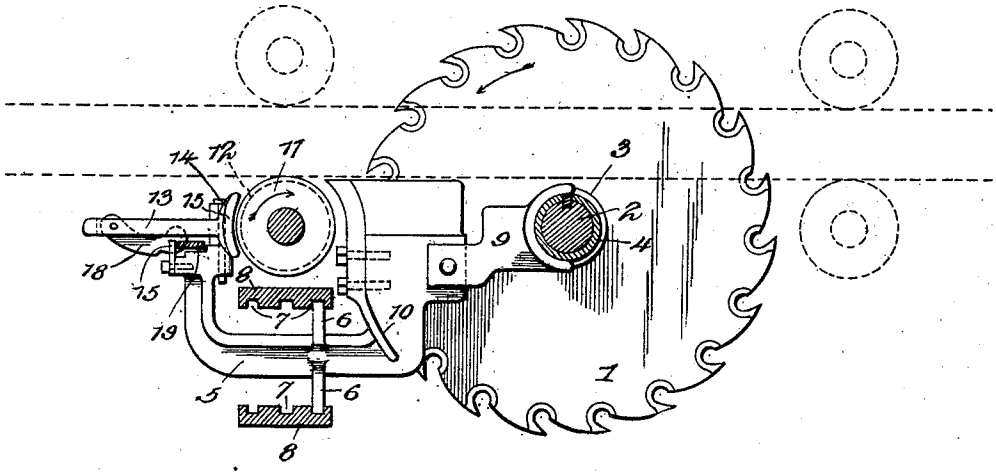
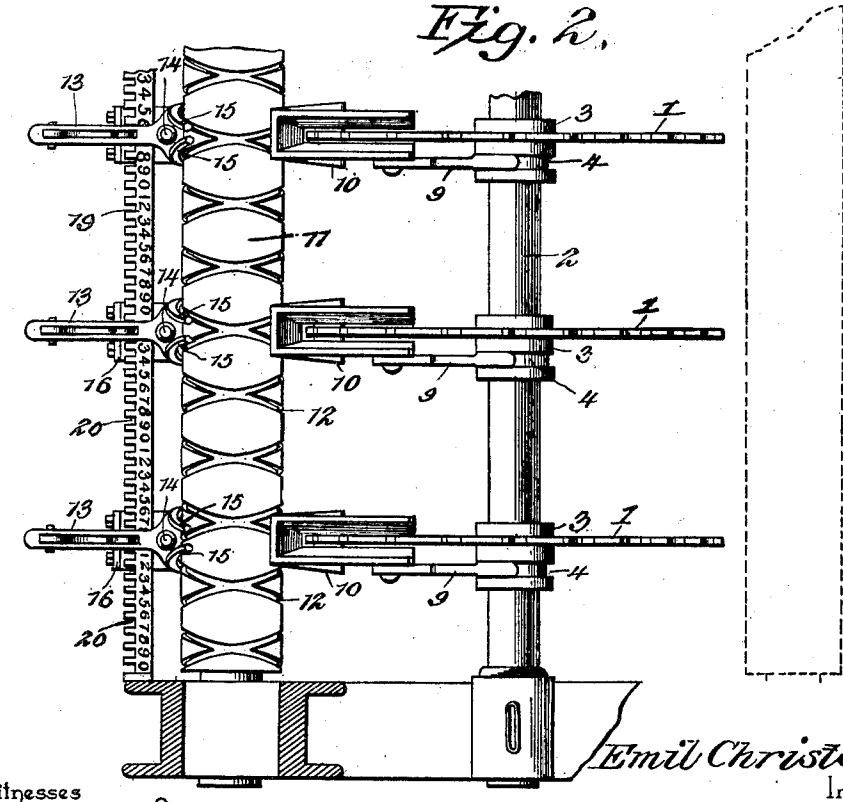


Fig. 2.



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Fig. 3.

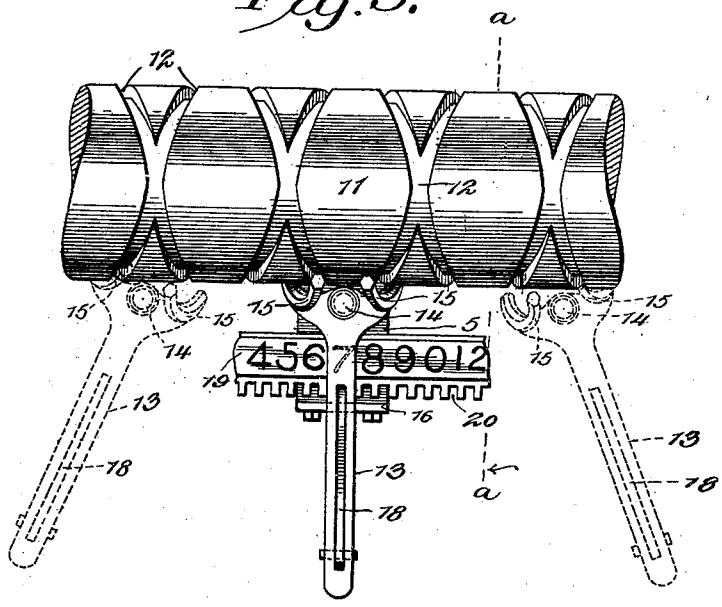


Fig. 4.

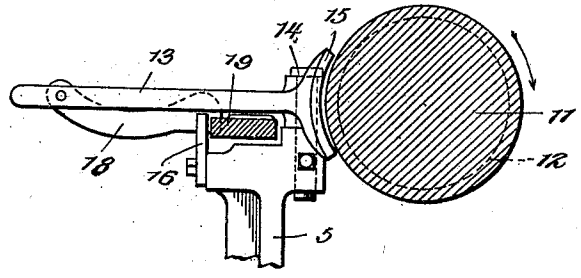


Fig. 5.

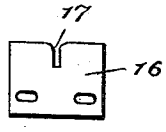
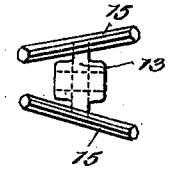


Fig. 6.



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UNITED STATES PATENT OFFICE.

EMIL CHRISTENSEN, OF PORTLAND, OREGON.

POWER SAW-SHIFTER FOR GANG-EDGERS.

SPECIFICATION forming part of Letters Patent No. 674,997, dated May 28, 1901.

Application filed December 28, 1900. Serial No. 41,411. (No model.)

To all whom it may concern:

Be it known that I, EMIL CHRISTENSEN, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Power Saw-Shifter for Gang-Edgers, of which the following is a specification.

My invention is an improved power saw-shifter for gang-edgers, the object of my invention being to provide means whereby the saw-shifter may be operated by power applied thereto from one of the feed-rollers to effect an immediate adjustment of the saw.

My invention consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a diagrammatic sectional view of a gang-edger provided with a power saw-shifter embodying my improvements. Fig. 2 is a detail top plan view of the same. Fig. 3 is a detail top plan view of the worm-feed roller, the shifting handle, the shifter, lock-plate, and a portion of the scale-bar. Fig. 4 is a detail sectional view of the same, taken on a plane indicated by the line *a a* of Fig. 3. Fig. 5 is a detail view of the lock-plate. Fig. 6 is a similar view of the engaging end of the shifting handle.

The saws 1 are splined and adapted to be shifted laterally on the arbor 2. Each of the saws has the usual collar 3, which is provided with the usual annular groove 4. The shifters 5 have flanges 6, which travel in grooves 7 in the guides 8, which support the shifters. Each shifter has an arm 9, which engages the groove 4 in the collar 3 of one of the saws, and the shifters being movable laterally it will be understood that the same are effective in shifting the saws on the arbor for the purpose of spacing the saws at the desired distance apart, according to the width of the lumber to be sawed thereby. Each shifter 5 is provided with a sawdust-chute 10 on the front side of the saw below the plane of the arbor.

In carrying out my invention I provide the lower feed-roller 11 with worm-grooves 12, made in the face thereof and which traverse the feed-roller from end to end in opposite directions, the said worm-grooves communicating with each other, as shown in Figs. 2 and 3. The feed-roller 11, together with the other feed-rollers and the saw-arbor, is driven by the means usually employed in machines of this class and understood by those skilled in the art to which my invention relates.

Each shifter 5 is provided with a shifting handle 13, which is pivotally connected thereto, as at 14. The said shifting handles are each provided at the inner end with a pair of downward-diverging arc-shaped engaging flanges 15, which are adapted to engage the worm-grooves in feed-roller 11. When the handles are disposed at right angles to the axis of the feed-roller 11, the engaging flanges thereof are out of engagement with the worm-grooves of the feed-roller 11 and the latter rotates without affecting the shifters. By turning a shifting handle on its pivot in one direction, as is indicated in dotted lines in Fig. 3, one of the arc-shaped flanges thereof will engage one of the worm-grooves of feed-roller 11, and the latter being in revolution in the direction indicated by the arrow in the drawings the shifter, and consequently the saw which is engaged thereby, will be moved in one direction. By turning the shifting lever in an opposite direction the other arc-shaped flange thereof will engage the other worm-groove in feed-roller 11, and hence the shifter and the saw will be moved by the power of the feed-roller in the reverse direction. Hence the saws may be shifted in either direction by the power of the feed-roller, as will be understood, it being only necessary to turn the outer end of the shifting handle in the direction in which it is desired to move the saw.

Each of the shifters 5 is provided with a lock-plate 16, which has a central open notch 17 in its upper side, and each of the shifting handles is provided with a pivoted detent 18, which by gravity drops into the said notch of the lock-plate when the shifting handle is turned in such manner as to be disengaged from the feed-roller, and thereby locks the shifting handle in disengaged position.

In order to enable the saws to be shifted to any desired position with relation to each other, I employ a scale-bar 19, which is rigidly supported on the frame of the machine in a horizontal position in advance of the feed-roller 11 and directly above the outer end

of the shifters and is provided with notches 20, which represent units of measurement and are designated by appropriate numerals, as shown. These notches of the scale-bar are engaged by the detents 18 when the shifting handles are out of engagement with the worms of the feed-roller. In shifting a saw the operator keeps the shifting handle in engagement with a worm-groove of feed-roller 11 until the notch 17 of the lock-plate is opposite the required notch in the scale-bar, and he then by disengaging the shifting handle from the worm-groove of the feed-roller arrests the movement of the shifter and the saw carried thereby, the detent 18 engaging by its own gravity the alined notches of the lock-plate and the scale-bar, and thereby locking the shifter at the required adjustment.

I do not desire to limit myself to the precise construction and combination of devices herein shown and described, as it is evident that modifications may be made therein without departing from the spirit of my invention.

Having thus described my invention, I claim—

1. The combination of a saw-shifter, a revoluble worm, and a handle carried by the shifter and having means to engage said worm and thereby move said shifter by the power of said worm, substantially as described.

2. The combination of a saw-shifter, a revoluble roller having worms thereon running in opposite directions and means carried by said shifter to engage either of said worms at will and thereby cause the shifter to be moved by the power of the roller in either direction, substantially as described.

3. In a gang-edger, the combination of a saw-shifter, a feed-roller having worm-grooves therein running in opposite directions and a shifting handle pivoted on said shifter and adapted to engage either of said worm-grooves, substantially as described.

4. In a gang-edger, the combination of a saw-shifter, a feed-roller having worm-grooves therein traversing said roller in opposite directions, a shifting handle pivoted on said shifter and adapted to engage either of said worm-grooves and means to lock said shifting handle in disengaged position, substantially as described.

5. In a gang-edger, the combination of a saw-shifter, a feed-roller having worm-grooves therein, traversing said roller in opposite directions, a shifting handle pivoted on said shifter and adapted to engage either of said worm-grooves, a notched lock-plate on said shifter and a detent carried by said shifting handle, and adapted to engage said lock-plate and lock said shifting handle when the latter is in disengaged position, substantially as described.

6. In a gang-edger, the combination of a saw-shifter, a feed-roller having worm-grooves therein traversing said roller in opposite directions, a shifting handle pivoted on said shifter, and adapted to engage either of said worm-grooves, a notched lock-plate on said shifter, a notched scale-bar, and a detent carried by said shifting handle and adapted to engage said lock-plate and said scale-bar when said shifting handle is in disengaged position, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EMIL CHRISTENSEN.

Witnesses:
GEORGE H. MARSH,
JOSEPH A. SLADEN.