UNITED STATES PATENT OFFICE.

FREDERICK ZIGLER, OF ASH GROVE, IOWA.

CROSSCUT-SAW.

SPECIFICATION forming part of Letters Patent No. 567,436, dated September 8, 1896.

Application filed April 8, 1896. Serial No. 586,653. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK ZIGLER, of the city of Ash Grove, Davis county, State of Iowa, have invented certain new and useful Improvements in Crosscut-Saws, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a crosscut-saw, and especially to a portable wood-saw; and it consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of my improved portable wood-saw, parts being broken away to more clearly illustrate the mechanism. Fig. 2 is a side elevation of the parts shown in Fig. 1.

Referring to the drawings by numerals, 1 and 2 are the sills of the frame, upon the top of which are cross-bars 3. Posts 4 and 5 extend upwardly from the sills 1 and 2 and are connected at the top by cross-bars 6. Bars 7 extend longitudinally of the frame, parallel with the bars 3, and are attached to the posts 4 and 5, and have handles 8 and 9 on each end thereof, as shown in Fig. 2. Bearings 10 and 11 are mounted on the cross-bars 3 in alinement with each other, and a crank-shaped counter-shaft 12 is mounted in said bearings. Each of the bearings 10 and 11 is divided vertically and arms 13 and 14 are pivotally mounted upon each end of the counter-shaft 12 in the center of the bearings 10 and 11. A cross-bar 15 connects the arms 13 and 14 near the center thereof, and braces 16 and 17 are inserted between the center of the cross-bar 15 and the lower ends of the arms 13 and 14, as shown in Fig. 1.

A sleeve 18 (shown in dotted lines in Fig. 1) is placed upon the center of the counter-shaft 12, and collars 19 and 20, having the set-screws 21 and 22, are placed upon the counter-shaft 12 adjacent each end of the sleeve 18. Pulleys 23 and 24 are mounted upon and rigidly fixed to the sleeve 18, and the sleeve 18 is arranged to rotate upon the counter-shaft 12.

A driving-belt 25 from the prime mover operates upon the pulley 23. At the upper end of the arms 13 and 14 are bearings 26 and 27 in alinement with each other, and a shaft 28 is mounted for rotation in said bearings and carries upon one end an ordinary crosscut-saw 29.

A pulley 30 is mounted upon the shaft 28 inside of the frame and a pulley 31 is mounted upon the end of the shaft 28 opposite the saw 29 and outside of the frame. A belt 32 connects the pulley 30 and the pulley 24.

On the outside of the frame below the pulley 31 and in line therewith are mounted idlers 33 and 34. A handle 35 has its lower end attached to the arm 14 and a brace 36 is attached to the upper end of the arm 14 and connects with the center of the handle 35.

A hood 37 is attached to the cross-bar 6 to cover the saw when not in use and a log 38 is shown in position for cutting adjacent to the hood.

In the practical operation of my improved portable wood-saw the logs to be cut are placed upon the cross-bar 6, the handle 35 is depressed by the operator, and the saw swings upwardly and backwardly through the log.

My saw is designed for use where it may be attached to a powerful high-speed engine one day and to a low-speed engine the next, and for this purpose I have arranged two complete sets of driving-pulleys. Assuming that the saw is being operated by a low-speed engine, the driving-belt from the engine is placed upon the pulley 23, and by means of the short belt 32, running over the pulleys 24 and 30, motion is communicated to the saw. The pulley 24, being larger than the pulley 23, the speed of the saw is increased or geared up. By the use of the crank-shaped counter-shaft 12 the relative strain on the belts 25 and 32 is equalized. The crank counter-shaft is left free to move in the direction of the greatest strain, and when the lever 35 is depressed, tipping the bars 13 and 14 backward and carrying the saw through the timber to be cut, the belts 25 and 32 are both tightened, said counter-shaft not being in a concentric position relative to the travel of the bearings 26 and 27.

When my saw is attached to a high-speed engine, the driving-belt is run from the engine around the idlers 33 and 34 and around the pulley 31, as shown in dotted lines in Fig. 2.

The distinguishing feature of my improved

(No Model.)

F. ZIRKLE.

WHIP HOLDER.

No. 567,437. Patented Sept. 8, 1896.

FIG. 1.

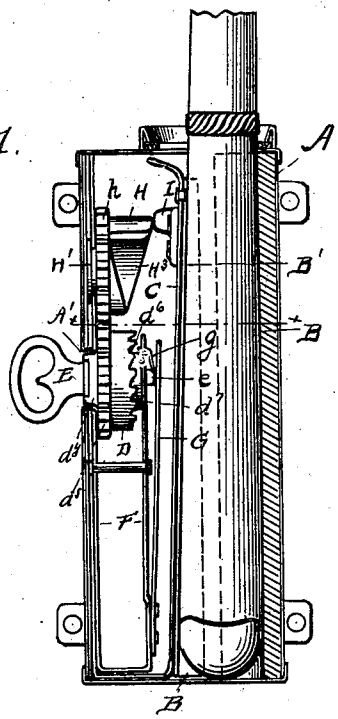


FIG. 14.

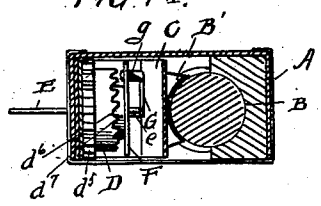


FIG. 13.

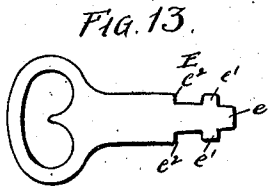


FIG. 2.

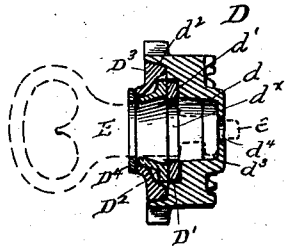


FIG. 3.

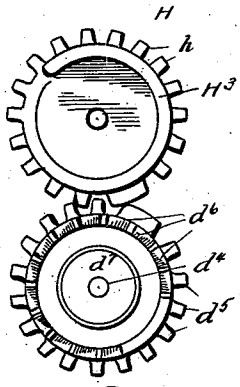


FIG. 4.

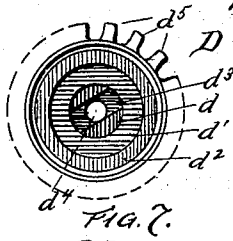


FIG. 6.

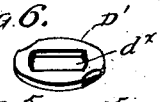


FIG. 5.

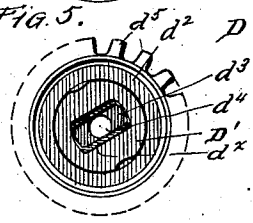


FIG. 7.

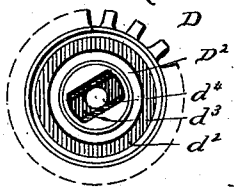


FIG. 9.

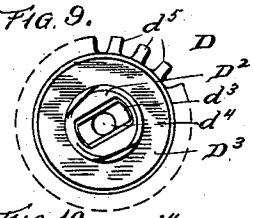


FIG. 8.

FIG. 10.

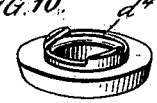


FIG. 11.

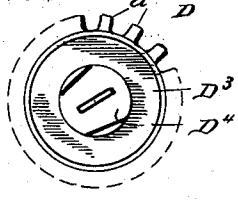
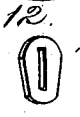


FIG. 12.



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