D. I. KEOUGH.

SAWING MACHINE.

APPLICATION FILED MAY 18, 1908.

925,194.

Patented June 15, 1909.

3 SHEETS—SHEET 1.

Fig. 8.

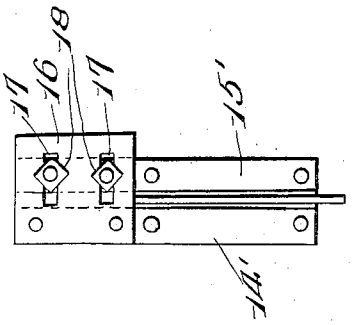


Fig. 1.

Witnesses

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3 SHEETS—SHEET 2.

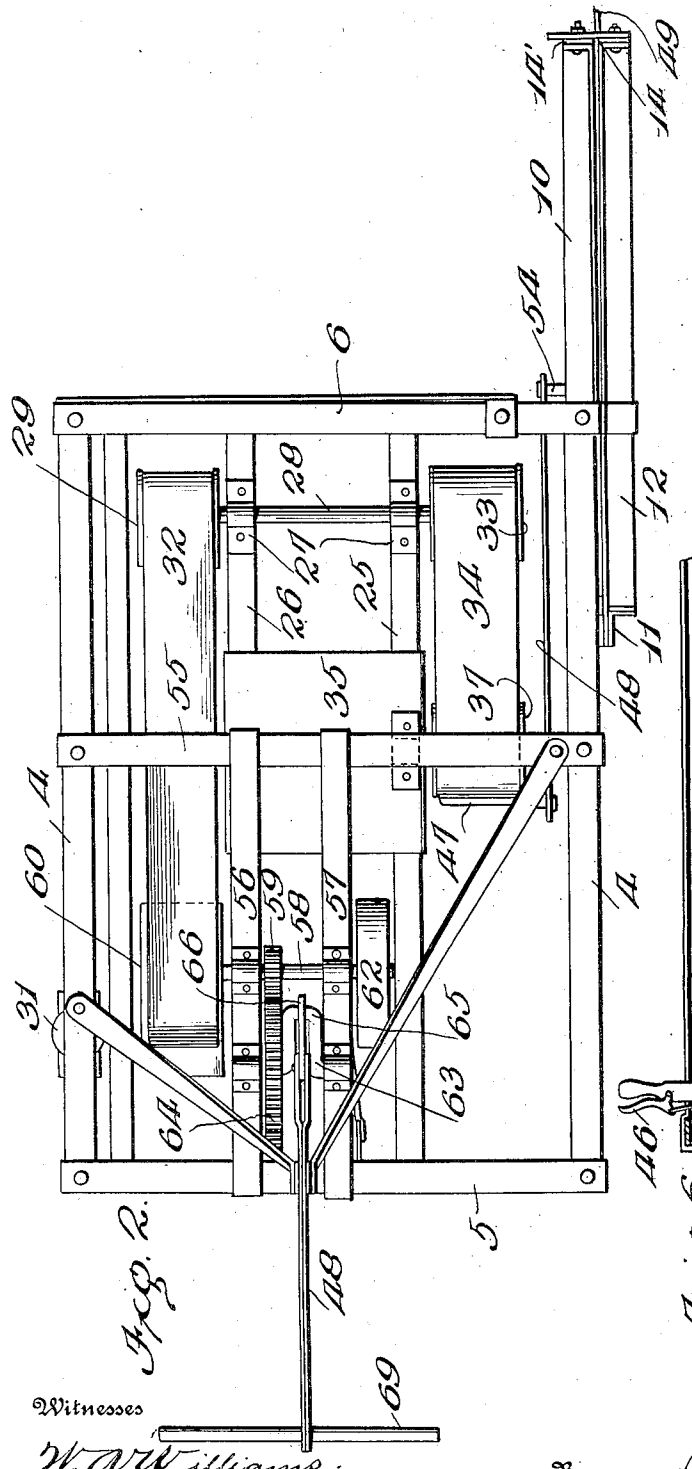


Fig. 2.

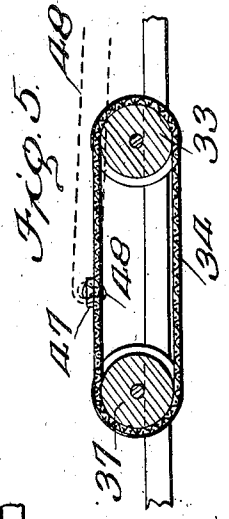


Fig. 5.

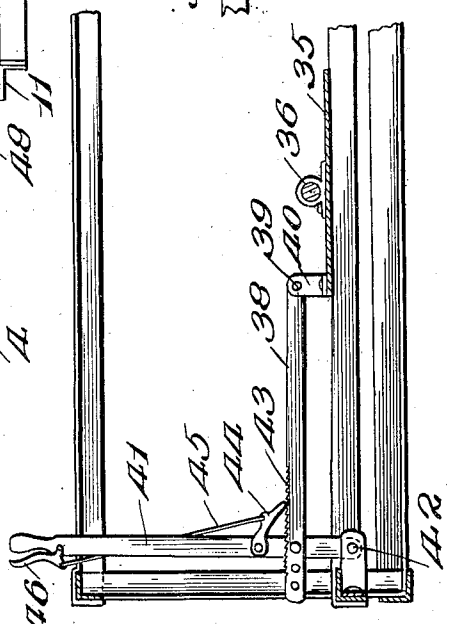


Fig. 6.

Witnesses

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3 SHEETS—SHEET 3.

Fig. 4.

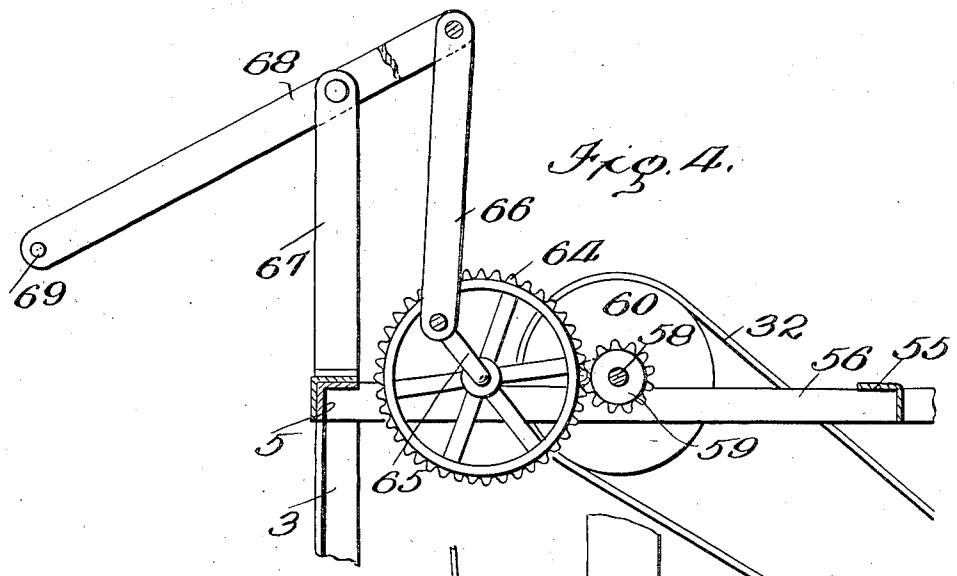


Fig. 3.

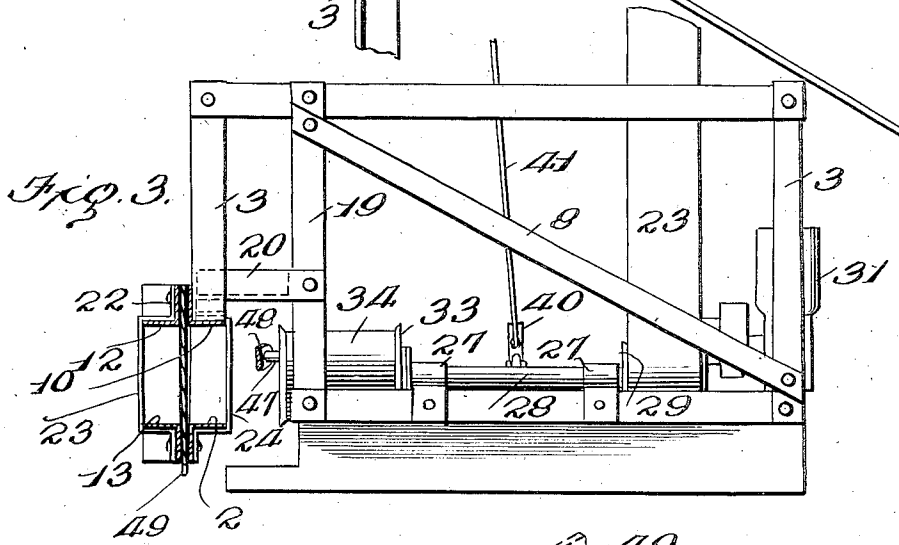
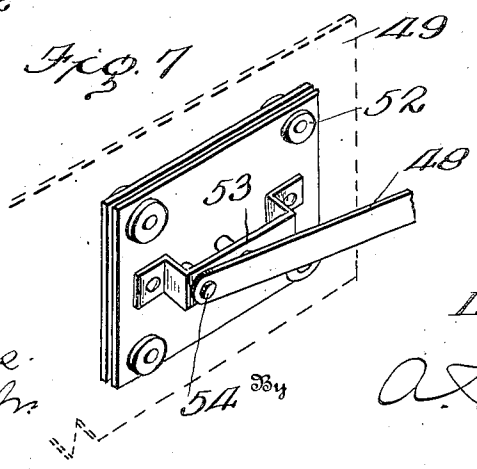


Fig. 7



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL I. KEOUGH, OF NEW MARTINSVILLE, WEST VIRGINIA, ASSIGNOH OF ONE-THIRD TO JOHN E. KEOUGH, AND ONE-THIRD TO WILLIAM F. KEOUGR, BOTH OF NEW MARTINSVILLE, WEST VIRGINIA.

SAWING-MACHINE.

No. 925,194. Specification of Letters Patent. Patented June 15, 1909.

Application filed May 18, 1908. Serial No. 433,501.

To all whom it may concern:

Be it known that I, DANIEL I. KEOUGH, a citizen of the United States, residing at New Martinsville, in the county of Wetzel and State of West Virginia, have invented certain new and useful Improvements in Sawing-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in sawing machines.

The object of my invention is to provide a saw mill mounted upon a light frame, and so constructed and arranged that it can readily be carried from place to place through the woods to saw each tree or log in its fallen position, and thus saving the moving or transplanting of the logs to the machine.

Another object of my invention is to provide a machine of this character which is more readily transportable, and which has certain details of structure which produce a more simple, cheap and effective sawing machine.

In the accompanying drawings, Figure 1, is a side elevation of my improved sawing machine. Fig. 2, is a top plan view of Fig. 1. Fig. 3, is a front end view of the machine. Fig. 4, is an end enlarged side elevation of the manual operating means carried by the upper end of the frame for operating the saw. Fig. 5, is a side elevation of the saw-operating belt showing the connection of the wrist-pin therewith, and showing the pitman. Fig. 6, is an enlarged side elevation of the belt-tightening means, whereby the saw is stopped without stopping the engine. Fig. 7, is an enlarged perspective view of the pitman connection with the saw, and also showing the guide rollers carried by the saw for guiding the saw between the saw carriage. Fig. 8, is an enlarged end view of the saw guide showing the means of adjustment.

Referring now to the drawings, 1 represents a rectangular metal frame made of very light L-bars and riveted together in any desired manner, and while I will describe the specific form of frame and the specific means of bracing the same, it will be understood that any form of frame could be used without departing from my invention. The frame consists of the bottom, horizontal bars 2 connected to the vertical corner bars 3. These corner bars are connected at their upper ends by the horizontal bars 4 at each side. The vertical corner bars 3 are connected together at their upper and lowed ends by the transverse bars 5 and 6, the whole frame being riveted together and provided with necessary braces, as shown at 7 and 8. One side of the frame intermediate the top bar 4 and botom bar 2, is provided with an L-bar 9 which extends the entire length of the frame, and extends a considerable distance beyond the frame, as indicated at 10, whereby it forms one side of the saw guide. Connecting the bars 9 and 2 is a vertical bar 11 which forms a stop or marks the rearward movement of the saw carriage, all of which will be hereinafter more fully described. Secured to the vertical bar 11 and spaced a distance from the bar 9, is a second bar 12 which extends forwardly beyond the end of the frame to the outer end of the extension 10 of the bar 9, and the same being spaced apart a distance to allow the saw to pass between the same. The lower beam 2 likewise extends beyond the end of the frame. Connected to the lower end of the vertical bars 11 is a horizontal bar 13 which extends out to the end of the bar 10.

The outer ends of the bars 10 and 12 are turned outwardly, as indicated at 14 and 15, and to which are riveted the plates 14′ and 15′. Connecting the upper end thereof is a plate 16 which has one end riveted to the plate 14′, while the opposite end of the plate is provided with slots 17 through which the bolts 18 pass, said bolts being secured to the plate 15′ by means of the slot, and thus it will be seen that the bars 10 and 12 forming the saw-guide can be adjusted to or from each other, providing for saws of different thicknesses.

The forward end of the frame 1 is provided with a vertical bar 19 to which is fastened the transverse bar 20. The outer end of the bar is fastened to the corner post 3, and is turned downwardly, as indicated at 21, and secured by bolts or rivets 22 to this downwardly-turned portion 21 are the braces 23 and 24 which are of a form to conform with the bars or rails 10 and 12, and thus support and brace said bars intermediate their ends, as clearly shown in Fig. 1.

Extending longitudinally of the frame, and secured to the lower end bars 6, are two

parallel bars 25 and 26. The bars are L-shaped, and are of light material, the same as the remainder of the frame, for the purpose of making a light machine. Carried by the forward end of the said bars 25 and 26 are journals 27. Mounted in said journals is a shaft 28 which extends beyond the journals on each side. The pulley 29 is carried by one end of the shaft, and in a horizontal plane with said pulley is a pulley 30 driven by the engine 31, and a belt 32 passes around said pulleys by means of which the shaft 28 is rotated. Carried by the opposite end of the shaft 28 is a pulley 33 over which passes the belt 34, which drives the pitman.

Mounted upon the bars 25 and 26 and longitudinally movable thereon, is a frame 35 which is held against any vertical or lateral movement. Carried by the said frame are journals in which is mounted the shaft 36, the outer end of the shaft carrying a pulley 37 over which the belt 34 passes. The inner end of the frame has an operating bar 38 pivoted at 39 to ears 40 carried by the frame, and whereby the same is moved longitudinally upon the bars 25 and 26. The outer end of the bar 38 is pivotally connected to the lever 41, the said lever pivoted at 42 to the frame 1, and by drawing the lever 41 rearwardly the pulley 37 is moved and the belt tightened, so that it will be driven by the pulley 33, which is driven by the engine, as heretofore described. In order to hold the lever in its adjusted position I provide the bar 38 with teeth 43, and carried by the lever is a pivoted pawl 44 held by gravity or spring in engagement with the teeth. Connected to the pawl 44 is a rod 45 which extends upwardly and is connected to a pivoted lever 46 carried by the rear face of the operating lever 41. By the construction and arrangement of parts it will be seen that when the saw is running, and it is desired to instantly stop the same, all that is necessary is to shove your hand against the lever 46 and the belt 34 will be loosened, so that it will cease to travel. The outer face of the belt is provided with a wrist-pin 47 which is secured to the belt by flat headed bolts 48 which pass from the under side of the belt, and through the pin and having nuts thereon. This wrist-pin as shown, extends all the way across the belt, allowing for a greater securing means, which prevents any twisting thereof, and which also prevents the wrist-pin from twisting the belt and causes the belt to run smoothly. The wrist-pin also extends considerably beyond the edge of the belt, and has the pitman 48 connected thereto, and said pitman extends forwardly and is connected to the saw, as will be hereinafter more fully described.

Between the beams 10 and 12 and 2 and 4, is the saw 49 which is supported by the rollers. Carried by the opposite sides of the saw are plates 51 which are bolted thereto by bolts or otherwise secured thereto, and said plates are of a width less than the space between the two pairs of the guide rails, whereby the plates will not engage the same. Carried by the upper and lower edges of the plates are the rollers 52 arranged two at the upper edge and two at the lower edge, and arranged directly opposite on opposite sides of the saw. These rollers approximately at all times engage the upper and lower faces of the rails, and support the saw in a horizontal position free to move between the bars, as clearly shown in the drawings. Secured to the inner plate 51 is an outwardly extending plate 53, and passing through the plate 53, the plates 51, and the saw 49 is the wrist-pin 54, to which the forward end of the pitman 48 is attached, and whereby the saw is reciprocated.

In order to operate the saw by hand, I provide the upper end of the frame with a transverse bar 55, and extending rearwardly from said bar 55 are two bars 56 and 57 on which is mounted a transverse shaft 58. Said shaft between the bars 56 and 57 is provided with a gear wheel 59. The shaft 58 extends out beyond the bars 56 and 57, and at one end is provided the pulley 60 which is in a line with the pulley 29, whereby a belt 32 may be placed over said pulleys instead of over the pulley of the engine. The shaft 58 at the opposite end is provided with the balance wheel 62. Mounted upon the bars 56 and 57 in rear of the shaft 58 is a shaft 63 which has a large gear 64 which meshes with the gear 59, whereby the shaft 58 is rotated for driving the belt and operating the saw, as heretofore described. Carried by the shaft 63 beside the gear 64 is a crank 65 to which is attached a link 66, which extends upwardly. Carried by the rear end of the frame 1 is a standard 67, and pivoted to the upper end thereof is an operating lever 68, the inner end of which is pivotally connected to the link 66. The outer end of the lever 68 is provided with a handle 69, and by operating the handle up and down it will be seen that the saw will be reciprocated the same as when the engine is running.

My improved device is adapted to be used for sawing logs in the woods, and is adapted to be transported from place to place by hand through woods and cut the logs as they have fallen, and thus saving time in moving the logs to the mill.

The lower end of the frame is provided with feet 70 which may be adjusted toward the rear or forward end of the frame, and whereby the machine is tilted upon the legs, and may be rocked for allowing the saw to pass over the log, and by a slight lifting of

the forward end of the frame, or a slight pressure upon the rear end of the frame, the pressure on the saw as it cuts its way through the log may be controlled.

The bars 56 and 57 are detachably secured to the frame 1, and the standard 67 is also secured to the frame, so that it can be removed, whereby the hand-operating means can be readily removed when the saw is run by the engine.

The saw 49 when it is in its extreme inward movement extends considerably beyond the outer end of the saw-guide, in order that the saw will at all times rests upon the log. By this construction it will be seen that the machine is brought in position so that the saw will rest upon the log and the engine is then started and the saw frame locked upon the feet 40 to allow the proper feed of the saw.

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

1. A saw mill comprising a portable frame, a traveling belt thereon, a reciprocating saw, a wrist-pin carried by the belt, a pitman connecting the wrist-pin and the saw, means for driving said belt, and means for loosening the belt to stop the reciprocation of the saw without stopping the driving means.

2. A saw mill comprising a portable frame, a traveling belt therein, means for driving one of the pulleys over which the belt passes, means for moving the other pulley for loosening the belt, a wrist-pin carried by the outer face of the belt, and a pitman connected to the wrist-pin and the saw, whereby the saw is reciprocated.

3. A saw mill comprising a portable frame, a traveling belt therein and passing over pulleys, means for continuously driving one of the pulleys, means for moving the other pulley to or from the first pulley for loosening or tightening the other belt, a wrist-pin carried by the belt, a saw within the frame, and a pitman connecting the wrist-pin and the saw, substantially as described.

4. A saw mill comprising a frame, a reciprocating saw therein, a pulley adjacent the saw, a movable carriage adjacent the pulley, a pulley carried by the carriage, an endless belt passing around said pulleys, means for moving and locking said carriage in its adjusted position, and a pitman connection between the belt and the saw.

5. A saw mill comprising a frame, a reciprocating saw therein, a pulley adjacent the saw, a movable carriage adjacent the pulley, a pulley carried by the carriage, an endless belt passing around said pulleys, means for moving and locking said carriage in its adjusted position, a wrist-pin carried by the belt and extending beyond one edge thereof, and a pitman connecting the wrist-pin and the saw.

6. A saw mill comprising a frame, a reciprocating saw therein and adapted to extend beyond the end thereof, an endless belt within the frame, an engine adapted to drive said belt, means whereby the travel of the endless belt may be stopped without stopping the engine or hand-operating means, a wrist-pin carried by the endless belt, and a pitman connecting the endless belt and the saw.

7. A saw mill comprising a frame, a reciprocating saw mounted therein and extending beyond one end, a guide for said saw, rollers carried by the side of the saw and traveling on the guide to prevent a vertical movement of the saw, a pulley mounted in the frame, a movable carriage within the frame, a pulley carried by the carriage, an endless belt passing over said pulleys, a wrist-pin bolted to the outer face of the belt, a pitman connection between the wrist-pin and side of the saw, a lever for moving and locking the carriage in its outward position for tightening the belt, a pulley carried by the shaft of the stationary pulley shaft, an engine in a line with the last named pulley, a belt passing over the pulley and driven by the engine.

8. A saw mill comprising a frame, L-shaped beams secured within the frame and extending beyond one end thereof, said beams arranged in pairs above each other forming a horizontal track above and below and facing each other, U-shaped clips carried by the frame and securing the beams to the frame, vertical plates connecting the L-shaped beams of the pair, a horizontal plate rigidly connected to one of the first mentioned plates, and means for adjustably connecting the horizontal plate to the other vertical plate, a saw between the L-shaped beams, means for reciprocating the saw, plates secured to the sides of said saw between the L-shaped beams, and rollers carried by the plates and adapted to roll upon the tracks formed by the beams.

9. A saw mill comprising a frame, beams within the frame and extending beyond the end thereof, said beams arranged in pairs above each other, means for adjustably connecting the outer ends of said beams, a saw between the beams of each pair, plates secured on opposite sides of the saw between the beams of each pair, rollers carried by the plates and bearing upon the beams, a U-shaped plate secured to one of the roller-carrying plates, a wrist-pin carried by the U-shaped plate, a pitman connected to the wrist-pin, and means for operating said pitman whereby the pitman is allowed to extend within the frame, substantially as described.

10. A saw mill comprising a frame, a reciprocating saw mounted therein and extending beyond one end, a guide for said saw, rollers carried by the side of the saw and

traveling on the guide to prevent a vertical movement of the saw, means for adjusting the outer end of the guide, a pulley mounted in the frame, a movable carriage within the frame, a pulley carried by the guide, an endless belt passing over said pulleys, a wrist pin extending transverse the belt and bolted to the outer face of the belt, a pitman connected between the wrist-pin and the side of the saw, a lever for moving and locking the carriage in its outward position for tightening the belt, and means for operating said belt.

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

DANIEL I. KEOUGH.

Witnesses:
FRANK C. BERGER,
THOS. H. CORNETT.