(No Model.)

J. H. DODDS.

SETTING DEVICE FOR SAWMILL CARRIAGES.

No. 491,090. Patented Feb. 7, 1893.

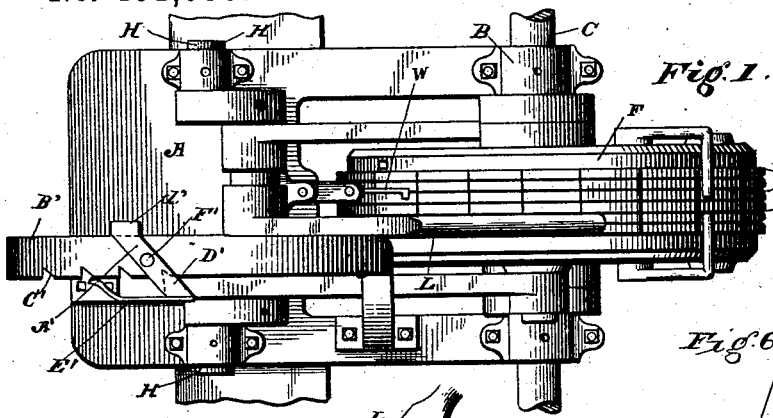

Fig. 1.

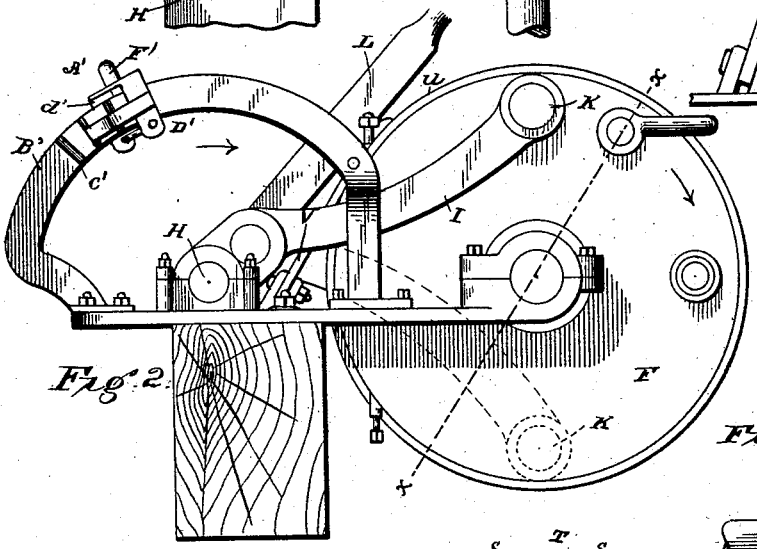

Fig. 2.

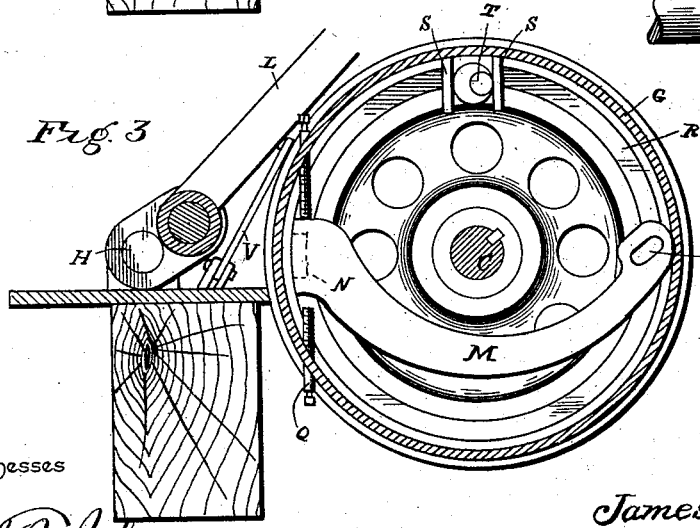

Fig. 3

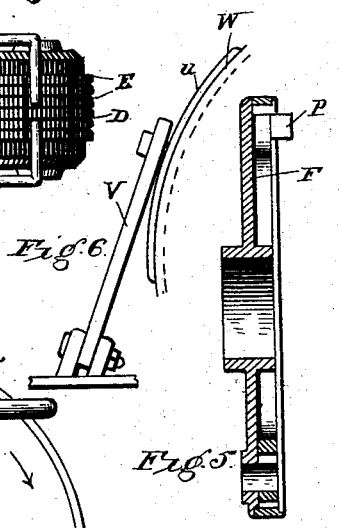

Fig. 6.

Fig. 5.

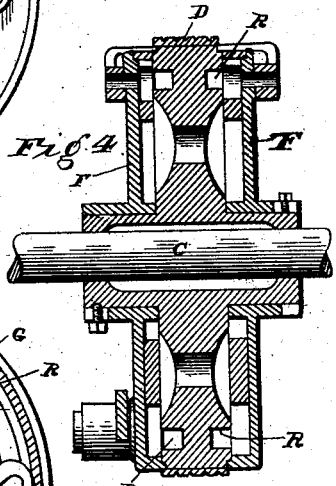

Fig. 4.

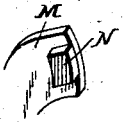

Fig. 7.

Witnesses

F. M. Johnson

Inventor

James Hugh Dodds

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JAMES HUGH DODDS, OF EAU CLAIRE, WISCONSIN.

SETTING DEVICE FOR SAWMILL-CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 491,090, dated February 7, 1893.

Application filed May 12, 1892. Serial No. 432,801. (No model.)

To all whom it may concern:

Be it known that I, JAMES HUGH DODDS, a subject of the Queen of Great Britain, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented new and useful Improvements in Setting Devices for Sawmill-Carriages; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in means for setting or adjusting the ends of the carriages of sawmills, the objects in view being to provide an efficient indicator which may be secured to the set-shaft of a sawmill carriage, which will clearly indicate the position of the knees of the carriage, and which will magnify any change in the position of the knees so that said change will be readily discernable to the setter and to the sawyer.

A further object of my invention is to provide efficient and readily operated means for adjusting the knees of the carriage to bring a log into proper position.

Further objects and advantages of my invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a plan view of a setting device embodying my improvements. Fig. 2 is a side view of the same. Fig. 3 is a similar view, with the near disk or rotary plate removed, and showing the band in section. Fig. 4 is a transverse sectional view of the indicator-wheel, taken upon line *x*—*x* of Fig. 2. Fig. 5 is a detail view in section of one of the disks or rotary plates. Fig. 6 is a detail side view of the indicator and supporting-arm. Fig. 7 is a detail of a clutch-lever.

A designates the base-plate, in bearings B B of which is mounted the set-shaft C, said set-shaft being that which is ordinarily employed in connection with the carriage of a saw mill to operate the knees, this construction being common and, therefore, requiring no particular description herein.

Keyed upon the set-shaft is the operating-wheel D, whose periphery is provided with a spiral groove E, extending continuously thereabout, and provided at intervals with graduations, as shown clearly in Fig. 1. Arranged in contact with, or in proximity to, the sides of this operating-wheel, are the opposite disks or rotary plates F, narrow movable bands G being interposed between the adjacent faces of said disks and the wheel and fitting in rabbets in said faces.

Arranged parallel with the set-shaft, and mounted in suitable bearings upon the base-plate, is the crank-shaft H, to the crank of which are connected the connecting-bars I, extending, respectively, upward and downward and mounted at their free ends upon crank-pins K, upon opposite sides of the disks or rotary plates, as shown in Fig. 2. A hand-lever L is attached to this crank-shaft, whereby the latter may be rocked.

Arranged between the opposite sides of the operating-wheel and the adjacent disks, are clutch-levers M, curved to pass around the shaft upon which said wheel is carried, and provided at one end, which is preferably that end adjacent to the crank-shaft, with a clutch-stud N, shown in Fig. 3, which lies in an annular groove in the side of the operating-wheel. The opposite end of the clutch-lever is provided with a longitudinal slot O, in which fits and operates an inwardly-extending stud P, which is fixed to the inner surface of the adjacent disk.

Fitted in tapped openings in the band G are the opposite stop-pins Q, which are arranged at their opposite ends in proximity, respectively, to the upper and lower sides of the clutch-lever at that end which bears the clutch-stud. These stop-pins are so arranged as to allow a limited longitudinal play of the clutch-stud in the annular groove R, for a purpose which will be hereinafter explained.

The band is provided with parallel depending slide-guides S, between which and mounted in bearings in the disk is an eccentric T, provided with a handle *t*.

U represents an indicator in the form of an arc of a circle corresponding with the periphery of the operating-wheel, and arranged to slide in the spiral groove which is formed in

the face of said wheel. This indicator is pivotally connected to a pivoted supporting-arm V, whereby it is held in position to cause a lateral pointer W, at the extreme upper end of the indicator, to travel over the face of the wheel.

The swinging movement of the hand-lever is limited by means of a stop A′, which is carried by a sector B′, said sector being provided, at one edge, with notches C′, and the stop being provided with a tooth D′ to engage said notches, and a spring E′ to hold said tooth in engagement with the desired notch. The stop is provided with a handle F′, by which it may be adjusted.

In operation, the swinging movement of the hand-lever in the direction indicated by the dart in Fig. 2, causes the right-hand disk or rotary plate to turn in the direction indicated by the dart, the pin upon the inner surface of said disk sliding in the slot in the end of the adjacent clutch-lever and depressing said end, whereby the clutch-stud is caused to bind in the groove R and turn the wheel forward or in the same direction with the disk. As the hand-lever is drawn backward, the stud upon the disk slides outward in the slot of the clutch-lever, thereby releasing the latter and enabling the disk to turn independently of the wheel, but said backward movement of the hand-lever rotates the opposite disk in the direction of the dart in Fig. 2, or forward, which disk being provided with a similar stud engaging a similar clutch-lever and operating, by means of a clutch-stud, in an annular groove corresponding to that which is shown in Fig. 3, turns the wheel forward or in the same direction as it was turned by the first-mentioned disk. Thus it will be seen that both the forward and backward movements of the hand-lever rotate the operating-wheel forward.

The stop-pins Q, which are duplicated upon the opposite side of the operating-wheel, are adjusted so as to hold that end of the clutch-lever which carries the clutch-stud in the proper position to clutch the opposite sides of the annular groove, and by reversing the adjustment of said pins from the position shown in Fig. 3 so as to cause the lower stop-pin to bear against the under side of the clutch-lever, with an interval between the upper side of said lever and the end of the upper pin, the operation of the mechanism will be reversed, the right-hand disk being locked to the operating-wheel when the lever is moved in the opposite direction to that indicated by the dart in Fig. 2, or backward, and the opposite disk being locked to the wheel when the hand-lever is moved in the direction indicated by said dart. In order to accomplish readily and speedily this reversal of the operation of the stop-pins, to allow the set-shaft to be reversed to cause a retrograde movement of the carriage, I provide the eccentric T above described, by the reversal of which the band, which carries said stop-pins, is moved relatively to the disk by contact with the slide-guides.

The operation and functions of the above described device are well known in the art and need no further description in connection with my improvement.

Having described the invention, what is claimed as new is:—

1. In a setting device for saw-mill carriages, the combination with a set-shaft, of an operating-wheel provided in its opposite sides with annular grooves, the clutch-levers arranged in proximity to the opposite sides of said wheel and provided with clutch-studs to engage the said grooves, the disks or rotary plates provided with studs to engage slots in the free ends of said clutch-levers, and means to rotate said disks alternately in opposite directions, substantially as specified.

2. In a setting device for saw-mill carriages, the combination with a set-shaft, of an operating-wheel provided with opposite annular grooves, the opposite clutch levers provided with clutch-studs to engage said grooves, the opposite rotary disks provided with studs to engage slots in the free ends of said clutch-levers, and the crank shaft provided with a hand-lever and connected to said disks by oppositely-extending operating-bars, substantially as specified.

3. In a machine of the class described, the combination with a set-shaft, operating-wheel, clutch-mechanisms, and a crank-shaft connected to said clutch-mechanisms, of an operating lever, a notched sector, and a stop A′ provided with a tooth D′ and a retaining spring to hold the tooth in engagement with the desired notch, substantially as specified.

4. In a setting device for saw-mill carriages, the combination with a set-shaft, of an operating-wheel, the opposite rotary disks, means to operate said disks in opposite directions, the opposite clutch-levers provided at one end with clutch-studs to engage annular grooves in opposite sides of the wheel and connected at their free ends, respectively, to the said disks, and the stop-pins arranged adjustably in the path of that end of each clutch-lever which bears the clutch-stud, whereby the lateral movement of said end of the lever is limited, substantially as specified.

5. In a setting device for saw-mill carriages, the combination with a set-shaft, of an operating-wheel, opposite rotary disks, means to rotate said disks in opposite directions, clutch-levers connected to the disks and provided with clutch-studs to engage annular grooves in opposite sides of said wheel, the movable bands arranged between the disks and the adjacent sides of the wheel, the stop-pins carried by said bands and arranged in the path of the clutch-ends of said levers, and means to adjust said bands to bring opposite stop-pins in contact with the clutch-levers, substantially as specified.

6. In a setting device for saw-mill carriages, the combination with a set-shaft, of an oper-

ating-wheel, the opposite rotary disks, means to rotate said disks in opposite directions, movable bands arranged between the opposing surfaces of the disks and the wheel, clutch-levers loosely connected at one end to the disks and provided at the opposite end with clutch-studs to engage annular grooves in opposite sides of the wheel, stop-pins adjustably mounted in said bands, eccentrics rotatably mounted in bearings in the disks, and slide-guides carried by the bands and engaged by said eccentrics, substantially as specified.

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

JAMES HUGH DODDS.

Witnesses:
C. A. CUMMINGS,
FRANK R. FARR.