H. R. SCHEIDLER.

SET GEAR FOR SAWMILLS.

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916,028. Patented Mar. 23, 1909.

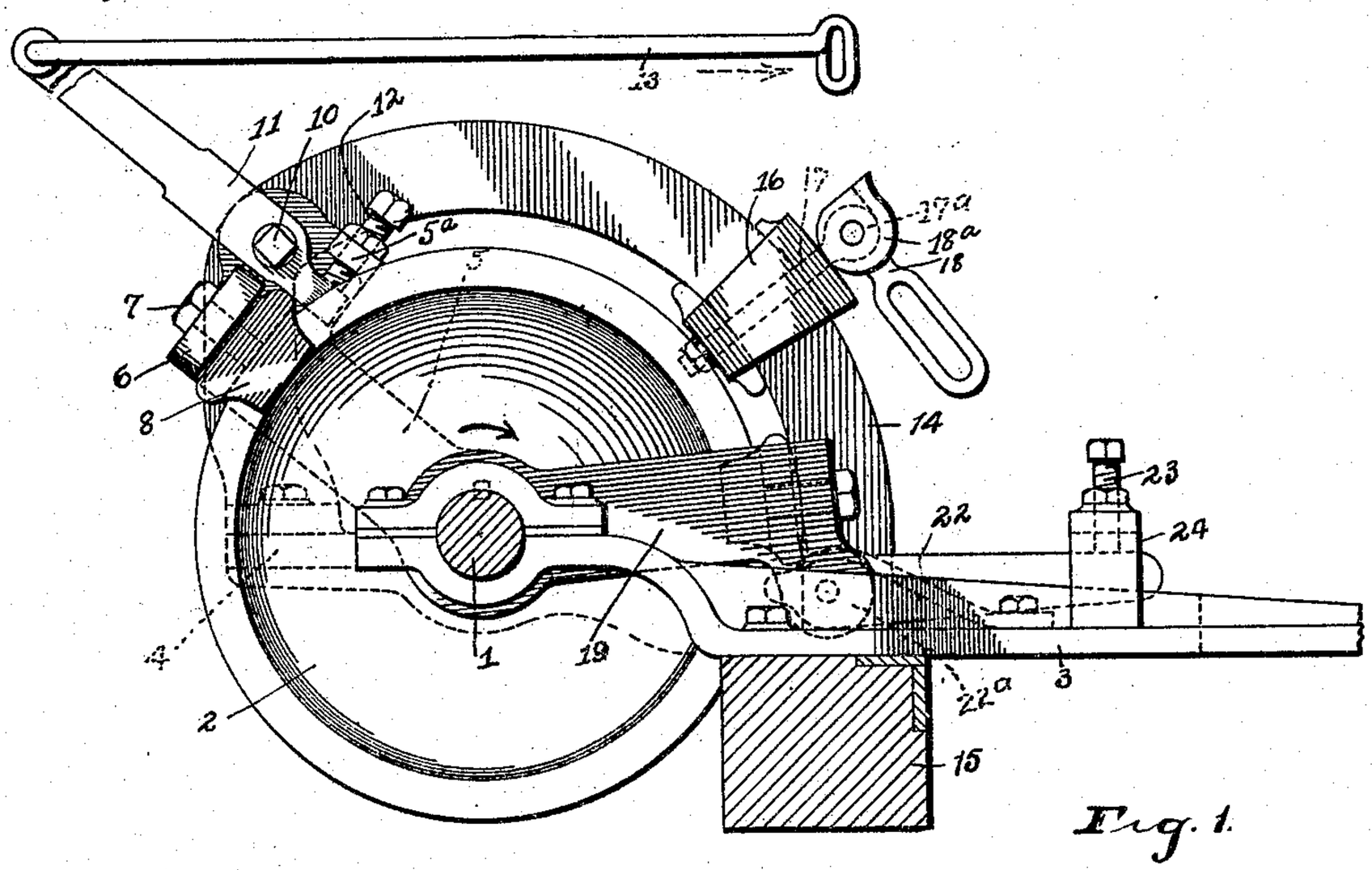

Fig. 1.

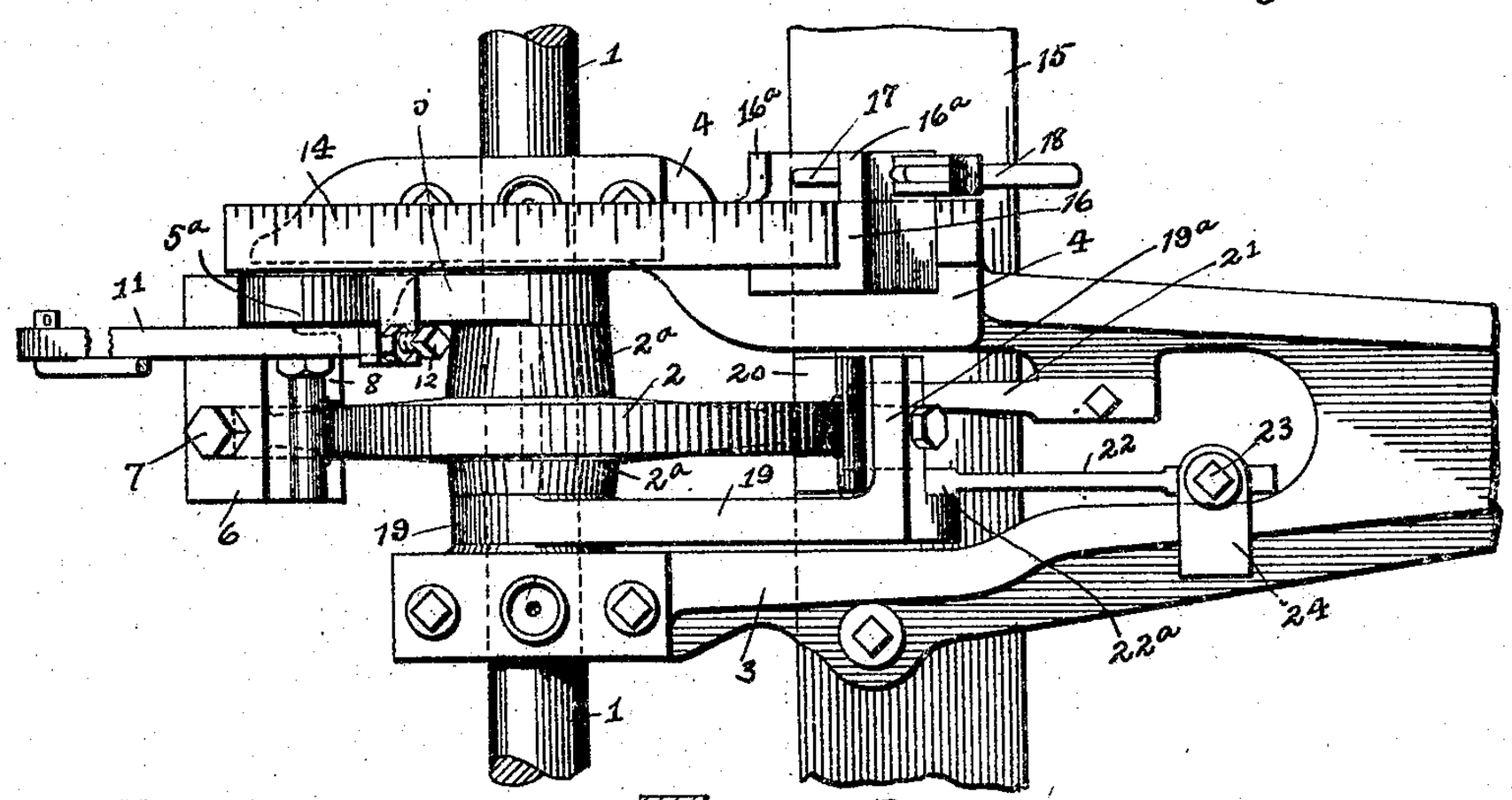

Fig. 2.

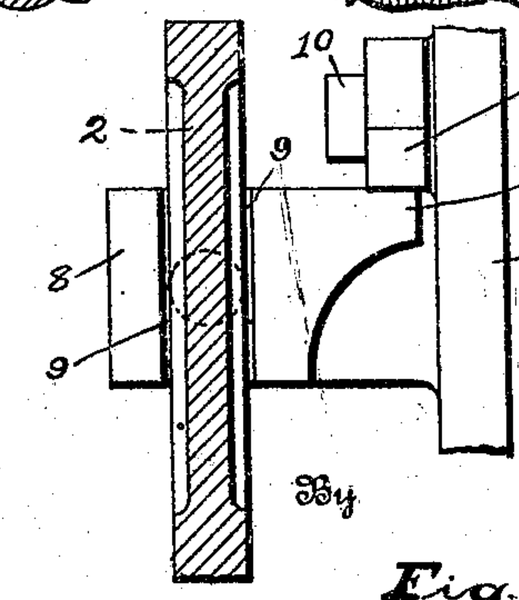

Fig. 3.

Witnesses

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SET-GEAR FOR SAWMILLS.

No. 916,028. Specification of Letters Patent. Patented March 23, 1909.

Application filed February 7, 1908. Serial No. 414,691.

To all whom it may concern:

Be it known that I, HENRY R. SCHEIDLER, a citizen of the United States, residing at Newark, in the county of Licking and State of Ohio, have invented certain new and useful Improvements in Set-Gears for Sawmills, of which the following is a specification.

My invention relates to set-gears for saw mills of that class which are adapted to control the rotation of a shaft which in turn controls the usual means for changing the position of a log on the head blocks to facilitate the cutting of the log into boards.

The object of my invention is to provide a set-gear of this character of superior construction and arrangement of parts; to provide in my set-gear improved means for gripping and moving the shaft controlling disk; to so construct said means as to insure accuracy and uniformity of operation; to provide improved means for preventing a retrograde movement of the shaft controlling disk and to produce other improvements the details of which will be more fully pointed out hereinafter.

These objects I accomplish in the manner illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of my improved set-gear showing the usual log controlling shaft in section, Fig. 2 is a plan view, and, Fig. 3 is an inner side view of the main clutch or friction head enlarged from that shown in Figs. 1 and 2 and showing a portion of the disk with which said clutch head is adapted to engage, in section.

Similar numerals refer to similar parts throughout the several views.

1 represents the shaft, the movement of which regulates the position of a log on the cross heads in the usual or any well known manner. On this shaft is carried a disk 2 having short hub projections 2^a.

3 and 4 represent the frame arms in which the shaft 1 is mounted, the frame arm 4 extending to a greater distance beyond the shaft than the frame arm 3. Upon the shaft 1 adjacent to the frame arm 4 is fulcrumed the inner end of a clutch carrying arm 5. This arm 5 has its outer and upwardly turned head portion 5^a provided with a laterally extending bracket 6, to the underside of which is pivoted by means of a bolt 7, a friction or clutch head 8. This clutch head is bifurcated or grooved as indicated at 9, the groove or bifurcation being slightly wider than the thickness of the rim of the disk 2 which said groove embraces. As shown more clearly in Fig. 3 of the drawing, the clutch head 8 is provided on one side with a lateral extension 8^a.

To the outturned head of the arm 5 is fulcrumed at 10 a lever bar 11, the inner end portion of which is adapted to contact with one end of a set screw 12 which is adjustably mounted in a lug 5^a which projects from the head of the arm 5 said set screw limiting the movement of said lever 11 in one direction. The outer end portion of the lever bar 11 has connected therewith the usual operating rod 13.

In the operation of imparting a partial rotation to or movement of the shaft in the direction of the full line arrow for the purpose hereinbefore set forth, the operating rod is pulled in the direction indicated by the dotted arrow, causing a pressure of the inner end portion of the lever against the lateral extension 8^a of the clutch head 8 which in turn results in twisting or swinging said clutch head on its pivot causing two of the diagonally opposed edges or ends of the walls of the grooves 9 to effect a biting engagement with the faces of the disk rim. This engagement having taken place and a firm hold having thus been attained by the clutch head on the disk, the continued pulling movement on the operating rod will result in a corresponding rotary movement of the disk 2 and its shaft 1.

In order to provide a predetermined limit of movement for the disk, I employ a fixed curved arm or sector 14, which bows upward from the frame arm 4. Upon this sector and in the path of the outer end of the arm 5 is mounted to slide a stop block 16, said stop block having its upper and lower members connected on one side and having said upper and lower members formed with lateral extensions 16^a on the opposite side of the sector. Through these lateral extensions of the top and bottom members of the block passes loosely a pin 17, the lower end of which is provided with a nut adapted to engage the underside of the block extension and the upper end of which above the block extension is provided with a rounded head 17^a This rounded termination of the pin is pivoted within the cam shaped head 18^a of a cam lever 18.

It will be understood that the block can be securely set in connection with the sector at

any desired point thereon by moving said block to the exact position desired, then pressing downward on the cam lever until the pressure exerted by the cam head and the outward pull on the pin 17, results in clamping the top and bottom members of the block in rigid frictional engagement with the sector. In order to facilitate the setting of the stop-block for the cutting of boards of predetermined thickness, I have formed on the upper side of the sector a plurality of scale marks such as are shown in Fig. 2 of the drawing, which marks may represent inches and fractions thereof.

In order to prevent a retrograde or reverse movement of the disk and shaft, I mount on said shaft adjacent to the hub 2^a, the inner end of a clutch arm 19, the latter having a terminal branch 19^a extending at right angles with the body of the arm and said branch having pivotally connected therewith a grooved clutch body corresponding with the clutch head 8 and the groove of which also receives the rim of the disk. Bearing against and exerting an upward pressure on the underside of one end of the clutch-head 20 is the free end of a spring 21, the remaining end of which is fixed to the supporting frame. The pressure of the spring 21 is such as to retain the clutch-head in a tipped or slightly turned position so that two of the diagonally opposed corners of its groove will have a biting engagement with the sides of the disk rim. It will be noted, however, that the pressure of the spring 21 will not be sufficient to produce a binding or clamping action of the clutch 20 on the disk of sufficient strength or intensity to prevent the movement of the disk through the hereinbefore described operation of the lever 11, although the engagement of the clutch 20 and the disk will be sufficient to prevent a voluntary retrograde movement of said disk.

To a downward extension of the outer end of the arm 19, I pivot as indicated partially in dotted lines and partially in full lines in Fig. 1 of the drawing, and in full lines in Fig. 2, the cam-shaped head 22^a of an outwardly extending lever bar 22, said cam-shaped head being, as shown, located beneath that end of the clutch 20 which is on the opposite side of the disk from the spring 21, while the outer end of the lever 22 has its upper side in engagement with the lower end of a set screw 23 which is vertically adjustable in a fixed upright bracket 24. By turning said set screw downward, the cam head of the bar 22 may be raised, thus overcoming the effect of the spring 21 and returning the clutch 20 to its proper horizontal position, whereby said clutch will be disengaged from the disk 2 and permit the latter to be rotated rearwardly after the sawing of a log into boards has been completed.

From the construction and operation which I have described, it will not only be understood that improved means are provided for moving the disk to a predetermined distance limited by the position of the stop-block, but that a sufficient grip of the clutch 8 is attained on the disk before any movement of the latter takes place, to insure the movement of said disk without slipping, It is well known that where mechanism is provided for the simultaneous gripping and movement of the disk, a slight slipping of the clutch on the disk sometimes results, thereby interfering with the accurate and uniform movement of the disk.

It will be observed that my improved set-gear is simple in construction and positive in its operation.

What I claim, is:

1. In a set-gear, the combination with a shaft and a disk carried thereon, of an arm mounted to swing on said shaft, a clutch-head pivotally connected with said arm and adapted to engage said disk rim, a pivoted lever for throwing said clutch into engagement with said disk rim and for moving the disk, a second clutch carrying arm mounted to swing on said shaft, a clutch-head pivoted thereto, a spring exerting pressure under one end of said last mentioned clutch-head, and an adjustable cam bar having its cam-shaped head bearing on the underside of the remaining end of said last mentioned clutch head.

2. In a device of the character described, the combination with a shaft, of a disk mounted thereon, a swinging arm also mounted upon said shaft, a grooved clutch embracing the face of said disk, and pivoted to said arm in a manner to permit it a twisting movement to cause its edges to engage the opposite sides of the disk, an operating handle pivoted to said lever and having a tail which engages with said clutch upon the initial movement of the lever to twist said clutch, continued movement of said handle serving to swing said lever and move said disk.

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

HENRY R. SCHEIDLER.

Witnesses:

O. A. SCHEIDLER,

ROBBINS HUNTER.