May 7, 1929. W. C. SHELOR 1,711,698

CLUTCH LEVER LATCH

Filed Dec. 9, 1927

Fig. 1

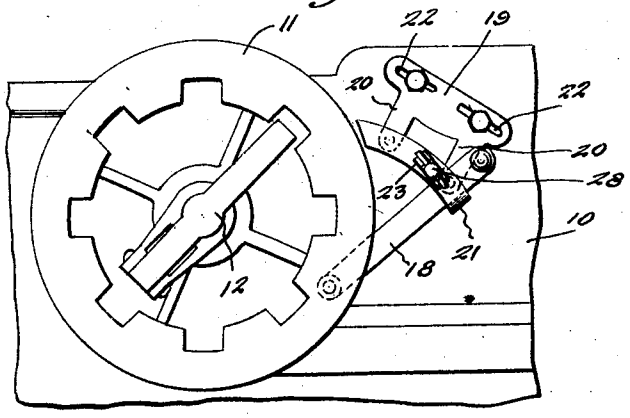


Fig. 2

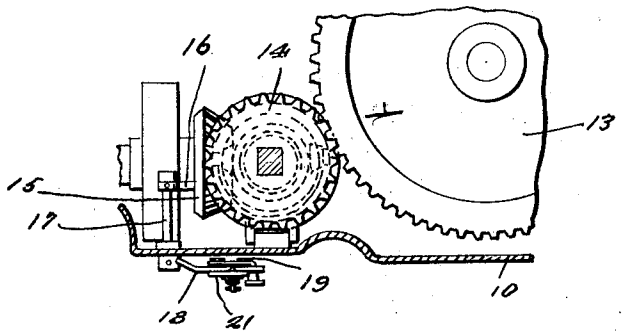


Fig. 3

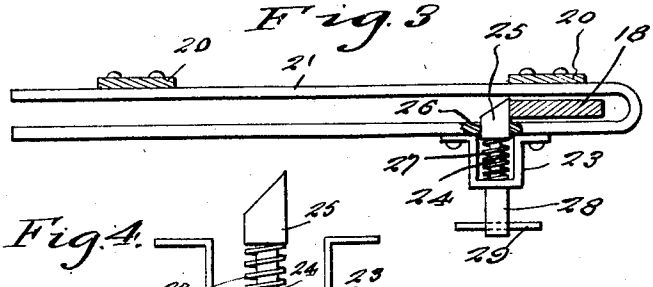
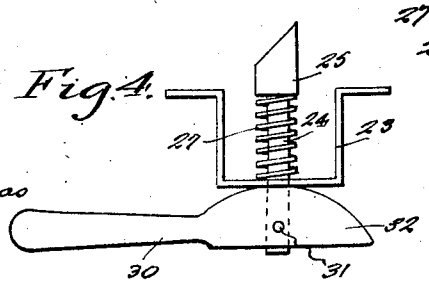


Fig. 4.



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UNITED STATES PATENT OFFICE.

WADDIE C. SHELOR, OF TAMS, WEST VIRGINIA.

CLUTCH-LEVER LATCH.

Application filed December 9, 1927. Serial No. 238,924.

This invention relates to improvements in clutch controlling devices and is especially designed for use in connection with coal mining machines of the power driven cutter chain type.

In the use of machines of this character, it is necessary to frequently change the position of the machine and for this purpose, one of the machine operators rides the pony truck, while another rides the cutter head. At this time, the clutch which controls the operation of the cutter chain is in neutral position so that the cutter chain remains stationary. Sometimes the locking or latching means which holds the clutch inactive, will be jarred from its position and the clutch will accidentally engage, whereupon the chain will immediately begin operation with the result that the operator riding the cutter head is in great danger and frequently becomes more or less seriously injured.

The present invention aims to overcome this and other disadvantages by providing means for securely locking or latching the clutch control lever in position, so that the clutch which controls the cutter chain will not be accidentally engaged.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is a side elevation showing a fragmentary portion of a mining machine of the "Goodman Shortwall" type with the invention applied.

Figure 2 is a fragmentary view partly in plan and partly in section.

Figure 3 is a top plan view of the invention per se with the clutch lever locked against movement.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates a portion of the housing of a mining machine upon which is mounted a drum 11 and a winding handle 12, this drum and winding handle forming a part of the Goodman machine above mentioned. The reference character 13 indicates a portion of the gear which operates the cutter chain and will be hereinafter referred to as the driving mechanism. This gear is operated from a pinion 14 which is driven by a pinion 15, the latter receiving power from a motor or other power unit (not shown). Interposed between the pinion 14 and the pinion or driving mechanism 15 is a suitable clutch which has associated therewith an arm 16 which is attached to a rock shaft 17. This shaft extends through the housing 10 and has secured thereon an operating lever 18. The lever 18 is operated to move the clutch into and out of position for the purpose of driving the driven mechanism 13 and operating the cutter chain. All of the foregoing may be of the ordinary or any preferred type of driving mechanism and forms no part of the present invention.

The invention resides in means for holding the clutch lever 18 against accidental movement, so that when the machine is being transferred from one place to another, the clutch will not be permitted to engage and operate the cutter chain and possibly injure the machine operators, as previously stated. For this purpose, there is secured to the housing 10 a supporting bracket 19 which includes spaced arms 20 and secured to these arms is a yoke 21 which embraces the lever 18. The bracket 19 is adjustably mounted upon the housing and for this purpose is provided with elongated slots 22, so that the yoke 21 may be properly positioned with respect to the lever 18. Secured to the yoke 21 is a substantially U-shaped bracket 23 and slidingly mounted in this bracket is the reduced shank 24 of a latch head 25. This head operates through an opening 26 provided in the yoke 21 and is arranged in the path of pivotal movement of the lever 18. One face of the latch head 25 is beveled as shown in Figure 3 of the drawings so that the lever 18 may be freely moved into position to lock the clutch disengaged, but when in such position, the lever may only be released by manual operation of the latch. Mounted upon the reduced shank 24 of the latch is a spring 27 which acts to yieldingly force the latch head inwardly in the path of movement of the lever 18. The outer end of the shank carries an enlarged portion or grip 28 which is provided with oppositely extending fingers 29.

When it is desired to lock the clutch in disengaged position, the clutch lever 18 is moved to the position illustrated in Figures 1 and 3. It will thus be securely held against movement in an opposite direction by engagement with the latch head 25. The lever 18 may be

released by pulling the latch head outward against the action of the spring 27, while inward movement of the latch head is limited by the engagement of the inner end of the enlarged portion or grip 28 with the outer end of the bracket 23.

In Figure 4 there is illustrated a slightly different form of operating means for the latch 25. In this figure a lever 30 is pivotally secured to the outer end of the shank 24 of the latch as shown at 31 and this lever is provided with a cam head 32. It will be apparent that by moving the lever pivotally, the latch 25 may be retracted against the action of the spring 27 so as to release the lever 18.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

In combination, a pivotally movable clutch control lever, a guide yoke embracing the lever, a guide bracket carried by the yoke, a latch head movable transversely through the yoke, a reduced shank extending through the head and guided in the bracket, a spring surrounding the reduced shank and bearing against said head and bracket and an enlarged gripping portion at the outer end of the shank and normally bearing against the bracket.

In testimony whereof I affix my signature.

WADDIE C. SHELOR.