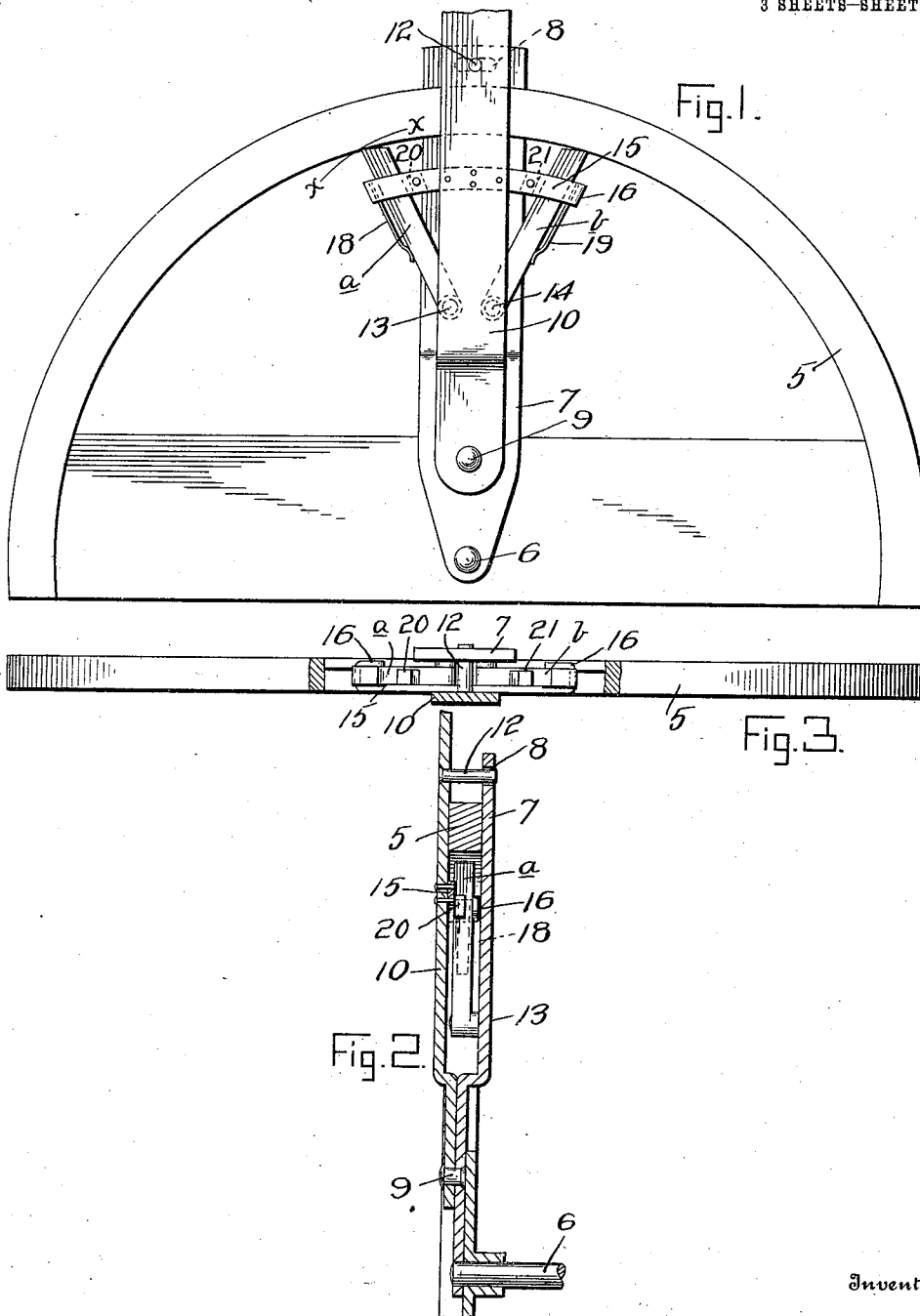


L. ROMINES.
SELF LOCKING LEVER.
APPLICATION FILED MAY 26, 1908.

980,008.

Patented Dec. 27, 1910.

3 SHEETS-SHEET 1.



Witnesses

C. K. Reichenbach
H. C. Armstrong

Inventor

Leroy Romines

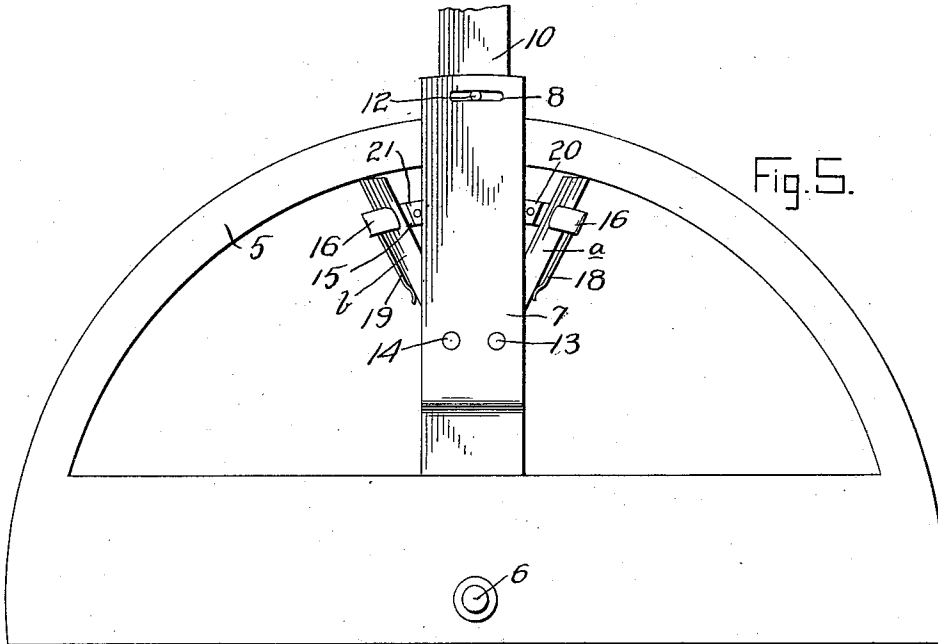
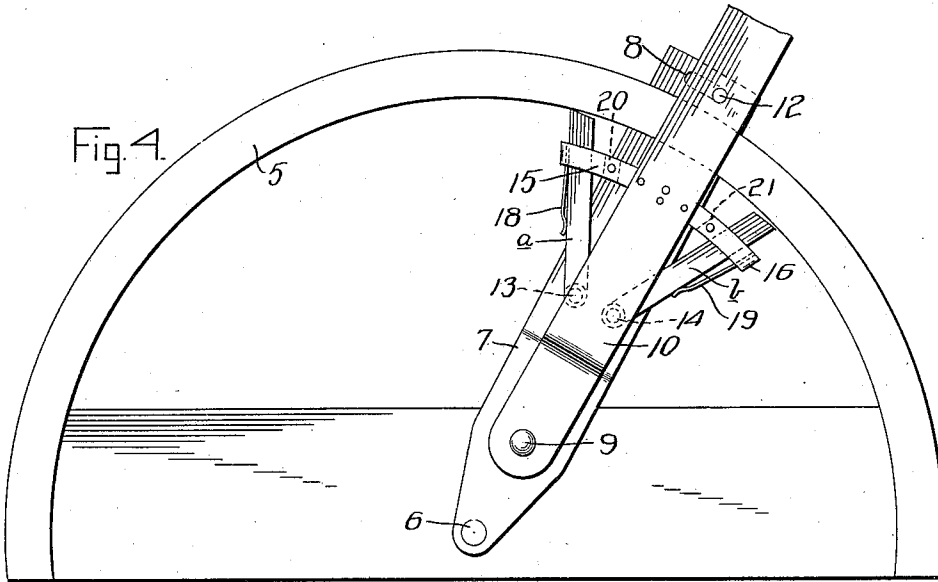
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3 SHEETS—SHEET 2.



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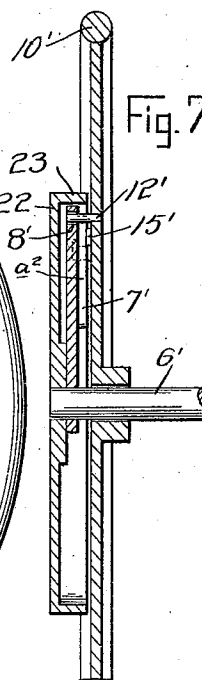
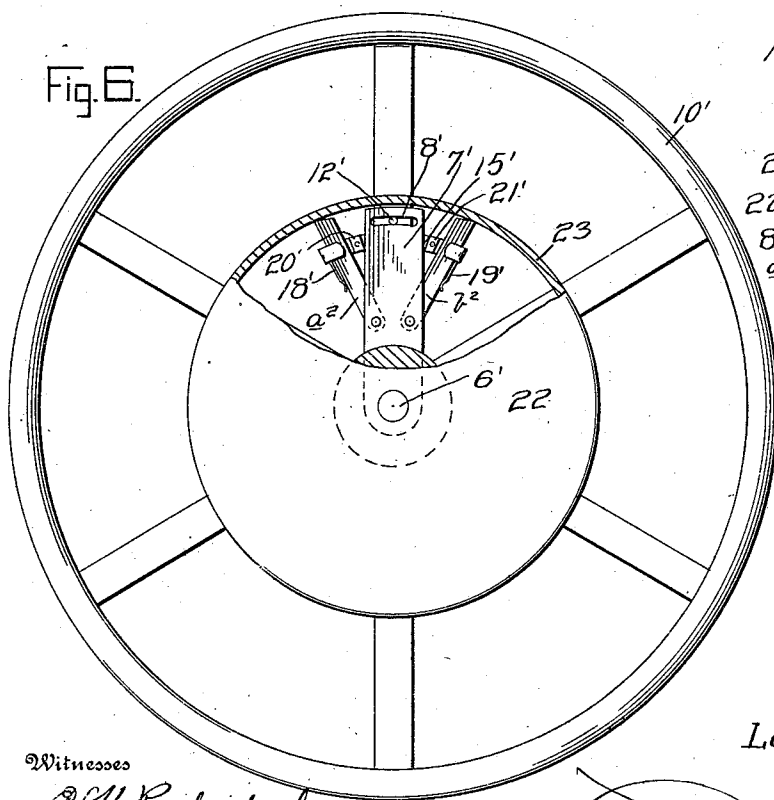
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3 SHEETS—SHEET 3.



Witnesses

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UNITED STATES PATENT OFFICE

LEROY ROMINES, OF MARTINSVILLE, ILLINOIS.

SELF-LOCKING LEVER.

980,008.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed May 25, 1908. Serial No. 434,942.

To all whom it may concern:

Be it known that I, LEROY ROMINES, a citizen of the United States, residing at Martinsville, in the county of Clark, State of Illinois, have invented certain new and useful Improvements in Self-Locking Levers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in self-locking levers.

The object of the invention is to provide a lever constructed so that the same may be automatically locked in any position in which it is set, the operation of setting and releasing the lever-locking mechanism being noiseless.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which,

Figure 1 is a front elevation of a lever-locking mechanism embodying the invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a top view with portions cut away. Fig. 4 is an elevation showing the lever in released position. Fig. 5 is a reverse view of Fig. 1. Fig. 6 is a front elevation of a modified form of the invention. Fig. 7 is a vertical section through Fig. 6.

Corresponding parts, or features, as the case may be, are designated by the same reference numerals throughout the views.

The invention resides, as stated, in the provision of a lever in which the lever-holding and locking mechanism will be automatically actuated, so that the lever can be noiselessly set and automatically locked at any desired point, while the unlocking movement of the lever will instantly disengage the detent to release the lever.

In the accompanying drawings, 5 designates a friction segment which is secured to a suitable frame or other support, the latter carrying also the shaft or pivot 6, to which a stub lever 7 is operatively connected, said lever being movable against one face of the segment 5. The lever has a transverse slot 8 formed in its upper end. At a suitable point above the shaft 6, the lever 7 has secured thereto a lateral pin 9 upon which is pivotally mounted a hand lever 10 carrying a lateral stop pin 12 which works within the slot 8, and thus limits the independent movement of the hand lever.

To the stub lever 7 along opposite edges thereof, and near the pin 9 are secured a pair of pins 13 and 14, which carry respectively, the locking bars *a* and *b*, the upper ends of which frictionally engage the inner peripheral edge of the segment 5. The length of these bars is such that the arc *x*, as shown in Fig. 1 and representing the movement of the free end of the locking bar *a* will intersect the arc formed by the inner peripheral edge of the segment.

Fastened centrally to the hand lever is an arcuate yoke 15, the terminals of which are bent to form keepers 16 that receive the locking bars, as clearly shown in Fig. 3. The upper ends of the bars are normally held in the above described frictional engagement by means of leaf springs 18 and 19, whose lower ends are attached to the bars, while their upper ends bear against the connecting portions of the yoke between the body thereof and the bent end portions 16, the tension of the springs forcing said bars inwardly or toward each other, as will be apparent. The disposition of the free ends of the spring between the lock bars and the curved end portions 16 of the yoke, and the extension of said end portions past the spring ends, tend to hold said spring ends against lateral displacement with respect to the bars. The yoke is further provided with a pair of releasing lugs 20 and 21, which are secured thereto adjacent the inner longitudinal edges of the locking bars.

In the operation of the invention, if it is desired to adjust the lever 7, the operator moves the hand lever toward the lock bar *a*, for example. In this operation the lug 20 engages the lock bar *a*, and forces this bar out of engagement with the segment 5, the pin 12 being carried by such movement of the hand lever to the adjacent end of the slot 8, whereupon the continued movement of the hand lever will effect the movement of the stub-lever. As soon as the desired adjustment of the stub lever is effected, the hand lever is released, whereupon the tension of the springs 18 and 19, will swing the lock-bars inwardly or toward each other, re-engaging their ends with the friction segment, and at the same time, will return the hand lever to its normal position with respect to the stub lever, *i. e.*, with the pin 12 disposed midway between the ends of the slot 8. The stub lever is thus securely locked in its adjusted position, as will be apparent.

In the further modification shown in Figs. 6 and 7, the hand-lever is replaced by a hand-wheel 10', to which the yoke 15' is secured, said wheel being loosely mounted upon the shaft or pivot 6'. The friction segment is likewise replaced by a circular disk 22 which is secured to the frame and is provided with an inwardly-extending peripheral flange 23 whose inner face is frictionally engaged by the upper ends of the lock-bars a^2 and b^2 . These bars are pivoted, as in the first form of the invention, to the stub lever 7' which is keyed to the shaft 6' and is provided with a transverse slot 8' into which extends the pin 12' carried by the hand wheel 10'. The stub lever 7' is adjusted by a rotation of the hand wheel in the proper direction, the adjacent lock-bar being released from engagement with the flange 23 by the corresponding lug 20' or 21', the springs 18' and 19' returning the wheel to its normal position with the pin 12' disposed intermediate the ends of the slot 8', when said wheel is released. It will be apparent, therefore, that the wheel is the full equivalent of the lever, and that the term "lever" may be applied with equal propriety to both elements. While the bars a^2 and b^2 are shown as frictionally engaged with the inner face of the flange 23, it is to be understood that said bars may be provided with shoes which are similar to those shown in Fig. 6, and arranged for contact with the outer face of the flange. As this additional modification involves no change whatever in the operation of the invention, separate illustration thereof is deemed unnecessary.

The device is both noiseless and positive of operation.

What is claimed is:

1. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally to the hand lever and having its terminals bent to form keepers, a pair of locking bars pivoted at one end to the stub lever and having their free ends arranged for engagement with the segment and their intermediate portions engaged by the keepers; a pair of springs normally forcing the bars toward

each other and into engagement with the segment, said springs having one end in engagement with the keepers and the other end in engagement with the bars.

2. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally to the hand lever and having its terminals bent to form keepers, a pair of locking bars pivoted at one end to the stub lever having their free ends arranged for engagement with the segment and their intermediate portions engaged by the keepers, a pair of leaf springs normally forcing the bars toward each other and into engagement with the segment, said springs having one end in engagement with the keepers and the other end in engagement with the bars, and a pair of lugs secured to the yoke adjacent the ends thereof for releasing the bar ends from engagement with the segment when the hand lever is moved in one direction or the other.

3. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally to the hand lever and having its terminals bent laterally and then inwardly toward each other, so the inwardly extending portion of said terminals will lie in spaced substantially parallel relation to its body portion, a pair of locking bars pivoted at one end to the stub lever and having their free ends arranged for engagement with the segment and projecting through the spaces between the inwardly projecting terminals and the body portion of said yoke, and a pair of leaf springs normally forcing the last mentioned ends of the bars into engagement with the segment, said springs being secured at one end to the bars and having their free ends projecting through the spaces between the inwardly projecting terminal portions and the body portion of the yoke.

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

LEROY ROMINES.

Witnesses:

MINNIE ROMINES,
G. W. BROSMAN.