C. CARSON.

REGISTER RESET.

APPLICATION FILED AUG. 9, 1919.

1,344,288. **Patented June 22, 1920.**

Fig. 1.

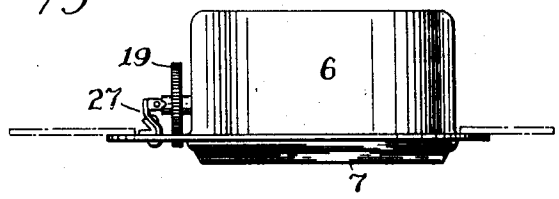


Fig. 2.

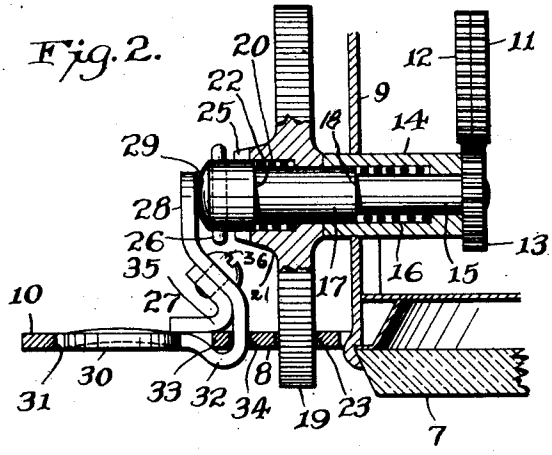
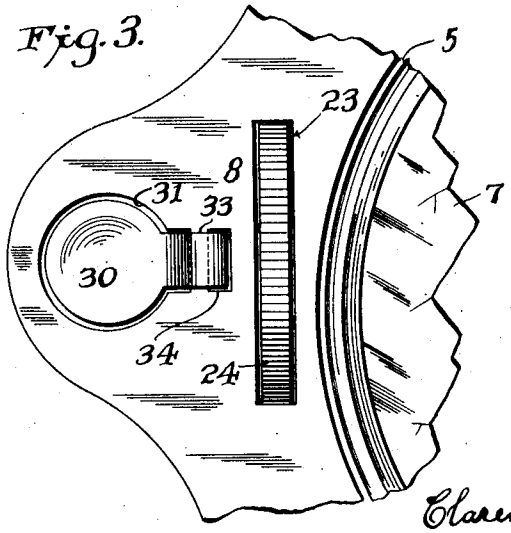


Fig. 3.



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CLARENCE CARSON, OF NEW ROCHELLE, NEW YORK, ASSIGNOR TO H. W. JOHNS-MANVILLE COMPANY, A CORPORATION OF NEW YORK.

REGISTER-RESET.

1,344,288. Specification of Letters Patent. Patented June 22, 1920.

Original application filed June 16, 1915, Serial No. 34,344. Divided and this application filed August 9, 1919. Serial No. 316,302.

To all whom it may concern:

Be it known that I, CLARENCE CARSON, a citizen of the United States, and resident of New Rochelle, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Register-Resets, of which the following is a specification.

My invention relates to a flush mounting for odometers and similar instruments which include mechanism requiring a manual resetting of certain of the mechanical parts and constitutes a continuation of the subject-matter of my co-pending application, Serial No. 33,255 filed June 10, 1915, and a divisional application of my Patent No. 1,323,449, granted December 2, 1919.

One of the objects of my invention is to provide a simple construction for positioning an odometer in a mounting arranged so that the instrument or at least the mechanism thereof is in rear of the mounting but the manual control for resetting the same is conveniently accessible from the front of the mounting.

A further object of the invention is to provide a construction which can be easily and quickly actuated and which will be free of loose play of any of the parts.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the drawings:

Figure 1 is a plan view looking down upon an odometer positioned on a mounting and disclosing a preferred embodiment of my invention;

Fig. 2 is a detailed enlarged view partially in section of parts of the device shown in Fig. 1; and

Fig. 3 is a fragmentary front view of the device shown in Fig. 2.

In the following description and in the claims, parts will be identified by specific names for convenience of expression but they are intended to be as generic in their application to similar parts as the art will permit.

In the drawings there is shown a mounting which may be in the form of a plate constituting part of the complete instrument or which may be any suitable support such as the dash board of a motor vehicle.

The mounting has an opening 5 in which is fixedly positioned the odometer 6 with the front facing 7 thereof substantially flush with the front 8 of the mounting and with the mechanism containing casing 9 thereof projecting rearwardly of the rear face 10 of the mounting.

The revolution counter mechanism of the odometer includes a pair of gear wheels 11 and 12 with a third gear wheel 13 normally constituting a gear connection for driving one of the gear wheels 11 from the other gear wheel 12, by locking the two together.

In order to reset the counter mechanism it is necessary to rotate the gear wheel 11 independently of the gear wheel 12 and this is accomplished by shifting the third gear wheel 13 and rotating the same manually.

For this purpose, the casing is provided with a hollow cylindrical bearing 14 extending through the side thereof in which bearing is mounted a shaft 15 extending parallel to and in rear of the mounting. The gear wheel 13 is fixed to the inner end of the shaft and is normally held against the adjacent end of the bearing and in meshing engagement with both the gear wheels 11 and 12 by means of a spring 16 housed within the bearing. The outer portion 17 of the shaft is enlarged to provide a shoulder 18 within the bearing to engage one end of the spring 16 and to provide a relatively long sliding fit between the shaft and its bearing.

A manually actuated wheel 19 is loosely mounted on the enlarged portion of the shaft and is maintained in position fixed against movement longitudinally of its axis of rotation and in engagement with the outer end of the bearing by means of the spring 20. This spring is housed within the hub 21 of the wheel and bears thereagainst and against a shoulder 22 formed on the shaft adjacent its outer end. The wheel is of relatively large diameter so that a portion thereof may project through an opening 23 in the mounting.

The periphery of the wheel is provided with a knurled surface 24 to facilitate the rotation of the wheel when engaged by a finger of the operator moving across the projecting portion of the wheel.

The outer face of the hub 21 is provided with a pair of diametrically extending slots 25 constituting one element of a clutch, the coacting element of which is a pin 26 set in the outer end of the shaft and projecting laterally from opposite sides thereof. The clutch is normally maintained in inoperative position by means of the springs 16 and 20. In order to shift the shaft longitudinally against the action of these springs, the outer end thereof is engaged by a manually actuated control member 27 preferably in the form of a bell crank lever. One arm 28 of this lever provides a bearing surface for engaging the end of the shaft which end is preferably in the form of a rounded head 29 to reduce friction between the rotating shaft and fixed lever. The other arm of the lever forms a concaved faced thumb plate 30 fitting within an opening 31 provided therefor in the mounting and substantially flush with the outer face 8 of the mounting.

A simple form of fulcrum is provided for the lever by looping the bend 32 thereof about the front of a bar 33 formed by the openings 31 and slot 34 in the mounting. The lever is retained in place and braced across the bend by an angle member 35 extending across the rear side of the bar 33 and fastened to the lever by means of a rivet 36.

In operation, it will be understood that the parts are normally in the position shown in Fig. 2, in which gear wheel 12 may be considered as the driving member of the odometer mechanism and geared to the driven member 11 by means of the shiftable gear wheel 13. Should it be desired to reset the mechanism by the manual rotation of the gear wheel 11, the gear wheel 13 is shifted longitudinally of its axis of rotation until it is in engagement solely with the gear wheel 11, in which position the gear wheel 13 may be rotated by the manual actuation of the wheel 19. In order to bring the wheel 19 into operative connection with the gear wheel 13, the operator presses upon the thumb-piece 30 thus swinging the lever about its fulcrum into bearing engagement against the outer end of the shaft 15 to move the pin element of the clutch into engagement with the slot element 25 and against the tension of the springs 16 and 20. This shifting of the shaft breaks the locked gear connection between the gear wheels 11 and 12 and moves the gear wheel 13 into mesh with the gear wheel 11, so that the rotation of the manually actuated wheel 19 will cause the gear wheel 13 to rotate the gear wheel 11 in either direction desired and thus obtain either a forward or a reverse setting of the counter indicative elements of the odometer.

Releasing tension upon the lever permits the springs 16 and 20 to react on the shaft 15 thereby to rest the gear wheel 13 into its locking engagement with the gear wheels 11 and 12 and simultaneously act to move the clutch into an inoperative position.

By means of a device of this character it is possible to mount the odometer flush with the outer face of any suitable mounting such as the dash-board and at the same time provide a positive control for the resetting mechanism positioned in rear of the mounting.

Very little of the mechanism need project through the mounting and in this way the odometer may be mounted in position without destroying the neat appearance provided by flush mounting of such instruments. There are no rotating parts projecting through the mounting and the manually actuated wheel is normally disconnected from the mechanically actuated parts of the mechanism when in its normal position. The shaft is mounted upon relatively long bearings so that any loose play between the parts is reduced to a minimum and it is obvious that the spring pockets may be utilized as oil pockets.

The mounting may be sold with the mechanism and casing as a part thereof, thus providing a neat and simple type of instrument particularly designed for flush mounting.

While I have shown and described, and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. In a device of the class described, the combination of a mechanism including a pair of gears, a third gear shiftable longitudinally of its axis of rotation and adapted in one position to mesh with both of said pair of gears to constitute a gear transmission therewith and in another position to mesh with only one of said gears, means engaging said third gear to maintain the same normally in one of said positions, a manually actuated wheel for rotating said third gear and a clutch connection between said wheel and third gear.

2. In a device of the class described, the combination of a mechanism including a pair of gears, a third gear shiftable longitudinally of its axis of rotation and adapted in one position to mesh with both of said pair of gears to constitute a gear

transmission therewith and in another position to mesh with only one of said gears, means engaging said third gear to maintain the same normally in one of said positions, a manually actuated wheel for rotating said third gear, a clutch connection between said wheel and third gear and a manual control for said clutch.

3. In a device of the class described, a bearing, a shaft mounted for rotary movement in said bearing and projecting beyond opposite ends thereof, a gear wheel fixed to one of said projecting ends, a manually actuated wheel loosely mounted on the other projecting end, means for maintaining said wheel and gear wheel in engagement with the ends of the bearing, the end of the shaft projecting beyond the wheel being provided with a clutch element and said wheel being provided with a coacting clutch element and means engaging said shaft to shift the same longitudinally thereby to move the clutch elements into clutching position and to change the position of said gear wheel.

4. In a device of the class described, the combination of a mechanism including a pair of gears, a third gear shiftable longitudinally of its axis of rotation and adapted in one position to mesh with both of said pair of gears to constitute a gear transmission therewith and in another position to mesh with only one of said gears, means engaging said third gear to maintain the same normally in one of said positions, and means for shifting said third gear into position to rotate one of said pair of gears.

5. In a device of the class described, the combination of a mechanism including a pair of gears, a third gear shiftable longitudinally of its axis of rotation and adapted in one position to mesh with both of said pair of gears to constitute a gear transmission therewith and in another position to mesh with only one of said gears, means engaging said third gear to maintain the same normally in one of said positions, and means for shifting said third gear into position to rotate one of said pair of gears and normally inoperative means adapted to be connected to said third gear to rotate the same.

6. In a device of the class described, the combination of a mechanism including a pair of gears, a third gear shiftable longitudinally of its axis of rotation and adapted in one position to mesh with both of said pair of gears to constitute a gear transmission therewith and in another position to mesh with only one of said gears, means engaging said third gear to maintain the same normally in one of said positions, means for shifting said third gear into position to rotate one of said pair of gears, normally inoperative means adapted to be connected to said third gear to rotate the same and means for maintaining said means normally in an inoperative position.

Signed at New Rochelle in the county of Westchester and State of New York this nineteenth day of November, A. D. 1918.

CLARENCE CARSON.