Oct. 14, 1930. L. HAIN 1,778,593

LUBRICATION REGISTER

Filed Dec. 8, 1928

Fig. 1.

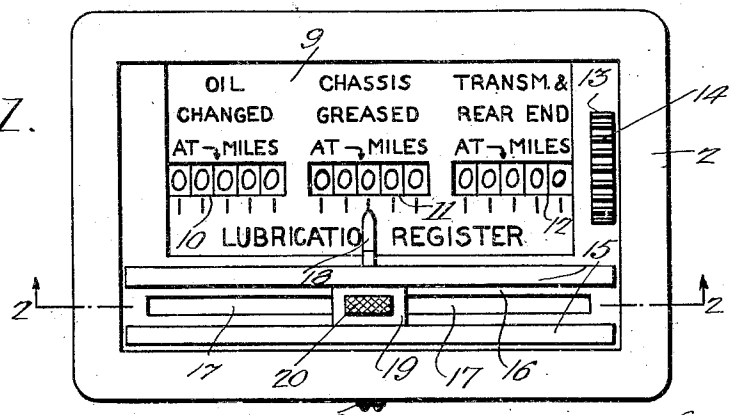


Fig. 2.

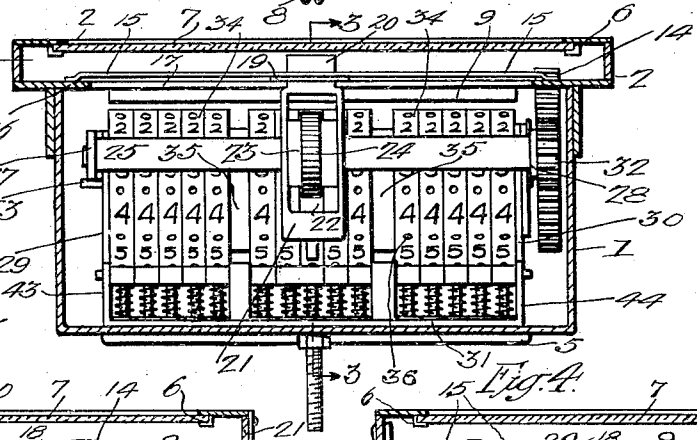


Fig. 3.

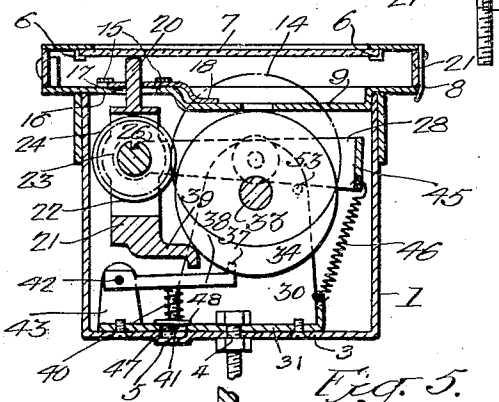


Fig. 4.

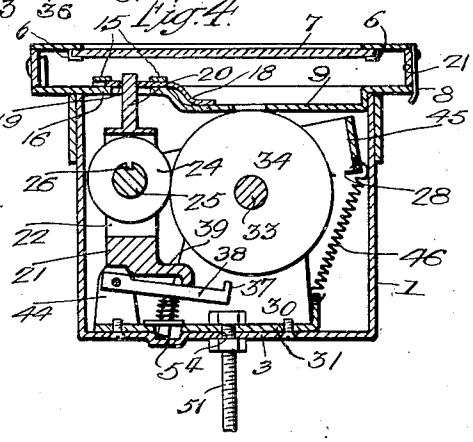
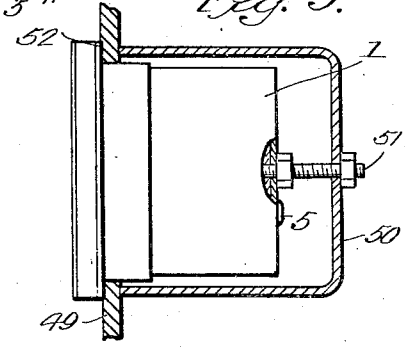


Fig. 5.



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UNITED STATES PATENT OFFICE

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LUBRICATION REGISTER

Application filed December 8, 1928. Serial No. 324,650.

This invention relates to a new and improved form of manually operated lubrication register for automobile instrument panels, or the like.

An object of the invention is to produce a new and improved form of indicating means.

Another object is to produce a new and improved form of manually operated indicating means.

Another object is to produce a manually operated indicating means for the instrument panel of an automobile, or the like.

Still another object is to produce a new and improved mechanism for a manually operated indicating means.

Other objects will appear hereinafter.

In the drawings which illustrate one form of my invention,

Fig. 1 is a plan view on an enlarged scale, of the indicating means;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a transverse vertical section taken on the line 3—3 of Fig. 2, and illustrating the mechanism in its locked or inoperative position;

Fig. 4 is a section similar to Fig. 3 but showing the mechanism in its unlocked or operative position, while

Fig. 5 illustrates an indicating register according to my invention as applied to the instrument panel of an automobile, or the like.

As shown, a suitable housing 1 of metal or similar material is provided with a hinged lid or cover 2 whereby access may be had to the interior of the housing. The housing is also provided on its bottom surface or wall 3 with a means whereby the housing may be secured to the instrument panel by bolts or other suitable means passed through an opening 4 provided in the wall 3. The housing is further provided on its bottom surface with a longitudinally extending, depressed channel 5, for a purpose to be developed later. The lid 2 preferably has suitable means such as hangers 6 whereby a glass plate 7 or other suitable means may be suspended to act as a closure for the indicating means. As shown, the cover 2 is adapted to be secured to the housing 1 by conventional means such as a latch 8.

Supported on the upper edges of the housing 1 and substantially covering the opening therein is a dial 9 having a plurality of openings 10, 11 and 12 whereby the rotating members to be described later may be visualized. The dial is further provided with an opening 13 permitting access to a thumb wheel 14. As shown in Figs. 3 and 4, the dial 9 is depressed in its central portion and is provided adjacent its left-hand end with a longitudinally extending upstruck strip 15 which, together with the left-hand portion of the dial 9, defines an opening partially closed by the depressed portion 16 of the dial 9, and which is provided with a longitudinally extending channel 17. Mounted to slide along the dial surface between the members 15 and 16 is a pointer 18, shown as rearwardly terminating in a rectangular head 19 having a central opening for the reception of a plunger member 20.

Secured to the plunger 20 in any desired manner is a bifurcated carrier member 21, the opening 22 of which provides for the reception of a friction wheel 23 having an enlarged portion 24, knurled on its outer surface. As evident from Figs. 2, 3 and 4, the driving disk 23 is mounted for longitudinal movement on the shaft 25 by means of a feather and key or other suitable connection 26. The shaft 25 is swung in arms 27 and 28 pivotally mounted on extensions 29 and 30 formed on a base member 31, and terminates at its outer end in a pinion 32 adapted to mesh with and swing about the thumb wheel 14.

Arranged on a central shaft 33 which is also carried on the extensions 29 and 30, and which has mounted on its outer end the thumb wheel 14, are a plurality of driven rollers 34. Each of these rollers is mounted to loosely rotate on the shaft 33, and in the present arrangement are separated into groups of five by means of loosely mounted spacing members 35, each roller having peripherally arranged thereon the digits of the Arabic numeral system, each numeral preferably being depressed into the surface of the roller in order to prevent wear or abrasion against the driving

means. The numerals are separated from one another and between every two numerals there is a hole 36 adapted to receive the finger 37 of a spring-actuated locking member 38, one of which is provided for each of the driven wheels. The plunger 20 is adapted, when depressed so that a contact finger 39 contacts with a lever 38, to depress it against the tension of a spring 40 coiled about a depending lug 41 formed on the lever 38. The lever 38 is then caused to swing downwardly about its pivotal mounting 42 on upstruck portions 43 and 44 of the base 31, and to release the corresponding roller 34.

At the same time a swinging yoke 45 which is pivotally mounted on the extremities of the extensions 29 and 30, and which has arms 27 and 28 is swung about its mounting against the tension of retaining means such as a spring 46, so that the shaft 25 mounted in the yoke is moved to a position such that the knurled portion 24 of the friction wheel 23 is caused to abut the particular roller 34 which it is desired to rotate. Then, by rotation of the thumb wheel 14, the pinion 32 is actuated to rotate the shaft 25, thus producing rotation of the friction wheel 23, splined thereon. The frictional contact between the knurled portion 24 and the driven roller 34 imparts the rotary motion of the thumb wheel 14 thereto.

As will be noted, the base 31 is somewhat in the nature of a false bottom and is provided with an opening 47 which is bridged by a washer 48 mounted on the lug 41. The longitudinal channel 5 is provided for the reception of the lugs 41 when in their depressed position.

As will be noted, the indicating means when used as a lubrication register may be quickly mounted on the instrument panel 49, or the like. A rearwardly extending stirrup or yoke member 50 encloses the indicating means, and by means of a bolt or other suitable locking means 51 passing through the opening 4 of the wall 3, is secured in such a manner that it is compressed against the panel 49, the extension 52 of the top portion 2 abutting the exterior of the panel in a manner providing for the compression of the stirrup against the rearward face thereof.

As will be evident from Fig. 1, suitable legends are provided on the dial 9, while the openings 10, 11 and 12 thereof come adjacent the numerals on the rollers 34. If for instance it is desired to indicate the mileage at which the chassis was last greased, the lid 2 is swung about its hinges, the head 19 of the indicating pointer 18 moved to a position adjacent the particular roller to be rotated, and the plunger 20 is depressed. Rotation of the thumb wheel 14 is then transmitted to the desired one of the rollers 14 in the manner previously described until the proper setting of that particular roller is obtained. Similar settings of the others of the rollers is produced in the same manner. Release of the plunger 20 causes the yoke member 45 to be swung out of engagement with the driven rollers 34, by means of a spring member 46. The travel of the yoke 45 under tension of the spring 46 is preferably limited by a stop 53. At the same time the locking lever 38 is swung into its normal or locking position under actuation of the coiled spring 40.

It will be understood that if desired, the register may be set for the mileage at which the lubricant is next to be changed. Then by comparison with the speedometer mileage, it will be possible to determine the exact time at which the lubricant is next to be changed.

A simple, efficient, useful and inexpensive indicating means is produced by my invention, susceptible to numerous modifications. Accordingly, it is intended that it be limited only by the scope of the appended claims.

I claim:

1. In an indicating means, a housing therefor, a shaft in said housing, a plurality of adjustable character bearing means mounted on said shaft, locking means for normally retaining said adjustable means in a locked position, a selecting means mounted adjacent said adjustable means and movable therealong, said selecting means being operable to release a desired one of said locking means, and driving means for then imparting motion through said selecting means to rotate a desired one of said adjustable means.

2. In an indicating means having a housing, a plurality of adjustable indicators mounted on a shaft in said housing, locking means arranged adjacent each of said indicators for normally retaining them in a locked position, selecting means movable along said indicators and operable to release a particular one of said locking means, and a thumb member for transmitting motion through said selecting means, when it is in a position to release said locking means, to rotate the released indicator.

3. In an indicating means having a housing, a plurality of rollers serving as indicators mounted on a shaft in said housing, a support for said shaft, a yoke member pivotally mounted on said support and carrying a shaft in the arms thereof, selecting means movable along said shaft and adapted to be moved into contact with the desired one of said rollers, and means for imparting motion through said last mentioned shaft and said selecting means to rotate the desired one of said rollers.

4. In an indicating means having a housing, a plurality of rollers constituting indicators mounted for rotation on a shaft therein, a support for said shaft, a yoke pivotally mounted on said support and carrying a shaft in its arms, means for normally

locking said rollers in a predetermined position, means on said last mentioned shaft adapted to be actuated to release a desired one of said locking means and to swing into frictional contact with a selected indicator, and means for rotating said last mentioned means to impart motion to said selected indicator.

5. In an indicating device, a housing, a cover for said housing having an opening therein for visualizing a dial mounted on said housing, a plurality of rollers in said housing adapted for rotation about a common shaft, and having a plurality of numerals thereon, means in said dial for visualizing a single numeral on each of said rollers, locking means for each of said rollers, indicating means movable along said dial to select a particular one of said rollers and operable to release said locking means and to engage said roller, and driving means for frictionally imparting motion to said roller through said indicating means.

6. In an indicating means having a plurality of rotatable rollers mounted on a shaft in a housing, means for selecting and imparting motion to a particular roller comprising a slotted plunger member mounted on a swinging yoke and having a friction wheel mounted in the slot for actuation of said rollers, said member terminating at its lower end in an offset, downwardly extending fingers for actuation of the releasing means for said rollers.

7. In an indicator, a number of rotatable discs bearing characters on their peripheries, locks for said discs, a rotatable member and a carrier therefor movable to put the rotatable member into engagement with any one of said discs, said carrier being adapted to release the lock for the disc so engaged whereby rotation of said member may cause said disc to turn.

8. In an indicator, a number of rotatable discs bearing characters on their peripheries and mounted on a common axis, a member rotatable in planes parallel to said discs and mounted to move parallel to said axis and also toward and away from it to engage a desired disc, whereby said disc may be turned upon rotation of said member.

9. In an indicator, a number of rotatable discs bearing characters on their peripheries and mounted on a common axis, a rod parallel to said axis and adapted to swing toward and away from it, a driven pinion on said rod and a driving pinion at the axis about which the rod swings, together with a member slidable on said rod and rotatable therewith for engaging and turning a desired disc when said driving pinion is turned.

In testimony whereof I have signed my name to this specification.

LEON HAIN.