May 22, 1928. 1,670,835

J. BERGE

RESET MECHANISM

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Fig. 1.

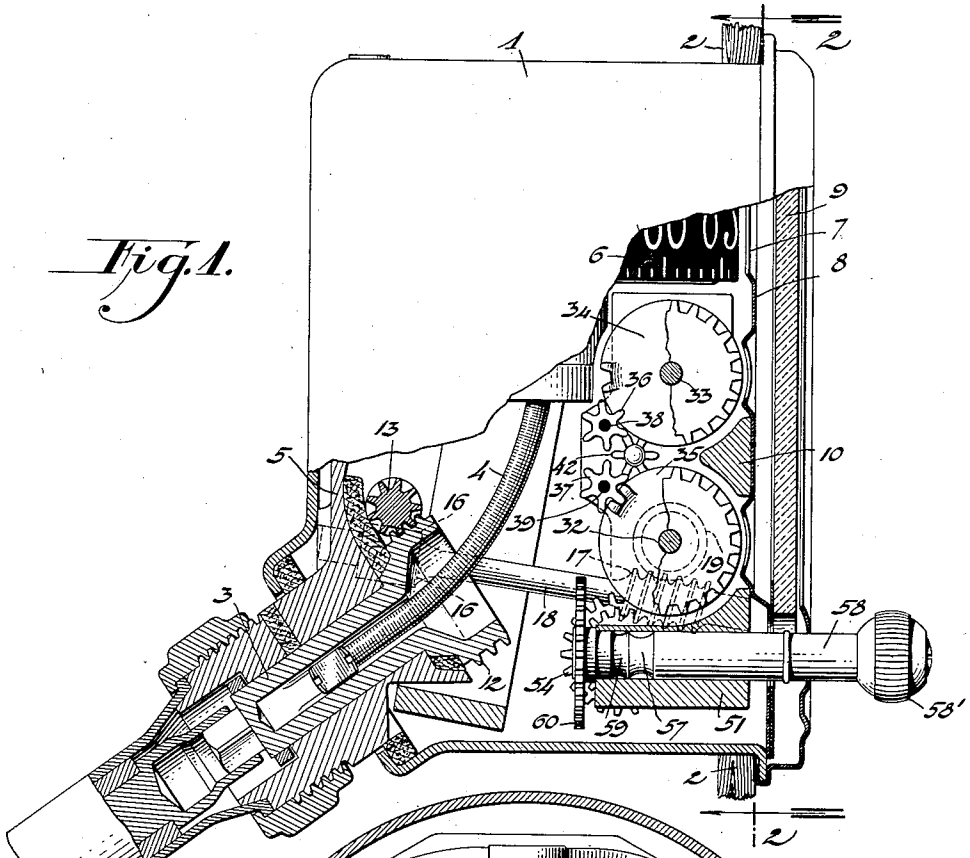
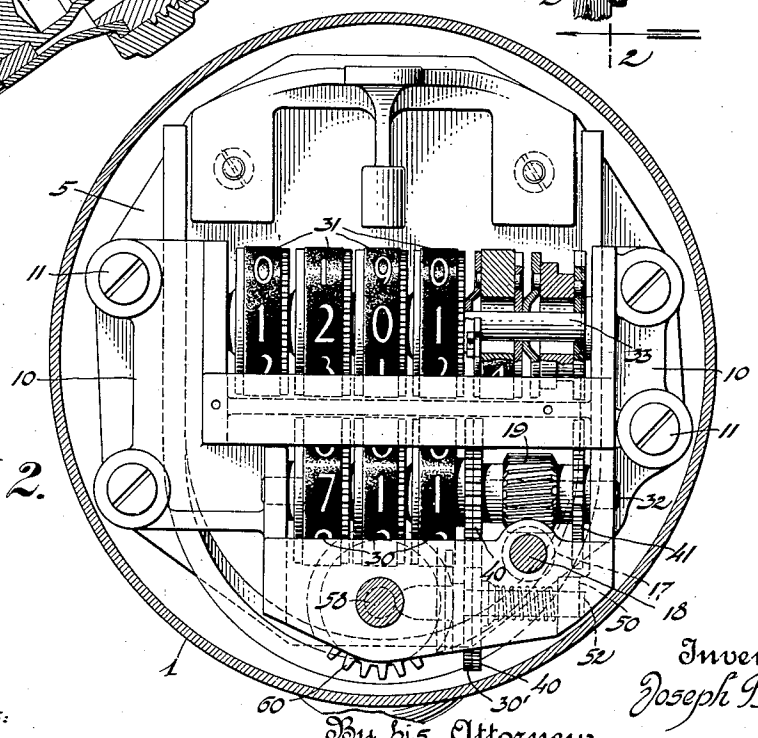


Fig. 2.



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Fig. 3.

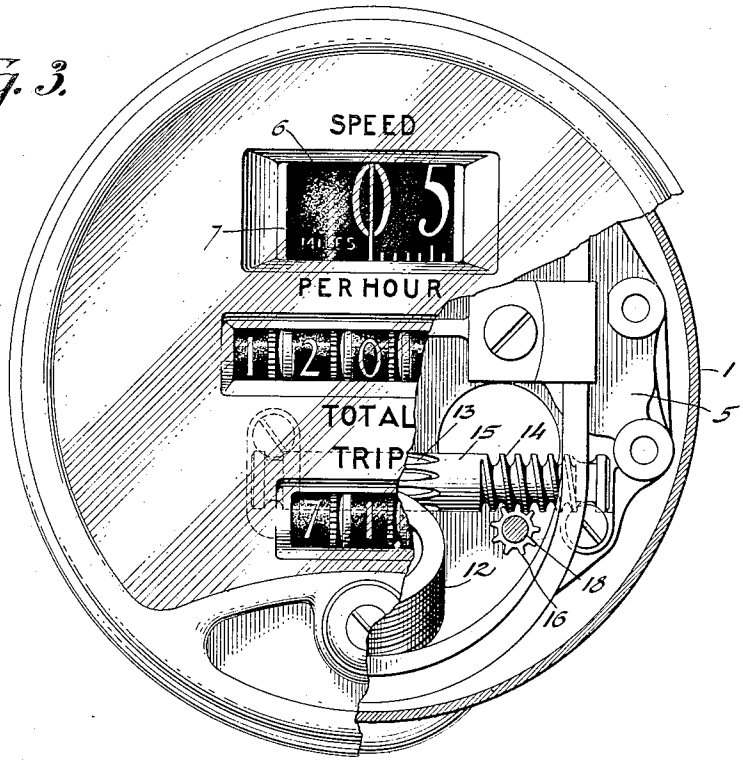


Fig. 4.

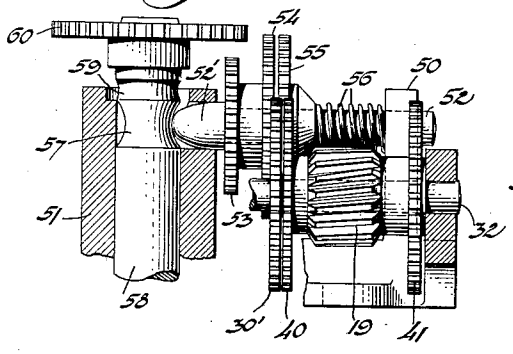
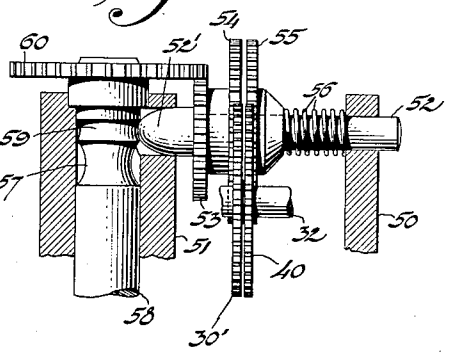


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH BERGE, OF DAYTON, OHIO, ASSIGNOR TO A C SPARK PLUG COMPANY, OF FLINT, MICHIGAN, A CORPORATION OF MICHIGAN.

RESET MECHANISM.

Application filed May 16, 1921. Serial No. 470,061.

The present invention relates to mechanism whereby a wheel train, such as the trip wheels of an odometer which forms a part of a speedometer, may be readily set to initial position. It consists primarily in the combination with odometer mechanism arranged in a casing, the latter of which, when mounted on the usual instrument board of a motor vehicle presents a circular, oval or other desired exposure, of resetting mechanism embodying a resetting shaft which projects forwardly within the exposure and at one side thereof, preferably at the bottom, and between the margin of said exposure and a re-entrant edge of a glass face associated therewith. The arrangement set forth permits a design having unusually effective lines, and results in certain economies in the use of glass.

The invention is also concerned with certain details of resetting gears, as hereinafter more particularly pointed out.

In the drawings, Fig. 1 is a central vertical section showing a preferred embodiment of the invention; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a front elevation, parts being broken away; and Fig. 4 and Fig. 5 are sectional views respectively showing the resetting mechanism in normal position and in the position occupied during the resetting operation.

1 indicates a cup-shaped speedometer casing intended primarily for mounting on the instrument board 2 of a motor vehicle and preferably containing speedometer mechanism driven by the shaft 3 and flexible shaft 4 and carried on the frame 5, as set forth in my companion application for patent S. N. 470,062 filed May 16, 1921. The speed cup 6, rotatable about a vertical axis, is visible through a slot 7 in the dial 8, and the glass face appears at 9. The odometer, mechanism hereinafter more fully described, together with the corresponding frame 10, forms a unit assembly which may be conveniently attached to the frame 1 by the screws 11. As will be observed in Fig. 1, the shaft 3 is preferably provided with a worm 12 from which the odometer wheels are driven through the medium of the worm gearing 13—14 (formed on the shaft 15) and 16—17 (formed on the shaft 18), and the worm wheel 19.

The wheels for registering the trip distance are designated as a whole by the numeral 30 and those for the total by the numeral 31, said wheels being respectively supported on the non-rotatable shafts 32 and 33 and being provided with any suitable carrying mechanism such as the Geneva wheels 34—35 and associated gears 36—37 mounted to turn respectively on the shafts 38 and 39. The initial wheel of the trip set may be driven through a wheel 40 which turns as one with the worm wheel 19, and in similar manner the initial wheel of the total set may be driven from the wheel 19 by means of the gear 41 and idler gear 42.

The reset mechanism, best shown in Figs. 4 and 5, by which the trip wheels may be turned back to zero reading at any time, is somewhat similar to that set forth in my Patent No. 1,358,817, November 16, 1920, and will now be readily understood. 50 and 51 indicate bosses or projections formed on the frame 10 and providing bearing for a rotatable shaft 52, the latter of which has rigid therewith a double gear having two sets of teeth 53 and 54. The shaft 52 also has rotatably mounted thereon a gear 55 of the same diameter and having the same number of teeth as the set 54, and said shaft is urged to the left, Figs. 4 and 5, by a spring 56. The driving gear of the initial trip wheel 30 appears at 30′. The shaft 52 has a rounded end 52′ normally received in the relatively deep circular groove 57 of the longitudinally slidable re-set shaft 58, and in this position it will be seen that the gear 55 is in mesh with both sets of teeth 40 and 30′, which causes them to turn together in the manner of a single gear, i. e., the trip wheels are then driven through the gearing 13—14—16—17. When, however, the shaft 58 is drawn forwardly into the position shown in Fig. 5, the end 52′ of the shaft rides up into the relatively shallow circular groove 59, bringing a gear 60 fixed on the shaft 58 into mesh with the teeth 53 and shifting the shaft 52 far enough to the right to carry the gear 55 out of mesh with the teeth 30′. Upon turning the shaft 58 through the medium of the knurled grip 58′, the trip wheels may be readily turned back to zero reading. It will be noted that the reset mechanism is not only very simple, but that the shaft 58 is positioned below the trip and total wheels, which is of importance in that it permits an attractive and economical face design, as set forth in my applica-

tion for patent S. N. 481,685, filed June 30, 1921.

I claim:

In combination with an instrument casing, a first shaft and a set of number wheels thereon rotatable about a common axis, a first gear on said shaft, a second shaft arranged and shiftable parallel to said axis, a second gear on said second shaft adapted to couple said first gear and a wheel of said set together so that said wheel may be driven from said first gear, a double gear shiftable with the second shaft and having one set of teeth through which said wheel may be driven independently of said first gear and said second gear for resetting purposes, a third shaft slidable through said casing engaging said second shaft to shift the latter, and a gear on said third shaft meshing with the other set of teeth on said double gear when the third shaft is in one position.

In testimony whereof I affix my signature.

JOSEPH BERGE.