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SPEED INDICATOR AND CONTROL

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Fig. 2.

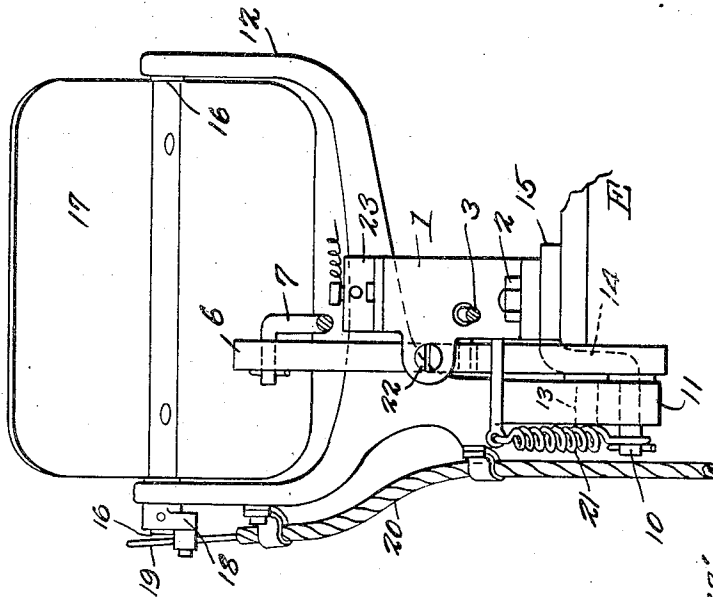
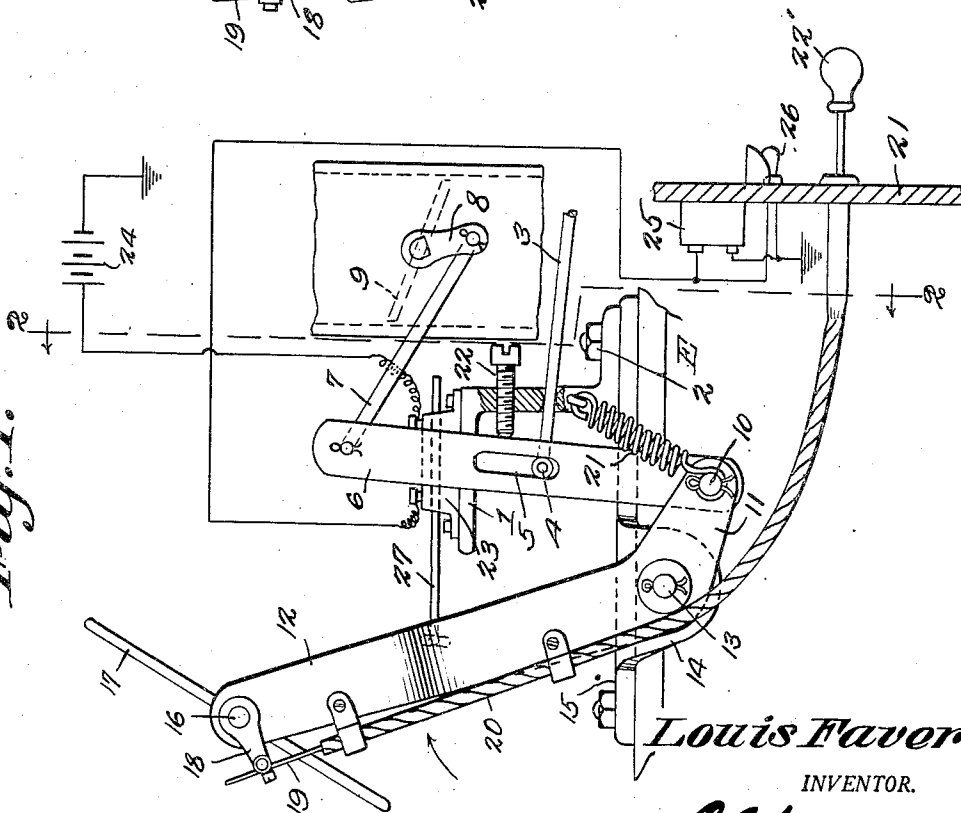


Fig. 1.



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SPEED INDICATOR AND CONTROL

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2 Claims. (Cl. 180—82.1)

This invention relates to a means for controlling the speed of a motor vehicle and for indicating the speed, approximately, at which the vehicle is travelling, the primary object being to give a visible and/or audible signal when any desired predetermined speed is attained so that driving within any speed range can be effected safely and easily without the need of constantly watching the speedometer.

A further object is to provide a means controlled by the speed of the vehicle for operating the usual throttle valve to hold down the maximum speed to a predetermined maximum which, when attained, will be indicated to the driver.

A further object is to provide an apparatus of this type which will indicate speed in excess of the predetermined maximum, whether the vehicle is being driven under its own power or is coasting.

Another object is to provide speed-indicating and controlling means which can be adjusted readily while the vehicle is in motion in order to advance or reduce the maximum speed at which the indicator will operate.

A still further object is to provide a controlling and indicating apparatus which can be installed readily in a motor vehicle as an accessory.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is a view partly in side elevation and partly in section showing the apparatus constituting the present invention, a portion of the motor to which it is applied being illustrated.

Figure 2 is a section on line 2—2, Figure 1.

Referring to the figures by characters of reference, 1 designates a bracket which can be located at any point desired although it is preferably attached to the cylinder head of the vehicle engine E, bolts being used for attaching the head and the bracket, as indicated at 2. A rod 3 extending to the usual throttle lever is provided at its forward end with a laterally extended portion 4 positioned to work within a slot 5 extended longitudinally of the intermediate portion of a lever 6 which, as shown, is connected at its upper end by a link 7 to the crank arm 8

of the throttle valve 9. This lever is supported by a pivot stud 10 extending through an arm 11 extended downwardly from a main lever in the form of a yoke 12 and pivotally mounted, as at 13, on an ear 14 extended from the base 15 of the bracket 1. This yoke, in the structure illustrated, occupies a plane which extends transversely of the path of travel of the vehicle and journaled to work freely in the sides of the yoke are studs or gudgeons 16 to which is joined an interposed vane 17. One of the studs 16 has a crank arm 18 to which is adjustably connected one end portion of a flexible operating wire 19 or the like extended through a tubular guide 20 to the instrument board 21 where it is joined to an operating button or knob 22'. By means of this operating wire and button the vane 17 can be adjusted angularly about its transverse axis so as to be brought to any desired angle relative to a vertical plane.

By means of a normally tensioned coiled spring 21 which is attached at one end to bracket 1 and at its other end to the pivot stud 10, yoke 12 is normally thrust forwardly to one extreme position and at the same time the lever 6 is normally thrust upwardly so that the lower end wall of its slot 5 will bear against the end portion 4 of the rod 3. The lever 6 is limited in its movement in one direction by an adjustable stop screw 22 mounted in the bracket 1 and located on the bracket is a switch indicated generally at 23 to which can be connected one side of a battery 24 the other terminal of which can be grounded as shown.

To this switch can also be electrically connected an audible alarm 25 such as an electric bell and a visual signal device such as a lamp 26, both the bell and the lamp being grounded as shown. The switch is adapted to be closed when yoke 12 is moved backwardly in the direction indicated by the arrow in Fig. 1, there being a rod 27 or the like movable by the yoke and within the switch member 23 for the purpose of closing the circuit when the yoke moves as indicated but to open the circuit when the yoke moves in the opposite direction. As no invention resides in the particular form of switch used, it is not deemed necessary to show or describe it in detail as it can be one of any number of switches capable of opening and closing a circuit under the conditions required herein.

Under normal conditions the button 22' is pushed forwardly away from the position shown in Fig. 1 and this causes a thrust to be transmitted through wire 19 to arm 18 with the result

that the vane 17 is brought to a substantially horizontal position. At the same time yoke 12 is maintained in its forward extended position by the pull of spring 21 and with the parts thus located the throttle valve 9 is held in idling position. Thereafter, as desired, the rod 3 can be operated by means of the usual throttle lever for the purpose of swinging lever 6 about its pivotal connection 10 so as to open the throttle valve as desired.

When it is desired to utilize the speed control and indicating function of the invention, the knob or button 22' is actuated so as to swing the vane out of horizontal position, the amount of this movement or, in other words, the degree of adjustment of the vane away from its horizontal position, determining the maximum speed at which the signal means and the throttle valve will be operated automatically.

Following adjustment of the vane, for example, to the position shown in Fig. 1, it will be apparent that when the forward speed of the vehicle attains a predetermined velocity, the wind resistance will cause vane 17 to be pressed back, thereby actuating yoke 12 against the action of spring 21 and causing the arm 11 to pull downwardly on lever 6. When this occurs two operations take place. As the distance between lever 6 and crank arm 8 is reduced by this movement, the link 7 will thrust against arm 8 and close the throttle valve or move it toward closed position. Likewise the switch member 27 will move backwardly and close the circuit to the signal devices so that both the audible and the visual signal will be actuated. As soon as the speed is brought down to the desired maximum, the parts will be returned automatically to their initial positions by the springs 21. It is to be understood that this automatic operation of the throttle valve and the signal members will at no time interfere with the actuation of lever 6 by means of the throttle lever and, when necessary, it is possible to operate the throttle valve for the purpose of changing the speed. The structure is designed not to prevent attaining a certain speed but merely to automatically shut down the supply of fuel to the engine and operate the signal when the maximum speed is attained so that the driver will have ample notice thereof.

What is claimed is:

1. Speed controlling means for motor vehicles including a butterfly valve, a lever, a connection between the lever and the valve, shiftable means providing a fulcrum for and slidably engaged by the lever, a spring restrained pivoted member connected to the lever, a centrally balanced vane carried by said member and positioned to receive the full impact of air in the path thereof when the vehicle is moving in a forward direction, those portions of the vane extending upwardly and downwardly from the transverse axis thereof being of equal areas whereby the pressure of air against the upper and lower portions of the vane will be equal, and remote control means for changing the angle of the vane, thereby to vary the resistance of the vane to the pressure of air thereagainst.

2. Speed controlling means for motor vehicles including an engine having a fuel intake and a butterfly valve, a lever operatively connected to the valve and having a changeable fulcrum, a pivoted member connected to the lever at one end, yielding means for holding said member and lever normally in a predetermined position, manually controlled means for shifting the fulcrum of the lever to change the position of the valve within the intake, a vane mounted for swinging movement about a central transverse axis and carried by that end of the member remote from the lever, said vane being positioned facing the direction of travel of the vehicle, those portions of the vane above and below the axis of movement thereof being of equal areas whereby air pressure against the vane will not disturb the balance of the vane, said vane being positioned to be bodily shifted by pressure of air in the path thereof due to the forward movement of the vehicle, and remote control means for changing the angle of the vane by moving it toward or from a horizontal position, thereby to vary the resistance encountered from the air in the path of the vane during the forward movement of the vehicle, said vane, when shifted by pressure of air thereagainst, constituting means for shifting the member and lever to actuate the valve.

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