W. R. HARRIS.

SPEEDOMETER.

APPLICATION FILED JULY 28, 1908.

942,497.

Patented Dec. 7, 1909.

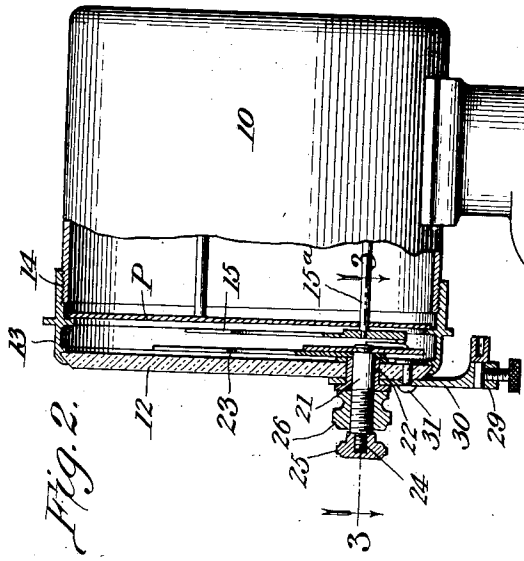

Fig. 2.

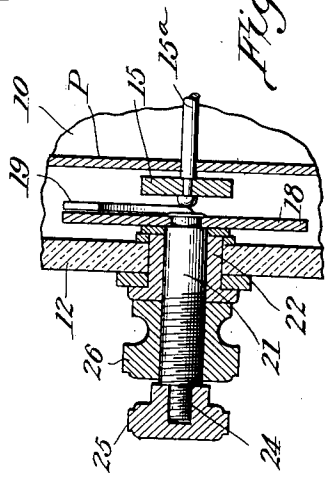

Fig. 3.

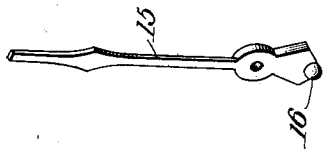

Fig. 5.

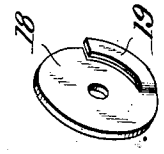

Fig. 4.

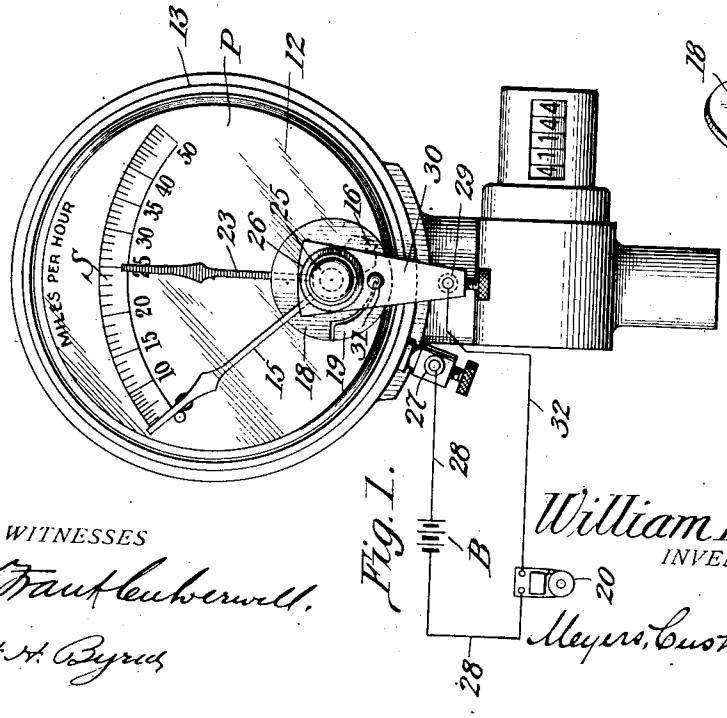

Fig. 1.

WITNESSES

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SPEEDOMETER.

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To all whom it may concern:

Be it known that I, WILLIAM REES HARRIS, a citizen of the United States, residing at Irvington-on-the-Hudson, in the county of Westchester and State of New York, have invented new and useful Improvements in Speedometers, of which the following is a specification.

My present invention relates in a general way to speedometers, but has to do more particularly with an improved annunciator or alarm device adapted to be combined or associated with a speedometer in such a manner as to automatically notify the person operating an automobile at what speed his vehicle is running.

In most cities there is an ordinance or law governing the speed of motor vehicles within city and county limits and this has always been a source of much annoyance to automobilists generally because they often unconsciously and unintentionally over-run the speed limit, notwithstanding their speedometer, because of failure to closely watch the latter, which is somewhat burdensome, owing to the fact that a "driver" or chauffeur of a car has so many other and more important demands upon him in the proper manipulation of his machine.

It is the purpose of the present invention to provide an electric annunciator or alarm so combined with the speedometer that it may be adjusted and set within wide limits to give either an audible or visual signal when the vehicle upon which the speedometer is mounted is traveling at any given speed, such as the speed limit in any particular territory, thus notifying the "driver" or chauffeur that he must not exceed said limit.

One object of the invention is to provide a simple form of electric contact device or circuit closer for controlling the circuit leading to an annunciator or alarm, which contact device is carried by the transparent front plate of the speedometer, whereby the invention may be readily applied to speedometers now in use, without in any manner changing the construction of the speedometer operating mechanism.

A further object of the invention is to provide an annunciator attachment for speedometers that may be easily and quickly adjusted and set to give its signal at any desired speed of the motor vehicle upon which the speedometer is mounted.

A still further object of the invention is to provide a novel form of adjustable contact or circuit closing member coöperatively associated with the indicating hand of the speedometer in such a manner that a prolonged electrical contact may be had resulting in a continued or prolonged operation of the annunciator or alarm without having a retarding effect upon the speedometer operating mechanism.

The invention has in view other novel or less important objects all of which will be clearly described in the accompanying detailed description.

In its preferred form, the invention is illustrated in the accompanying drawing, wherein,—

Figure 1 is an elevation of a common form of speedometer showing my improved annunciator attachment applied thereto. Fig. 2 is a vertical sectional view of the same partly in elevation. Fig. 3 is an enlarged sectional view taken on the line 3, 3 of Fig. 2. Fig. 4 is a detail perspective view of the adjustable contact member. Fig. 5 is a detail perspective view of the indicator hand of the speedometer.

Referring to the drawing, the reference numeral 10, designates the casing of an ordinary speedometer, which in the present instance is shown as having a transparent front plate 12, carried by a ring 13, that is screwed to the casing 10, at 14, as shown in Fig. 2, said transparent front plate covering the scale S and speedometer indicator-hand 15, which moves over the scale and indicates the speed of travel per hour of the vehicle upon which the speedometer is mounted. As the speedometer operating mechanism forms no part of the present invention this mechanism need not be shown and described, it being understood however, that my device may be readily applied to any of the ordinary forms of speedometers having an indicator-hand that moves over a scale.

According to the present invention the indicator-hand 15, forms one member of an electric switch or contact device, the said hand being provided near its lower or pivotal end with a teat or projection 16, as more clearly shown in Fig. 5, that is arranged, during the movement of the hand, to engage with an adjustable or settable contact member carried by the transparent front plate 12, of the speedometer, said transpar-

ent front plate, which is preferably of glass, serving as an insulator for the two members of the electric switch when they are out of contact or engagement with each other.

The adjustable or settable contact member in the present instance as more clearly shown in Fig. 4, consists of a thin metal disk 18, having a yielding tongue 19, struck up therefrom and upon which the teat or projection 16, on the indicator hand sweeps in completing the electric circuit to the annunciator 20, which I have elected to show as a bell, but it will be understood that I may employ any desired form of signal device whether it be of the audible or visual type.

The adjustable and settable contact member 18, is secured to the inner end of a stem 21, that is rotatably mounted in a metal bushing 22, carried by the transparent front plate 12, of the speedometer, said stem being arranged in axial alinement with the shaft 15^a upon which the hand 15 is mounted. The stem 21, also carries a pointer 23, the free end of which is movable over the scale S, delineated on the face of a plate P, and is designed to be set at any desired speed limit indicated on the scale, and its position when set will show the driver of the vehicle when the indicator hand of the speedometer will make electrical contact with the settable contact member. Thus it will be seen that if the pointer 23 is set at, say 25, on the scale S, as shown in Fig. 1, the moment the indicator hand 15, reaches this mark, (which shows that the vehicle is running at the rate of twenty-five miles per hour) the electric circuit to the annunciator will be completed and a signal given.

The stem 21 is provided at its outer end with a reduced threaded portion 24, carrying a thumb-nut 25, by which the stem may be rotated to set the pointer 23, and adjustable contact member 18. A jam-nut 26, is also threaded upon the stem and serves to securely hold the stem against accidental rotation when the pointer has been properly set.

The electric circuit connections leading to the annunciator 20, from the contact members are made with two binding posts, one of which 27, is carried by the speedometer casing 10, and leads by conductor 28, through the battery B to the annunciator, and the other of which 29, is carried by the free end of a metal plate 30 that extends beyond the perimeter of the speedometer casing, said plate being riveted at 31, to the transparent front plate 12, and through which the rotatable stem and bushing passes, as more clearly shown in Fig. 2, the conductor 32, leading from binding post 29, direct to the annunciator. By this construction it will be seen that the transparent front plate 12 of the speedometer serves as an effective insulator between the two contact members, no other insulation of the parts being necessary, and this I consider an important feature of the invention since it provides a very simple and inexpensive arrangement. As will be seen the spring tongue or contact member 19, is eccentrically mounted on the transparent front-plate of the speedometer, or near one edge thereof, and as the arrangement of parts is such that the pivotal or shorter end of the indicator hand 15, sweeps over said tongue 19, in completing the electrocal circuit to the annunciator, it will be apparent that a comparatively short tongue may be employed, as said tongue coöperates with that end of the indicator hand that moves through the shorter radius.

One of the important features of the invention resides in the fact that the whole device may be readily and cheaply applied to ordinary speedometers now upon the market without altering or adding anything to the speedometer operating mechanism, since substantially the entire device is carried by the transparent front plate of the speedometer.

Another important feature of the invention resides in the peculiar construction of the adjustable contact member, which, it will be understood, is not only very yieldable by reason of the springy nature of the metal disk, and thus offers no appreciable resistance to the operation of the speedometer operating mechanism; but the construction of the contact member is such that the teat or projection 16, on the indicator hand will move thereover with a sweeping contact and effect a prolonged or continuous operation of the annunciator from the time the latter starts to make an announcement, notwithstanding a continued increase of speed of the vehicle. By this arrangement the "driver" will be given a continuous warning so long as he is exceeding the speed limit to which the adjustable contact device has been set and this warning will continue until he reduces the speed of his machine.

I do not wish to be understood as limiting myself to the precise details of construction herein shown and described except as I may be limited by the terms of the appended claims, as I am well aware that various changes may be made without departing from the spirit of the invention.

What I claim is:—

1. The combination with the indicator hand of a speedometer and the scale over which said hand moves, of an adjustable and settable contact member coöperatively associated with the indicator hand and with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a pointer movable with said contact member, and means for adjust-

ing and setting the said contact member and pointer.

2. The combination with the indicator hand of a speedometer, of an adjustable and settable contact member coöperatively associated with said hand and with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a rotatable stem on which said contact member is mounted, and means for rotating and setting the stem against rotation.

3. The combination with the indicator hand of a speedometer, of an adjustable and settable contact member having a yielding tongue coöperatively associated with said hand with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a rotatable stem on which said member is mounted, and means for setting the stem against rotation.

4. The combination with the indicator hand of a speedometer, of an adjustable and settable contact member having a yielding portion coöperatively associated with said hand and with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a rotatable stem upon which said contact member is mounted, and means for rotating the stem to adjust said member.

5. The combination with the indicator hand of a speedometer and the scale over which said hand moves, of an adjustable contact member having a yielding portion coöperatively associated with said hand and with which the pivotal end of the latter makes continuous contact during a part of its registering movement, a pointer movable with the contact member, a rotatable stem upon which said pointer and member are mounted and means for rotatably adjusting the stem.

6. The combination with the indicator hand and transparent front plate of a speedometer, of a stem rotatably mounted on said front plate in axial alinement with the shaft on which said hand is mounted, and a contact member carried by the pivotal end of said stem with which the said hand makes continuous electrical contact during a part of the registering movement thereof.

7. The combination with the indicator hand and transparent front plate of a speedometer, of a stem rotatably mounted on said front plate, and a contact member and pointer carried by said stem, said contact member being adjustable in the path of movement of the pivotal end of the indicator hand and with which said pivotal end makes continuous contact during a part of the registering movement of the hand.

8. The combination with the indicator hand and transparent front plate of a speedometer, of an axially rotatable stem carried by said front plate, and a contact member having a yielding tongue carried by the stem, said tongue lying in a plane parallel with the path of movement of the pivotal end of said hand and with which said pivotal end makes contact during a part of the registering movement of the hand.

9. The combination with the indicator hand and front plate of a speedometer, of an axially rotatable stem carried by said front plate, a settable pointer and a contact member carried by the stem, said contact member having a yielding tongue lying in a plane parallel with the path of movement of the pivotal end of said hand and with which said pivotal end makes prolonged sweeping contact during a part of the registering movement of the hand.

10. The combination with the indicator hand and front plate of a speedometer said hand having a lateral projection at its pivotal end, of an axially rotatable and settable contact member carried by said plate and provided with a yielding tongue lying in a plane parallel with the path of movement of the pivotal end of said hand and with which said lateral projection on the hand is adapted to make sweeping contact during a part of the registering movement of the latter, a settable pointer movable with the contact member and an annunciator in circuit with the indicator hand and the contact member.

11. The combination with the indicator hand and transparent front plate of a speedometer, of a settable contact member rotatably mounted on said plate and provided with a yielding tongue with which the pivotal end of said hand makes sweeping contact during a part of its registering movement, a pointer movable with the contact member, means for setting the contact member in different positions of adjustment, a metal plate secured to said transparent front plate having a portion extending beyond the perimeter of the speedometer casing and carrying a binding-post, and an annunciator in circuit with the contact member and indicator hand, one terminal of the annunciator circuit leading from the said binding post and the other attached to the speedometer casing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM R. HARRIS.

Witnesses:
CHAS. B. GOLDSBOROUGH,
M. M. WHEDBEE.