

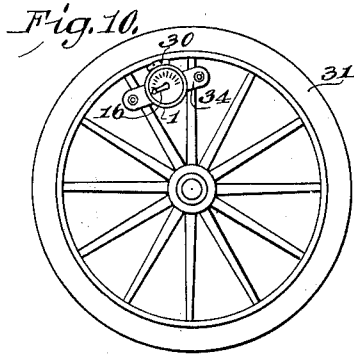
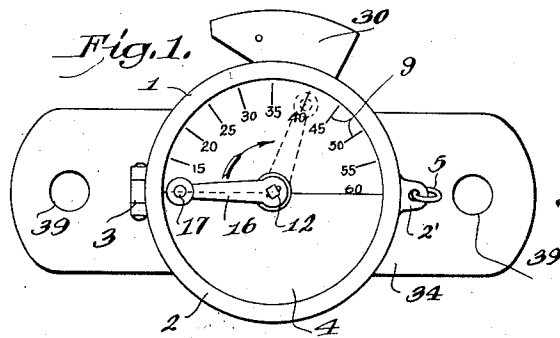
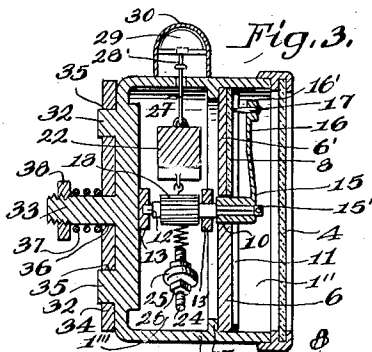
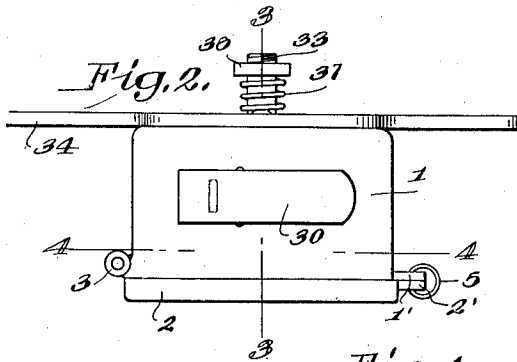
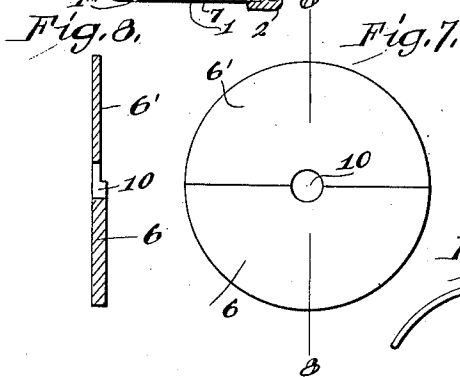
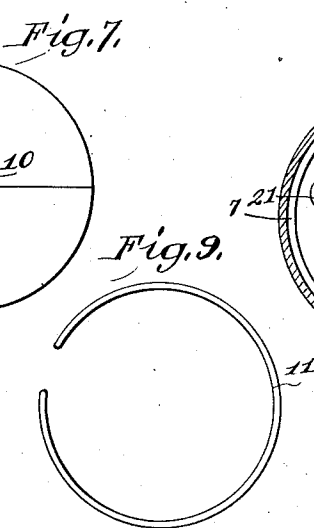
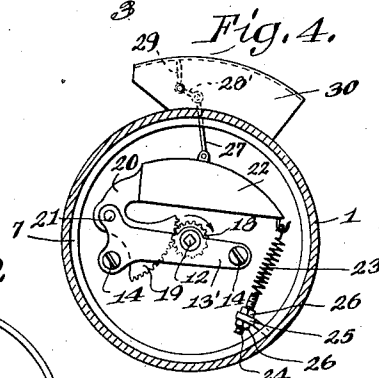
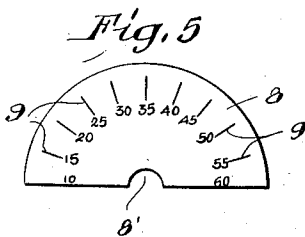
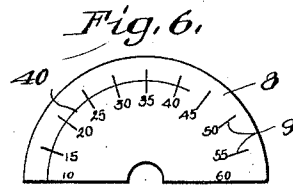
J. V. BOSQUE AND P. GIRÓ Y CASAÑAS.

SPEED INDICATING DEVICE.

APPLICATION FILED OCT. 14, 1921.

1,421,390.

Patented July 4, 1922.



Inventors

José Vidal Bosque and
Pantaleón Giró y Casañas.
B. Suñer.
Attorney

By

UNITED STATES PATENT OFFICE.

JOSÉ VIDAL BOSQUE AND PANTALEON GIRÓ Y CASAÑAS, OF HABANA, CUBA.

SPEED-INDICATING DEVICE.

1,421,390.

Specification of Letters Patent.

Patented July 4, 1922.

Application filed October 14, 1921. Serial No. 507,671.

To all whom it may concern:

Be it known that we, JOSÉ VIDAL BOSQUE and PANTALEON GIRÓ Y CASAÑAS, both citizens of the Republic of Cuba, and residents of Habana, Cuba (whose postal addresses are, respectively, No. 16 Prado Street and No. 20 Refugio Street, Habana, Cuba), have invented certain new and useful Improvements in a Speed-Indicating Device, of which the following is a specification.

This invention relates to a speed indicating device and its main object is to provide an apparatus of this kind which is preferably applied to vehicles, particularly to automobiles, which device is of very simple construction and efficient operation, its attachment to a vehicle not affecting the appearance of the same.

A further object of the invention is to provide an apparatus indicating by means of a graphical mark which is permanently marked if the vehicle surpasses a maximum speed assigned to it and at the same time this mark or signal is combined with an acoustic signal which immediately announces the fault incurred in.

The invention is described with reference to the figures of the annexed drawing, in which:

Fig. 1 is an upper plan view of the apparatus forming the subject matter of this invention.

Fig. 2 is a side elevation thereof.

Fig. 3 is a diametral vertical section on line 3—3 of Fig. 2.

Fig. 4 is a horizontal section on line 4—4 of Fig. 2.

Fig. 5 is a detailed upper plan view of the scaled half disc where the permanent indicating mark remains.

Fig. 6 is an upper plan view of the scale half-disc showing an indicating signal marked thereon.

Fig. 7 is a detailed upper plan view of the supporting disc of the scaled half-disc.

Fig. 8 is a diametral vertical section on line 8—8 of Fig. 7.

Fig. 9 is an upper plan view in detail of a ring serving to maintain in position the scaled half-disc on the supporting disc.

Fig. 10 is a side elevation of a wheel equipped with the apparatus object of this invention.

This apparatus comprises a cylindrical casing 1 provided with a lid 2 hinged at 3 at its upper part and this lid 2 has a glass 4

to look therethrough and a horizontal lug 2' diametrically arranged with respect to hinge 3, which lug corresponds with a lower lug 1' which also projects horizontally from the upper part of the main body 1 of the casing and both lugs have holes to insert therethrough a sealing ring or seal bearing wire 5. Below lid 2 is arranged a disc 6 which bears on an annular projection 7 from the inner face of the walls of casing 1 forming a horizontal partition dividing the casing 2 in a forward and rear chambers 1'' 1''', the latter being larger than the former. Said disc 6 as detailed in Fig. 8 has its upper half 6' thinned to superpose thereon a semi-disc 8 provided with a scale 9 which in the case illustrated indicates from five to five the unity of speed used, whether this unity be a kilometer, a mile, etc., and is secured on disc 6 by means of a cut ring 11 illustrated in Fig. 9 and which is tightly fitted into casing 1.

Disc 6 is provided at its center with a circular opening 10 corresponding with a semicircular recess 8' in the superposed scaled semi-disc 8 and passing therethrough is the end portion of square section of a shaft 12 on which is mounted a pillow 15 secured by a pin 15' there being integral with said pillow a horizontal arm 16 whose free end terminates in an integral collar 16' through which fits a pencil 17 whose point is in contact with the outer face of the scaled semi-disc 8 on the middle part of the radial lines formed by the scale 9 of the same. Shaft 12 extends into the rear chamber 1''' of casing 1 being maintained gyrationally between two supporting plates 13 and 13', of which the plate 13 bears on the middle part of the inner face of the rear wall of the casing and plate 13' is placed below the disc 6, plate 13' being secured to disc 6 and plate 13 likewise to the rear wall of casing 1 by screws 14. In the portion of shaft 12 comprised between the plates 13 and 13' is fixed a pinion 18 which meshes with a gear sector 19 in which terminates an angular arm 20 articulated to a pivot 21 arranged between the end extensions of plates 13 and 13', the other branch of arm 20 leading into casing 1 terminating in a counterweight 22 whose outer face is curved and at its free end has a connection for connecting an end of a helical spring 23 whose other end is fixed to a screw 24 passing through a horizontal lug 26 fixed to the inner face

of the sides of casing 1, this screw having a nut and conternut 26 screwed thereto. Towards the rear part of the curved outer face of counterweight 22 is pivoted an end of a rod 27 passing through an opening 28 at a side of casing 1 its opposite end connecting to an arm 28' actuating a single butterfly valve 29 mounted through a horn 30 whose side walls are curved and follow the cylindrical contour of casing 1 the valve serving to prevent the escape of air to the whistle of the horn, which is located at the narrower part of the same. This apparatus is provided with means for securing the same between two spokes of a wheel 31 as illustrated in Fig. 10, though it is obvious that this installation is for a mere demonstration to explain hereinafter the operation of the apparatus, as the same can be used in different connections in all those cases in which it is desired to determine by means of a permanent graphical signal or mark the maximum speed reached not only by a vehicle but in general by any machine or apparatus. To that effect from the center of the rear wall of casing 1 projects out an integral pin 33 whose end portion is threaded and in the same alinement with pin 33 project to one side and the other of the same two smaller pins 32 there being superposed on said rear wall a narrow and elongated supporting plate 34 which presents transversally to its middle part two holes 35 in which fit the pins 32 and a central hole 36 through which passes the pin 33 said plate being maintained bearing in a flexible manner against the said rear wall by means of a helical spring 37 coiled around the portion of pin 33 projecting beyond the plate 34 against which spring is tightened a nut 38 threaded in the threaded portion of pin 33. The plate 34 has at its ends holes 39 to fix same as illustrated in Figure 10 between two spokes of a wheel 31 near the felloe thereof.

In the position illustrated in Fig. 10, that is with the apparatus presenting its semi-disc 8 upwards, when the vehicle starts traveling, owing to the centrifugal force generated by the wheel through its rotation, the counterweight 22 will tend to follow that direction separating itself from the center of the apparatus causing to rotate around its pivot the angular arm 20 against the tension of spring 23 whereby the geared sector 19 will cause to gyrate the pinion 16 fixed to shaft 12 in the direction indicated by the arrow in Fig. 4 and accordingly the indicating arm 16 carrying the pencil 17 will mark a line on the semi-disc 8 as shown in Fig. 6. As the outward movement of the counterweight 22 is directly in relation with the speed at which the vehicle travels and the tension of the spring not being overcome until surpassing a minimum velocity or speed, which in the present in-

stance is indicated by 10 in the scaled disc 8 it is obvious that as the speed of the vehicle increases the arm 16 will advance further on the scale 9 and the pencil 17 carried by said arm will leave a mark on the scale which will end at the point of the higher speed reached by the vehicle during its travel, and owing to the fact that the casing 1 is closed and sealed it will not be possible to rub out the mark nor to substitute the disc 8 for another one without mark, and accordingly if an excess of speed has taken place it will be easy to ascertain it by merely observing the end of the permanent mark made by the pencil 17 on the scale 9 of the semi-disc 8. At the same time, as the counterweight 22 is connected with the butterfly valve 29, the same will obturate the whistle 30 while the vehicle does not surpass the maximum speed permitted, but on surpassing this maximum speed, the valve 29 will open and the air suddenly admitted into the horn 30 will cause the whistle to blow, and this sound will indicate the fault of excess of speed incurred in.

When the vehicle may travel through places out of the cities where the use of the apparatus is not required, it will be sufficient to pull out the casing 1 to take out the pins 32 from the recesses 35 and to turn the casing along 180° on its pivot 33 until pins 32 are again inserted into recesses 35, causing counterweight 22 to move towards center of supporting wheel, and the mechanism becomes ineffective to record any increase of speed in the movement of the vehicle instead of flying outwards as it will be easily understood.

It is obvious that many changes can be made in the described construction, and also that this device can be applied to the vehicles by mounting it in the manner illustrated in the drawing or either in direct connection with the motor of the vehicle or in any other desired and proper manner, and also that this apparatus can be used to determine the maximum speed of rotatory machines and apparatus of various kinds, particularly when the same should not be operated above a maximum speed, and accordingly in view of all these possible changes we do not desire to be limited to the particular embodiment described in the annexed specification and illustrated in the annexed drawings, but desire to protect by Letters-Patent all that which may fall within the scope of the appended claims.

What we claim is:—

1. A speed indicating device comprising a casing having a glass lid to look through; sealing closing means between the casing and its lid; a heavy member pivotally and eccentrically mounted in the casing and operated by the action of centrifugal force when the casing is caused to gyrate around

an exterior point, said heavy member having a resilient connection at one end and at its opposite end a transmission with a shaft arranged gyratorily and centrally through the casing; an arm fixed to said shaft which carries a marking member adapted to impress a permanent mark or signal on a scale graduated for different speeds and means to set at will the heavy element inside the casing and means connecting an element producing an acoustic signal with the heavy member.

2. A speed indicating device comprising a casing having a heavy member arranged pivotally and eccentrically inside thereof; means for holding in a resilient manner said member against the action of centrifugal force when the casing receives a constant circular motion and which means are made to yield relatively when the circular movement surpasses a given or predetermined speed, and means transmitting the motion from said heavy element to an element provided with marking means leaving a permanent mark or signal on a scale which is visible from the end of the casing and which scale indicates the various speeds reached beginning from that on which start to yield the means which resiliently hold the heavy element.

3. A speed indicating device comprising a casing with a glass lid to look therethrough, said lid having a sealing closure; means for setting said casing to follow a constant circular motion whose speed is desired to be indicated; a weight element eccentrically and pivotally arranged in the casing resiliently connected at one end and having at its opposite end a meshing transmission with a gyratory shaft arranged centrally to the casing; an arm fixed to this shaft and provided with an element adapted to leave a permanent mark or signal on a scale graduated for the various speeds of the circular movement; a connection between the weight element in the casing and a horn

with whistle to produce an acoustic signal when the weight element is moved by the action of the centrifugal force in the casing.

4. A speed indicating device comprising a casing having a cover with a glass to look therethrough and provided with a safe sealing closure, the rear wall of the casing having a central pin and separated apart side pins fitting in holes in a supporting plate for fixing same in a body gyrating, a helical spring coiled in the central pin and held against the plate by a nut threaded in the end of said pin; a disc arranged in the casing dividing same in a front and rear compartments; a semi-disc having a scale indicating different speeds arranged on the outer face of the said disc in the front compartment and held against the former by means of a cut ring removable arranged at tension in the casing; an angular arm eccentrically pivoted in the rear compartment of the casing and terminating in one branch on a counterweight and its other branch in a gear sector meshing with a pinion fixed to a shaft gyratorily and centrally mounted on the casing; a spring connected at the end of a counterweight and fixed at a side of the casing at its opposite end; an arm fixed to the end of the shaft projecting towards the front compartment of the casing terminating in a collar provided with a pencil whose point is in contact with the indicating scale of the semi-disc; a horn provided with a whistle adapted to the outer contour of the casing; a butterfly valve obturating the passage of air to the whistle of the horn and a rod connecting said valve with the counterweight to give pass to the air towards the whistle when the counterweight is displaced owing to the centrifugal force imparted when the casing is caused to gyrate.

In witness whereof we affix our signatures.

JOSÉ VIDAL BOSQUE.

PANTALEÓN GIRÓ Y CASAÑAS.