W. A. ERNER.

SPEED INDICATOR.

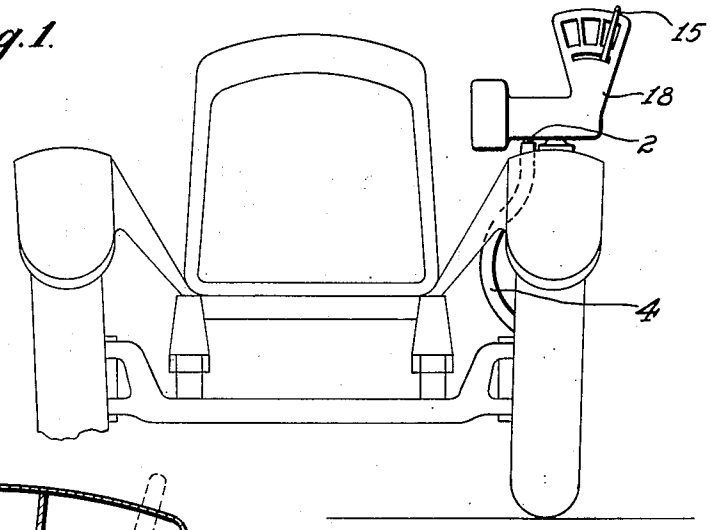
APPLICATION FILED NOV. 1, 1920.

1,409,839.

Patented Mar. 14, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



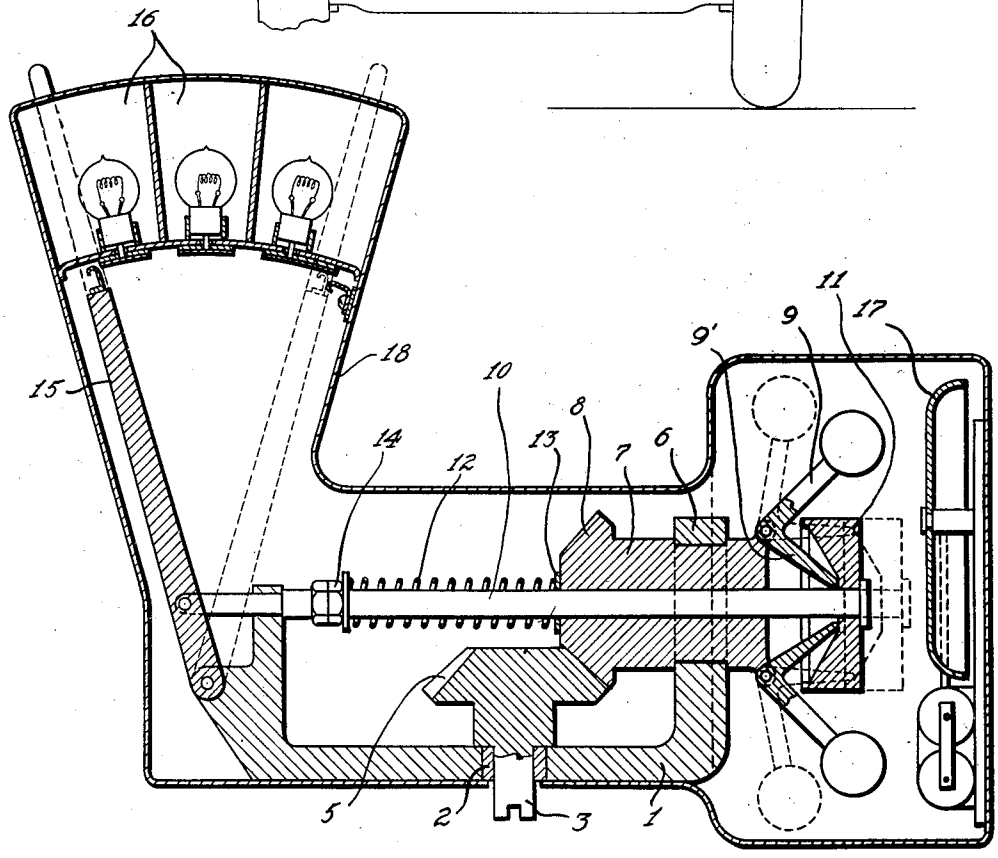


Fig. 3.

George L. Zinglf.

L. B. Middleton

WITNESS:

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INVENTOR

BY Victor J. Evans

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2 SHEETS—SHEET 2.

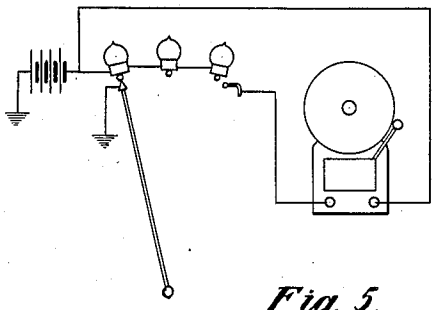


Fig. 5.

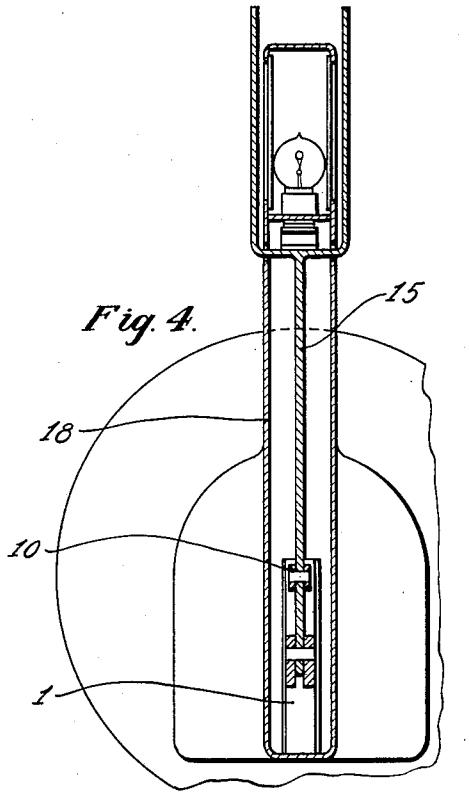


Fig. 4.

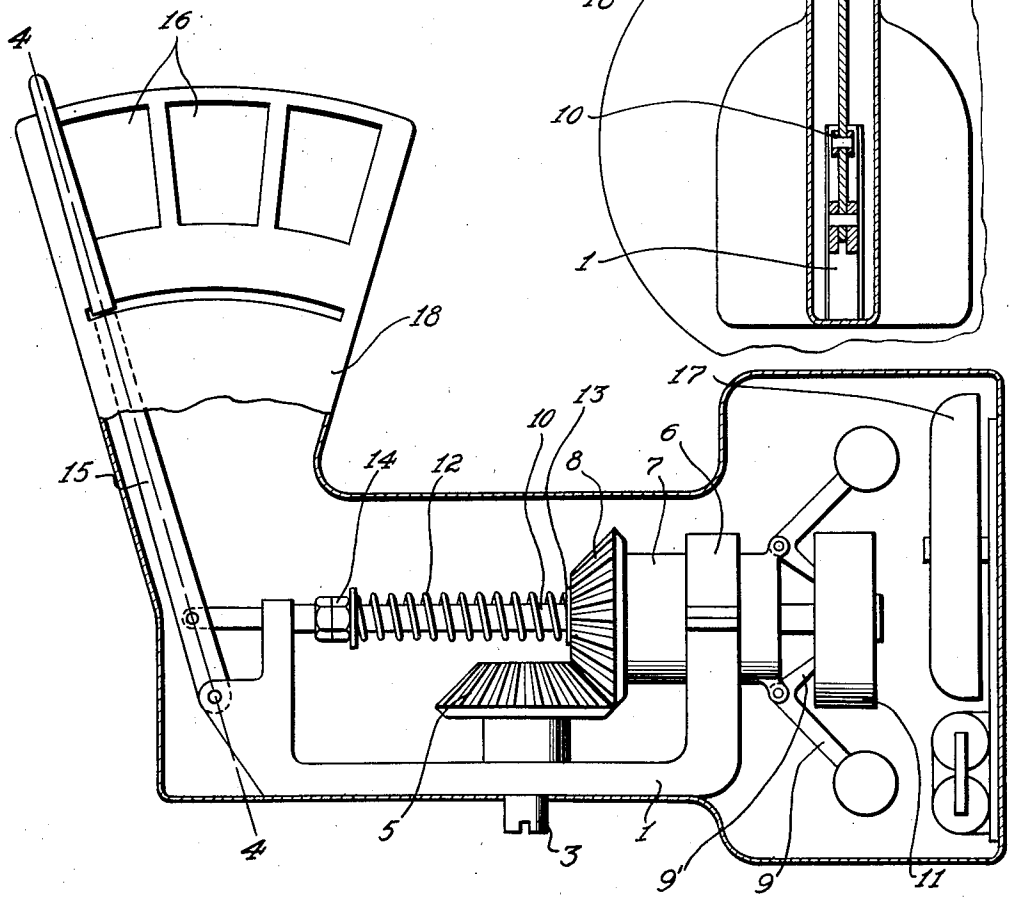


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM A. ERNER, OF DUBUQUE, IOWA.

SPEED INDICATOR.

1,409,839. Specification of Letters Patent. Patented Mar. 14, 1922.

Application filed November 1, 1920. Serial No. 421,135.

To all whom it may concern:

Be it known that I, WILLIAM A. ERNER, a citizen of the United States, residing at Dubuque, in the county of Dubuque and State of Iowa, have invented new and useful Improvements in Speed Indicators, of which the following is a specification.

This invention relates to speed indicating means for automobiles, trucks and the like, the principal object of the invention being to provide means whereby the traffic officers and other persons may readily see at what speed the vehicle is traveling without pacing the vehicle as is now done.

Another object of the invention is to so arrange the parts that the occupant of the car may observe the indicating means as well as the persons along the road.

Still another object of the invention is to provide means for continuously sounding an alarm when a certain speed is reached.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a diagrammatic view showing the apparatus arranged on an automobile.

Figure 2 is an enlarged side elevation through the device with the casing in section.

Figure 3 is a sectional detail view.

Figure 4 is a section on line 4—4 of Figure 2.

Figure 5 is a diagrammatic view of the circuits.

As shown in these views the device consists of a frame 1 in which is arranged the bearing 2 for the stub shaft 3 which is connected by the flexible shaft 4 with a movable part of the automobile, this shaft 4 being similar to the speedometer shaft now in use. The upper end of the stub shaft 2 carries the beveled gear 5. A second bearing 6 is arranged in an upright part of the frame and a bushing 7 is rotatably mounted in said bearing, one end of this bushing carrying the beveled gear 8 which meshes with the gear 5. The other end of said bushing has pivoted thereon the weighted arms 9 which are of substantially bell crank shape with their shorter portions 9′ extending beyond the end of the bushing. A shaft 10 passes through the bushing and is slidably arranged therein. This shaft carries a recessed disc 11, the recess in which is engaged by the parts 9′ of the arms by the tension of the spring 12 surrounding that part of the shaft on the other side of the bushing, said spring pressing against a washer 13, bearing against gear 8 and the adjustable nuts 14 on the shaft. By adjusting said nuts 14 the pressure of the disc on the arms can be regulated. A shaft 10 is pivoted to an indicator arm 15 which has its lower end pivoted to a part of the frame and this arm cooperates with a series of compartments 16 in each of which is located an electric lamp, the circuit of which is completed by the arm 15 as it is moved over the compartment. I prefer to make the transparent portions of these compartments of different colors.

A gong or bell 17 is supported by the frame and this bell is located in the circuit of the lamp of the last compartment.

It will thus be seen that the movement of the automobile will be communicated to the bushing 7 by the gears 5 and 8 and the rotation of this bushing will cause the weighted arms 9 to swing outwardly under a centrifugal action and thus cause the portions 9′ to move outwardly from the shaft thus forcing disc 11 rearwardly and moving shaft 10 longitudinally. This movement of the shaft will swing the indicator arm 15 over the compartments and when the speed is great enough to cause the indicator arm to move over the last compartment the circuit to the lamp in this compartment and also to the bell will be closed and the bell will continue to ring until the speed is reduced.

The parts will be arranged so that the indicator arm will close the circuits to the various lamps at certain speeds. For instance, it might be arranged to close the circuit to the first lamp when a speed of five miles is reached, the second lamp at ten miles and the third lamp at fifteen miles and at this latter speed the bell would also be rung. The indicator arm would be so designed as to be readily seen during the day and the compartments might be designated

with the miles at which their lamps are lighted. These compartments would be so arranged that they could be seen from occupants of the car as well as by persons along the road.

The device may be provided with a suitable casing 18 for enclosing the working parts which could be locked to prevent the parts from being tampered with after being adjusted.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

An indicating device comprising a U-shaped frame, a bearing disposed intermediate of its ends and arranged upon its horizontal portion, a stub shaft positioned through said bearing and adapted to carry a bevel gear, a bushing having a reduced portion between its ends and journaled through the vertical side of said frame, a bevel gear formed on one end of said bushing, and adapted to mesh with the first mentioned gear, projections extending at an angle from the opposite end of said bushing, a pair of bell crank shape arms pivotally secured to said projections, weights secured to the ends of the long portions of said arms, a shaft passing through and beyond said bushing and slidably mounted therein, a disk secured to one end of said shaft, and having a concavity therein adapted to receive the ends of the shorter portions of said arms, said shaft having a reduced end journaled through the opposite vertical side of said frame, an indicating arm having one end forked and its opposite end pivotally secured to the reduced end of said shaft and the last mentioned side of said frame, a coil spring surrounding said shaft for the purpose specified, and a switch secured between the forks of said indicating arm adapted to normally engage a series of lamps arranged in the path of said indicating arm and also normally engaging an alarm contact point to complete an electric circuit between the lamps and said alarm respectively.

In testimony whereof I affix my signature.

WILLIAM A. ERNER.