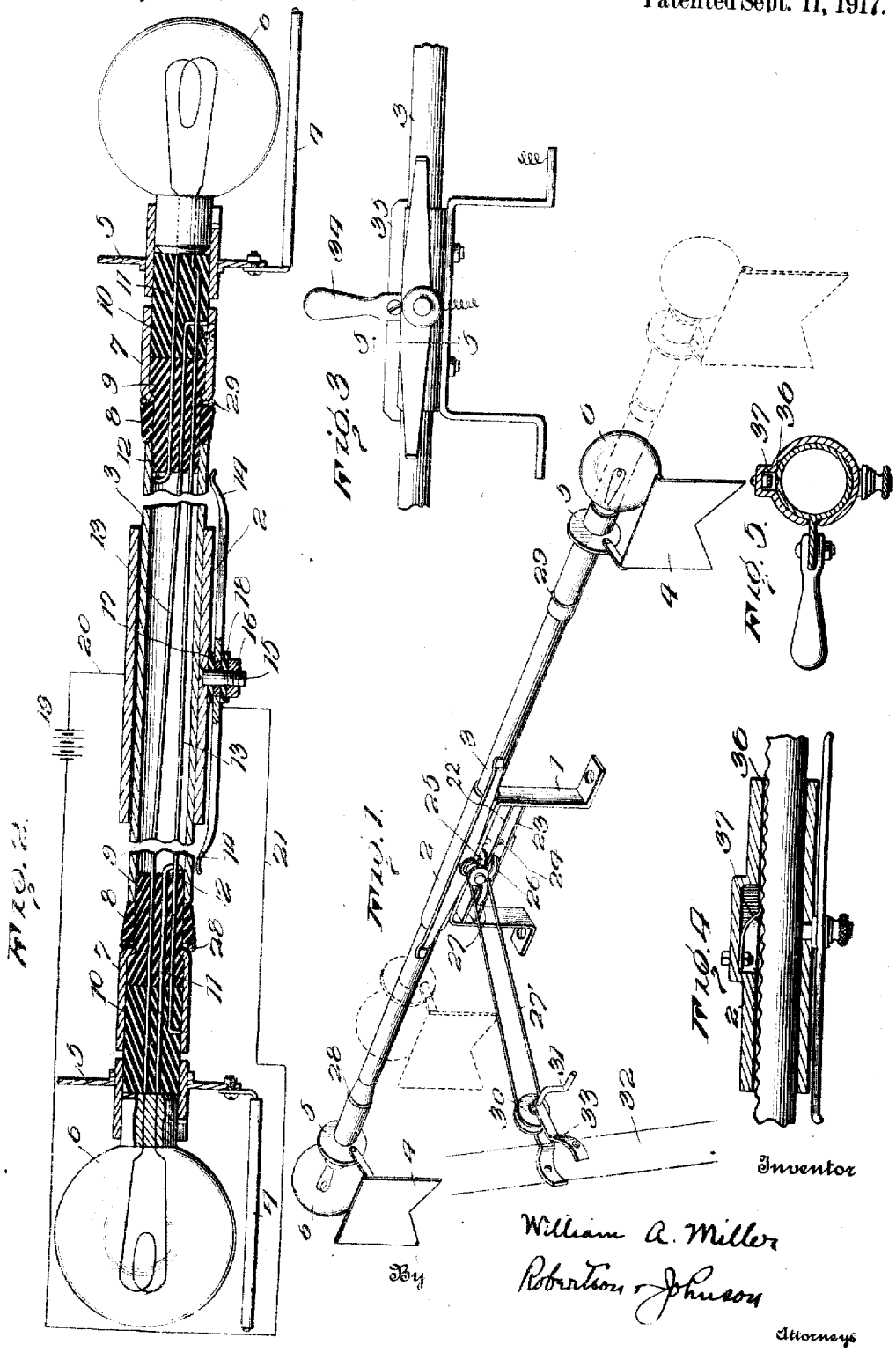
W. A. MILLER.

INDICATOR FOR VEHICLES.

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Inventor

William A. Miller

By Robertson & Johnson

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM A. MILLER, OF LOS ANGELES, CALIFORNIA.

INDICATOR FOR VEHICLES.

1,239,934. Specification of Letters Patent. Patented Sept. 11, 1917.

Application filed February 16, 1916. Serial No. 78,743.

To all whom it may concern:

Be it known that I, WILLIAM A. MILLER, a citizen of the United States of America, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvemets in Indicators for Vehicles, of which the following is a specification.

My invention relates to indicators for vehicles of the type in which the intended course of the vehicle is made known in advance by visual indicators. Its object is to secure simplicity, compactness and efficiency in a device of this character. This object is attained by mounting visual indicators at the opposite ends of a reciprocable bar, providing means for reciprocating said bar and for illuminating only the extended indicator. I employ electric lamps connected in parallel and having in series with each lamp a switch one member of which is stationary and the other of which is movable on the reciprocation of the bar. I prefer to mount the lamps on the end of the bar, connecting one terminal of each with an intermediate conducting portion with which the bar is provided and the other terminal with the more remote of a pair of spaced electrically insulated conducting collars which I prefer to use as the other or movable members of the said switches; the stationary members of said switches being in the path of the movable members one or the other lamp will be lighted up on extending the bar to either side, the extended lamp being the one illuminated. Advantages of this construction are the fact that the stationary contacts may be compactly located adjacent the middle of the device, (it being possible indeed as shown in the drawings to combine the two stationary contacts in a single contact piece attached to the support at a single operation and by a single bolt); that it enables the contacts to be arranged near the reciprocating rod and not far out from it as would be the case if the lamps were to be reciprocated past the stationary contacts; and that it makes possible the use of a very short guide as will hereinafter appear. Other features of my invention are hereinafter more fully explained and the invention is set forth in the appended claims which indicate its scope.

Referring to drawings:

Figure 1 is a perspective view of my indicator, the dotted lines showing the bar in a position to indicate that the vehicle is about to turn to the right.

Fig. 2 is a cross section on a larger scale of the bar and related parts showing also the wiring.

Fig. 3 is a front elevation of a modified form, parts being broken away.

Fig. 4 is a horizontal section through the center of the bar in the form shown in Fig. 3.

Fig. 5 is a vertical section on the line 5—5, Fig. 3 looking in the direction of the arrows.

Referring to Figs. 1 and 2, which show the preferred form of my vehicle indicator, 1 is the support which may be secured to the dash of an automobile or other vehicle and which has a guide 2, preferably a sleeve, in which is mounted for reciprocation a bar of any desired form or shape which I prefer to construct with a conducting portion 3 intermediate its ends. At each end of the rod are visual indicators which I have shown as flags 4 carried by collars 5. I also provide lamps 6 which act as visual indicators and may also be used to illuminate the flags. A compact construction is secured by mounting these lamps at opposite ends of the rod. My construction involves switches in the circuits of said lamps normally open but automatically closed on endwise movement of the rod to extend one of the lamps into indicating position. One member of each of these switches is carried by the rod and I prefer to give it the form of a conducting collar 7. These collars are insulated from the intermediate conducting portion 3 in any suitable way as by bands or rings 8 of insulation. At each end of the rod I also provide insulating plugs 9—10 which act as supports and strengthening means. One terminal of each of the lamps 6 is connected by a wire 11 insulated, except at its end 12, with the intermediate conducting portion 3. A convenient way to accomplish this is to turn back the bare end of the wire and wedge it between the plug 9 and the intermediate portion 3, thus making a firm and permanent connection. The other end of each lamp 6 is connected by a wire 13 with the opposite or more remote collar 7, the said wire 13 being insulated and passing through the insulating plugs 9—10 and having a bare end in firm electrical contact with the collar 7. The end of the wire 13 preferably extends through the collar 7 and is soldered thereto. The stationary members

of said switches may be separate but are conveniently combined as a single piece of metal having contacts 14 which piece of metal is shown as secured to the guide 2 by the bolt and nut 15—16, intermediate pieces of insulation 17—18 being provided. It will be noted that these stationary contact members are located between the collars 7 and when the indicator is in mid-position are out of contact with the said collars so that the circuit of both lamps is broken. A source of electricity shows as the battery 19 has one side connected by the wire 20 to any part of the support 1 as diagrammatically indicated in Fig. 2. The other side of the battery is connected by the wire 21 to the contacts 14. It will be obvious that on moving the bar endwise in either direction that one of the collars 7 which is moved inward will make contact with the corresponding contact spring 14, thus completing the circuit of the opposite lamp, *i. e.*, the lamp which has been extended into indicating position. Assuming that the bar in Fig. 2 has been extended to the right, as illustrated in Fig. 1, the course of the current would be from battery 19 by wire 20 to guide 2 to conducting portion 3 which is in contact with guide 2 by wire end 12 and wire 11 to right hand lamp 6, thence by wire 13 to left hand collar 7 to contact spring 14 and by wire 21 to the other side of the battery.

Any suitable means for reciprocating the bar may be employed. A convenient one is illustrated in Fig. 1, in which the support 1 is shown as provided with cross bars 22—23 secured thereto as by bolts 24 which may also serve as means for mounting rotatable grooved pulleys. One of these pulleys 25 is mounted between the bar 22 and the top of the support 1 and another, 26, co-axial with the pulley 25 is mounted between the cross bars 22—23. The grooved pulley 27 is also mounted between said cross bars on an axis parallel to that on which the other pulleys are mounted; an operating cord 27′ having its respective ends 28 and 29 secured to the bar, is guided by said pulleys and has its intermediate portion passing around a drum or pulley 30 to which is secured a crank 31 and which is mounted on any suitable part of the vehicle as on the steering post 32 by a support 33. The cord passes from the end 28 between pulleys 26—27, around the drum 30, thence to the pulley 25 and around the same to the end 29. It will readily be understood that turning the crank 31 will therefore shift the bar endwise.

The modification shown in Fig. 3 employs different means for operation but is otherwise the same as the indicator illustrated in Figs. 1 and 2. It is provided with a handle 34 secured to a fin 35 which in turn is carried by the bar. This arrangement may be used where the driver is close to the indicator and can readily reach the handle. In the form shown in Figs. 1 and 2 the cord is kept sufficiently taut to retain the bar in position but in the form shown in the other figures I have provided serrations 36 in the bar with which co-acts a spring 37 secured to the sleeve 2 in any suitable way. It will be understood that this is only one way of automatically holding the bar releasably in any position to which it may be moved. This or some equivalent means might also be employed in the construction of Figs. 1 and 2 although not shown there.

The indicating flags may be red and may bear the word "Danger" in contrasting color. The lamp bulbs may be of any desired color, suitably red. No effort has been made to catalogue modifications which it may be understood may be made within the general lines of the invention.

What I claim as my invention is:

1. An indicator for vehicles comprising in combination, a conducting support, a bar having a conducting portion intermediate its ends reciprocable on said support and a pair of spaced conducting collars insulated from said intermediate portion, a lamp carried by said bar at each end thereof and connected electrically to said intermediate portion, each lamp being also connected electrically to the opposite collar, a source of electricity connected to said support, switch contacts connected to said source of electricity and located in the path of said collars, and means for moving said bar endwise to extend a lamp to indicating position and light it.

2. An indicator for vehicles comprising in combination, a support, a bar mounted for reciprocation thereon, a lamp carried by said bar at each end thereof, a source of electricity to which one terminal of both of said lamps is connected, insulated movable switch contacts connected respectively to the other terminals of said lamps, means for reciprocating said bar and moving said contacts, and stationary switch contacts connected with said source of electricity and located adjacent the middle of the device and between and in the path of said movable switch contacts whereby endwise motion of said bar will bring one or the other of said switch contacts into contact with one of said stationary contacts thus completing the circuit of one of said lamps.

3. An indicator for vehicles comprising in combination, a support, a bar mounted for reciprocation on said support and having an intermediate conducting portion and a pair of separated electrical contacts insulated therefrom, a lamp carried by said bar at each end thereof, one terminal of each lamp being connected to the intermediate conducting portion and the other to one of said contacts, a source of electricity con-

nected to said support, stationary switch contacts connected with said source of electricity and located between and in the path of the contacts on said bar, and means for reciprocating said bar.

4. An indicator for vehicles comprising in combination, a support, a bar reciprocable thereon and having an intermediate conducting portion, a non-conducting plug in each end thereof, conducting collars insulated from said intermediate conducting portion, a pair of lamps carried by said bar one at each end thereof, each having one terminal connected to the intermediate conducting portion by a wire the end of which is pressed between the plug and the intermediate conducting portion and the other terminal of which is in electrical connection with the opposite collar, means for reciprocating said bar, and stationary contacts located between said collars and in their path to complete the circuit through the extended lamp when the bar is moved endwise into indicating position.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. MILLER.

Witnesses:

NANCY JANE FAY,

ROY FAY.