G. E. BATES.

DIRECTION INDICATOR FOR VEHICLES.

APPLICATION FILED MAR. 1, 1919.

1,343,994. **Patented June 22, 1920.**

2 SHEETS—SHEET 1.

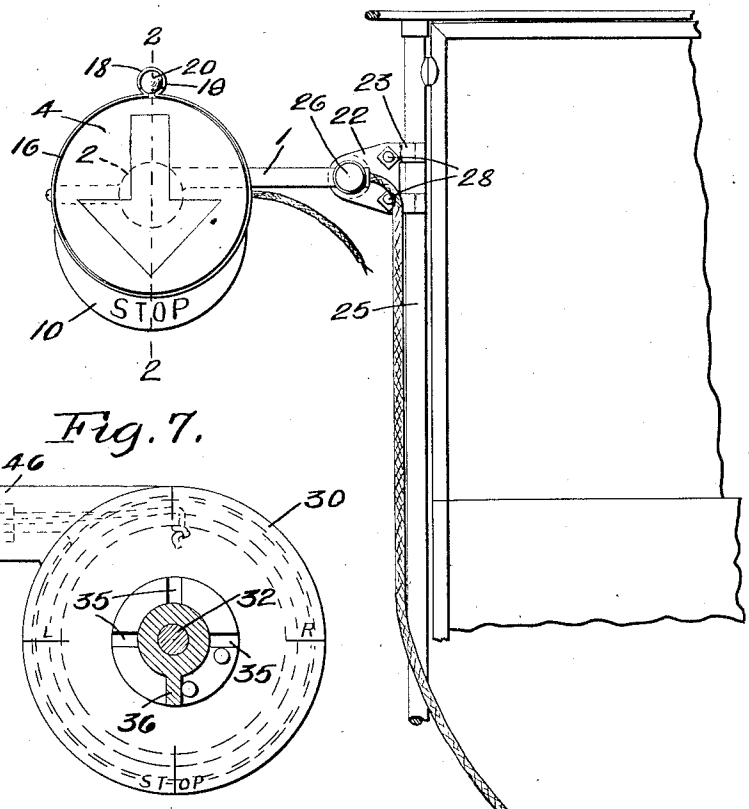


Fig. 1.

Fig. 7.

Fig. 6.

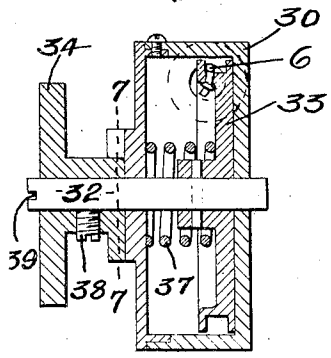
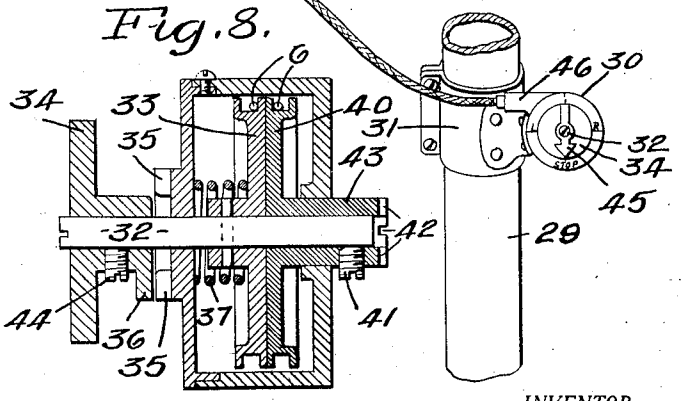


Fig. 8.



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2 SHEETS—SHEET 2.

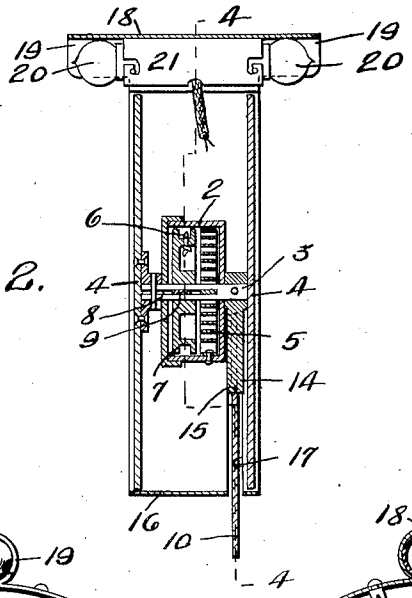


Fig. 2.

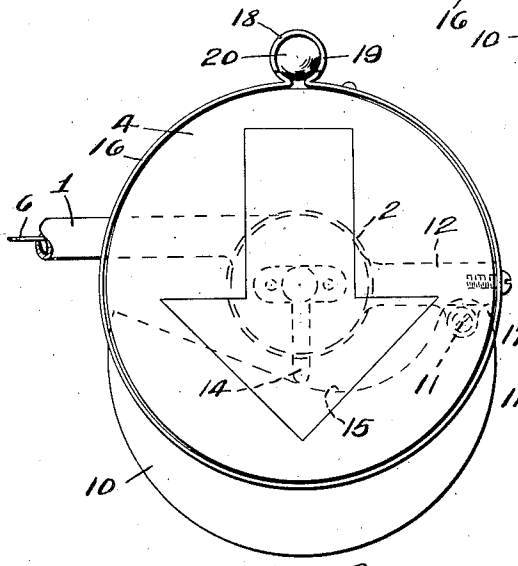


Fig. 3.

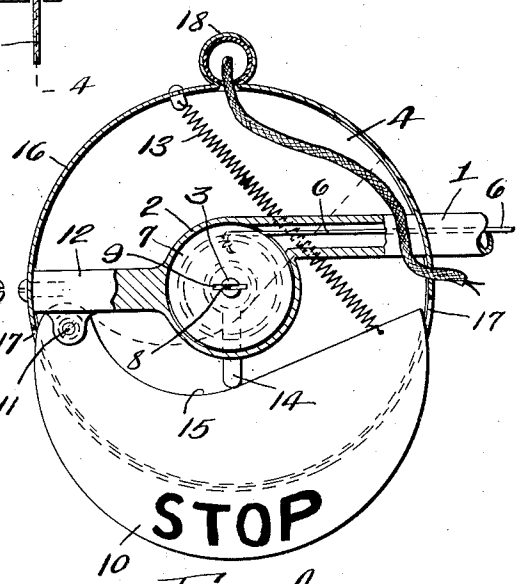


Fig. 4.

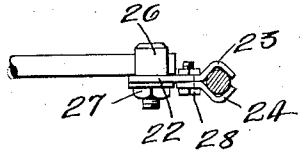


Fig. 5.

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DIRECTION-INDICATOR FOR VEHICLES.

1,343,994. Specification of Letters Patent. Patented June 22, 1920.

Application filed March 1, 1919. Serial No. 279,932.

To all whom it may concern:

Be it known that I, GEORGE E. BATES, a citizen of the United States, and a resident of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Direction-Indicator for Vehicles, of which the following is a specification.

This invention has for its object a direction indicator for vehicles which is particularly simple in construction, readily applicable to the vehicles and easily operable and adjustable when in position; and the invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a rear elevation of one embodiment of my direction indicator, the contiguous portion of the wind shield and steering post of a motor vehicle being also shown.

Fig. 2 is a vertical sectional view taken on the plane of line 2—2, Fig. 1.

Fig. 3 is a front elevation of parts seen in Fig. 2.

Fig. 4 is a sectional view on line 4—4, Fig. 2.

Fig. 5 is a detail fragmentary view of the clamp of the bracket supporting the indicator members and associated parts.

Fig. 6 is a sectional view taken on line 6—6, Fig. 1.

Fig. 7 is a sectional view taken on line 7—7, Fig. 6.

Fig. 8 is a view similar to Fig. 6 of the form of operating means used when indicator members located at the front and rear ends of the vehicle are operated from a single handle.

This direction indicator comprises generally, a substantially vertical combined background and indicator member having a completely exposed face and movable on a horizontal axis and disposed in a transverse plane with relation to the vehicle so as to present its entirely exposed face in a transverse plane in every position of the observer, and a direction indicator or character as an arrow on said face carried to different positions by the movement of said member.

Preferably, in the illustrated embodiment of this direction indicator, a plurality of such vertically disposed indicator members as disks are shown, arranged one behind the other and spaced apart, these combined indicator members and background plates or disks facing forwardly and rearwardly respectively and each has a direction character or arrow on its exposed face.

Each combined indicator member and background plate or disk is similar to that shown in my application, Sr. No. 257,789, filed Oct. 11, 1918, but claimed in this application.

More specifically, the direction indicator for vehicles here illustrated, comprises a movable indicator member, a spring connected to the indicator member to move the same in one direction, and operating means including a handle and connections between the handle and the operating member to move said member in one direction against the action of the spring and permit the spring to move the indicator member in the opposite direction upon movement of the handle in the opposite direction.

The indicator member, the spring and the support therefor constitute one unit attachable to the vehicle, and the operating means constitute another unit separately attachable to the vehicle or some part thereof.

As here shown, the indicator member is movable about an axis, and the spring is connected at one end to said member or the shaft on which it is mounted, and at its other end to a fixed point, and the operating means includes a cord or cable connected to the indicator member or the shaft on which it is mounted to move said member about its axis against the action of the spring when the operating means is moved in one direction and to permit the spring to move the indicator member in the opposite direction upon movement of the operating means in the opposite direction.

1 designates a support here shown as a hollow bracket having means at one end for securement to a part of a vehicle as the side iron of a wind shield and having a casing 2 at its other end.

3 is a shaft journaled in the casing and 4 are indicator members mounted on the front and rear ends of the shaft outside the casing 2, these indicating members being here shown as disks having arrows painted or otherwise applied thereto, the disks being

for the purpose of a background for the arrows. These indicator members as before stated are disks arranged one behind the other spaced apart with the operating mechanism between them, said disks being arranged in substantially vertical planes extending transversely of the vehicle to which the device is applied so that each presents its entirely exposed face in a transverse plane in every position of the observer and, so that during rotation of the background plates, the arrow thereon is carried to different indicating positions by the movement of the disk.

As here shown, the spring 5 is a coiled flat helical or clock spring fixed at one end to the shaft 3 and at its other end to the casing 2.

The operating means in addition to the spring comprises a handle and connections between the handle and the indicator members 4 or the shaft 3, said connections including a cable 6 here shown as connected at one end to the shaft 3 by being secured to a drum or pulley 7 mounted on the shaft 3 and on which the cable 6 winds and at its other end to the drum operated by the handle.

As here shown, the shaft is formed bifurcated or with a lengthwise slot 8 extending inwardly from one end thereof and one end of the spring 5 is inserted in the slot 8 to anchor the spring to the shaft; and the pulley is secured to the shaft by means of a wedge or key 9 driven into the slot and the hub of the pulley. Obviously, upon movement of the cable 6 in one direction the drum 7, shaft 3 and indicator members 4 will be turned therewith against the action of the spring, and the spring also tensioned in addition to its initial tension, and upon movement of the cable 6 in the opposite direction the spring 5 will turn the shaft 3, drum 7 and indicator members 4. The spring is initially tensioned sufficiently to turn the shaft 3 and indicator member 4 in one direction.

The bracket member 1 is hollow and the cable 6 extends through the bracket and into the casing 2. Preferably, the indicator is provided with another indicator member or signal 10 arranged to move into operative position when the arrows point downwardly, the additional indicator member carrying the word "Stop" to notify traffic in the rear of the vehicle.

As here shown, the member 10 is located in the space between the indicator members 4, and is pivoted at 11 to the support 1 or an arm 12 extending from the casing 2 and restrained from pivotal movement by a spring 13 connected at one end to the member 10 and at its other end to a fixed point.

This stop signal 10 is operated against the action of the spring 13 by an arm or cam 14 extending radially from the shaft 3 and coacting with the cam surface 15 on the inner edge of the member 10, the cam surface 15 being arranged so that the cam engages the same when the indicator members 4 move into such position that the arrows thereon point downwardly.

The arm 14 moves with the combined background and indicator members or disks 4, and hence always maintains the same position relatively to the direction character or arrow on each of these disks 4 as seen in Fig. 3, and when the direction characters or arrows point in a certain direction as downwardly, said arm engages the cam surface 15 of the indicator member or signal 10 and moves said member or signal 10 into position where the portion carrying the word "stop" is exposed to the view of the observer.

The space between the indicator members 4 is inclosed by a casing or shield formed of a band 16 formed of sheet metal and following the curvature of the disks 4 and overlapping the outer or peripheral edges of said disks, the shield being formed with a slot 17 in its lower side through which the indicator member 10 extends when in its operative position.

This shield is supported on the arm 12. The shield 16 is also provided with a lamp socket support formed by bending the upper intermediate portion of the shield into cylindrical form as at 18, the cylindrical portion being longer than the width of the band 16 in order to form hoods 19 for the lamps 20.

This cylindrical portion 18 supports the sockets 21 for lamps 19, and the feed wires for the lamps extend between the indicator members 4.

Each lamp is arranged to throw light on the combined background and indicator member in every position of the same, and preferably, the lamp is fixed relatively to its indicator and background members, that is, it does not rotate with said member.

The bracket 1 is secured to a base 22 by means of a swivel joint permitting vertical angular adjustment of the bracket 1 and also an endwise adjustment of the bracket.

The base 22 has a clamping piece 23 at one end with which coacts a complemental clamp 24 for securing the bracket to a part of the vehicle as the upright side frame 25 of the wind shield. The swivel referred to is a screw extending through the base 22 and clamp 24 and having a head 26 at one end formed with a transverse opening through which the hollow bracket extends. A nut 27 threads on the other end of the screw against the base 22 and tightens the swivel from turning and also holds the bracket in its endwisely adjusted position. The clamps 23 and 24 are clamped onto the

wind shield iron in any suitable manner as by clamping screws and nuts 28. The manual means for operating the connection 6 may be mounted in any convenient place as on the instrument board or on the steering post. It is here shown as mounted on the steering post 29 in any suitable manner. This operating means comprises a case 30 attached to a clamp 31 secured to the post 29, a shaft 32 journaled in the case and a drum 33 mounted on the shaft and on which the cable 6 winds, and the handle or knob 34 mounted on the shaft.

The handle is held in different angular or radial positions corresponding to the positions of the indicator members 4, by two parts having coacting teeth, one part being movable endwisely or axially relatively to the other.

As here shown, the case 30 is formed with sockets or teeth 35 and the handle 34 is formed with a tooth 36 coacting with the teeth 35 and the handle and shaft 32 are movable endwisely against the action of a spring 37 to permit ratcheting of the tooth 36 into and out of any of the sockets or teeth 35 upon turning of the handle and the shaft. In order to permit the slack to be taken up in the cable 6 the handle 34 is detachably secured to the shaft 32 in any suitable manner as by a set screw 38 and upon unloosening of the set screw the shaft 32 can be turned to take up the slack in the cable 6, by means of a tool as a screw driver, insertible in the slotted end 39 of the shaft 32 and then again tightening the screw 38.

When indicator members mounted on the front and rear ends of the vehicle are used and hence two cables are employed, another drum 40 is mounted on the shaft 32 as seen in Fig. 8; and in order that the slack may be taken up in both cables 6, that is the cables winding on the drums 33 and 40, the drum 33 is detachably mounted on the shaft 32 by means of a set screw 41.

To adjust the slack of the cable winding on the drum 40 the set screw 41 is loosened and the drum 40 turned by means of a screw driver or other tool insertible in the slotted end 42 of the hub 43 of the drum 40 which hub extends to the outside of the case.

When the drum 40 has been thus adjusted, the set screw 41 is again tightened. To take up the slack in the cable 6 winding on the drum 33 the set screw 44 holding the handle on the shaft 32 is loosened and likewise the set screw 41 loosened, and the shaft 32 turned by means of a screw driver or other tool inserted in the slotted end thereof.

In adjusting the slack on both the drums 33 and 40 it is preferable to first loosen both set screws 41 and 44 and first take up the slack in the cable 6 winding on the drum 33.

The handle or knob 34 is also provided with a suitable arrow 45 which assumes the same positions as the arrows on the indicator members 4.

The cable 6 extends into the bracket 1 through the inner end thereof and into the casing 30 through the tangential tubular extension 46.

In operation, upon movement of the handle or knob 34 to the right, the indicator members 4 are moved to the right against the tension of the spring 5 and upon movement of the handle 34 to the left the spring moves the indicator parts 4 to the left.

During these movements of the handle the tooth 36 thereon ratchets from one socket or tooth 35 to another.

This indicator member is particularly advantageous in that it is economical in manufacture and can be readily applied to the vehicle and is positive in its operation.

What I claim is:

1. A direction indicator for motor cars comprising a substantially vertical combined background and indicator member having a completely exposed face and movable on a horizontal axis and disposed in a transverse plane with relation to the vehicle so as to present its entirely exposed face in a transverse plane in every position to the observer, and a direction character on said face carried to different positions by the movements of the said member.

2. A direction indicator for motor vehicles comprising a vertically disposed combined background and indicator member mounted for movement on a horizontal axis and having a face completely exposed in the same plane in every position of the said member, a direction character on the said face, an auxiliary indicating member movable upwardly and downwardly and concealed from view by the indicator member in a plurality of positions of the latter, and adapted to be projected beyond the indicator member when the latter is in another position, and means for operating the said members.

3. A direction indicator for motor vehicles comprising a plurailty of vertically disposed indicator members including an arm and a combined background and indicator plate having a direction character arranged in a position corresponding with the arm and operating means common to the arm and the indicator plate.

4. A direction indicator for motor cars comprising a substantially vertical combined background and indicator member having a completely exposed face and movable on a horizontal axis in a plane transversely of a vehicle so as to present its exposed face at all times in a single plane to the observer, a direction character on said member carried to different positions by the movements thereof, and a lamp arranged

to throw a light on the said member in every position of the same.

5. A direction indicator for motor cars comprising a substantially vertical combined background and indicator member having a completely exposed face and movable on a horizontal axis in a plane transversely of a vehicle so as to present its exposed face at all times in a single plane to the observer, a direction character on said member carried to different positions by the movements thereof, and a fixed lamp arranged to throw a light on the face of the indicator and background member in every position of the same.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 18th day of February, 1919.

GEORGE E. BATES.