May 14, 1929. V. L. PAGE 1,713,052

SIGNALING APPARATUS FOR VEHICLES

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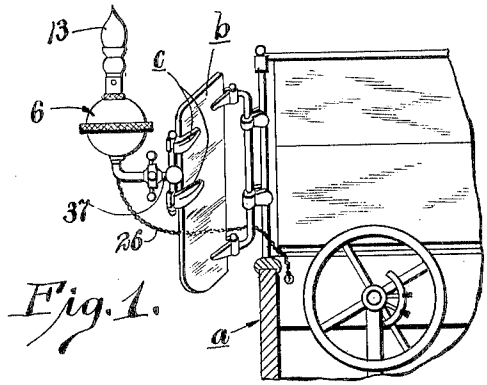


Fig. 1.

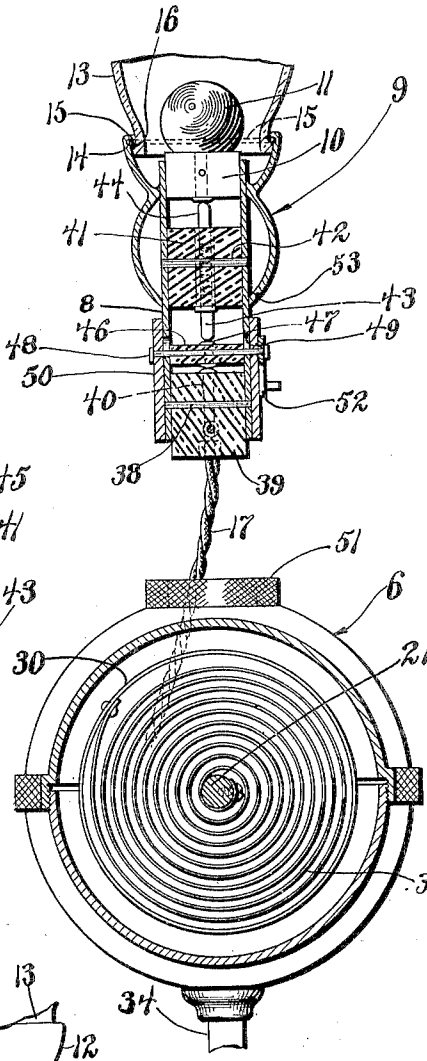


Fig. 3.

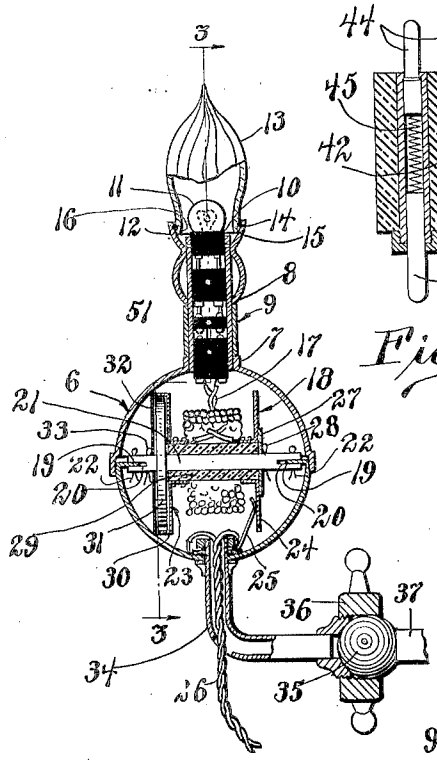


Fig. 2.

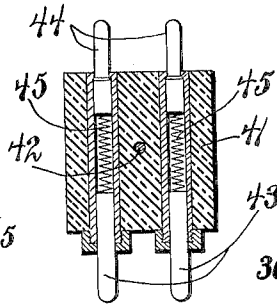


Fig. 4.

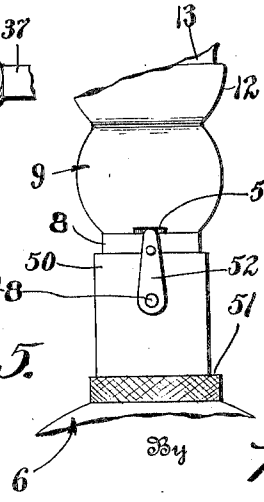


Fig. 5.

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SIGNALING APPARATUS FOR VEHICLES.

Application filed December 4, 1924. Serial No. 753,854.

This invention relates to signaling apparatus and more especially to that type in which a lamp is held by the operator while he extends the hand holding the lamp from the vehicle, there being a suitable bracket mounted on the vehicle to hold the lamp when not being used for signaling.

An object of the invention is to provide an apparatus of this type of which the functions are three-fold; namely: for signaling, for minor illumination while parking, and for illuminating any portion of the vehicle that needs to be inspected or repaired while on the road.

An important object of the invention is to make provision for automatic switching on the light when the lamp is removed from its holder and for automatic switching off the light by returning the lamp to said holder. When the lamp is removed from the holder it may be used for signaling purposes or as a "trouble" light.

A further object is to construct the apparatus so that the lamp can be also illuminated while in the holder in order that the light can be used as a parking light.

Other objects and advantages will appear hereinafter.

The accompanying drawings illustrate the invention:

Fig. 1 is a rear elevation of a signaling apparatus embodying the invention and mounted on a side wing or air deflector of a vehicle, a fragment of which is also shown. The lamp is supported by the holder.

Fig. 2 is an enlarged elevation, mainly in section, of the apparatus shown in Fig. 1.

Fig. 3 is an enlarged sectional elevation on the irregular line indicated by 3—3, Fig. 2, the lamp and switch being shown separated from the holder.

Fig. 4 is an enlarged sectional detail of a portion of the switch.

Fig. 5 is a fragmental elevation of the apparatus showing the means for holding the switch closed when the lamp is in the holder.

There is provided a holder 6 of any suitable shape having a socket 7 adapted to receive a cylindrical member 8 constituting the housing of a switch which is indicated in general by the character 9. A lamp receptacle 10 is secured in one end of the housing 8 and a lamp 11 engages the receptacle 10 in the manner well understood in the art relating to incandescent lamps and their receptacles.

Mounted on the housing 8 is a shade socket 12 in which is detachably inserted a shade 13 which may be of glass of any desired color, preferably red. The holder 12 is provided with an annular groove 14 in which removably seats a split wire ring 15 that engages a shoulder 16 on the shade 13 to retain the shade in the holder 12.

The switch 9 is connected by a lamp cord 17, or its equivalent, to a reel 18 which is rotatably mounted within the holder 6 constructed of separable halves screwed together so that access may be had readily to the interior of the holder.

The reel is constructed as follows: Secured to the inner face of the holder 6 are inwardly projecting ears 19 which are engaged by slots 20 in the ends of a shaft 21, fastening means, such as cotter pins 22, passing through the shaft and ears. A spool 23 is rotatably mounted on the shaft 21 and said spool comprises flanges 23, 24 of metal so as to conduct an electric current and a bushing 29 of electrical insulating material on which the flanges are mounted, the flange 24 of the spool serving as one contact and a brush 25 that engages the flange 24 serving as a second contact through which an electric current flows, and one of the wires of the lamp cord 17 being grounded to the spool flange 23. The brush 25 is insulated from the holder 6 and is secured to one of the wires of a lamp cord 26 and the other wire of said lamp cord 26 is grounded to the holder 6 which is of metal. An electrical insulation washer 27 is mounted on the shaft 21 outside of the flange 24 to insulate said flange from a cotter pin 28 that prevents end thrust of the spool 18 to the right in Fig. 2. The spool flanges are insulated from the shaft 21 by the tubular bushing 29 of electrical insulating material. The flange 30 of the spool is chambered for a coil spring 31 which is secured at one end to the flange 30 and at its opposite end to the shaft 21, said spring being wound in a direction to cause the spring to be put under tension when the spool is turned by pulling on the lamp cord 17 to unreel it, so that the tension of the spring will rotate the spool to rewind said lamp cord.

Mounted on the shaft 21 and covering the outer end of the flange 30 is a washer 32 of electrical insulating material which is held against end thrust to the left, in Fig. 2, by a cotter pin 33 that passes through the shaft 21.

The lamp cord 26 passes through a tubular arm 34 that constitutes a portion of the holder 6, said arm being L-shape. A ball and socket joint 35 and a nut 36 connects the arm 34 to a bracket 37 that is designed to mount the holder 6 on some part of a vehicle, a fragment of which is indicated at *a* in Fig. 1. In this instance the vehicle *a* has a side wing or air deflector *b* to which is fixed by clamps *c* the bracket 37. If the air deflector *b* is aslant with respect to the vehicle, the holder 6 may be adjusted to hold the lamp vertical by loosening the nut 36 and turning the arm 34 relative to the bracket 37.

The switch 9 is constructed as follows: Secured in the member 8 by a pin 38 is an electrical insulation block 39 carrying contacts 40 to which are respectively connected the wires of the lamp cord 17. Spaced from the block 39 is a second block 41 of electrical insulating material which is secured in the member 8 by a pin 42. The block 41 is provided with two pairs of spaced contacts 43, 44, the contacts 43 projecting from one end of the block and the contacts 44 from the other end. In the spaces between the contacts 43, 44 are coil springs 45 which yieldingly hold the contacts outwardly. The contacts 43 project into the space between the blocks 39, 41, and suitably mounted in said space is a block 46 of electrical insulating material provided with electric contacts 47. The springs 45 exert pressure through the contacts 43 to yieldingly hold the block 46 in position to engage the contacts 47 with the contacts 40, as in Fig. 3. In order to effect relative motion of the blocks 39, 46 to break the electrical connection between the contacts 40, 47, a pin 48 passes transversely through the block 46 and through slots 49 extending longitudinally in the member 8 and the end portions of the pin 48 engage a tubular sleeve 50 which is slidably mounted upon the member 8, and constitutes the switch-operating member. Movement of the block 39 downward relative to the sleeve 50 in Fig. 3 breaks the contacts 40, 47. Holding of the sleeve 50 stationary relative to the block 39 is effected by engagement of the lower end of said sleeve with a shoulder 51 on the holder 6 surrounding the socket 7. The tension of the reel spring 31 is greater than the combined tensions of the springs 45 so that, when the sleeve 50 is held stationary by the shoulder 51, the cord 17 will pull the block 39 away from the block 46. As soon as the operator removes the switch from the socket 7, the block 46 will be moved downwardly by the springs 45 so as to close the contacts 40, 47. The lamp receptacle 10 engages the contacts 44 in the customary manner.

Pivoted by the pin 48 is an arm 52, the distance from the axis of the pin 48 to the free end of the arm 52 being greater than the distance from said axis to the upper end of the sleeve 50 so that, when it is desired to hold the contacts 40, 47 closed while the sleeve 50 engages the holder 6, the arm 52 may be swung into the position shown in Fig. 5 with the free end of the arm 52 resting against a shoulder 53 on the member 8, thus wedging the sleeve and shoulder 53 apart.

The invention operates as follows: When the driver of the vehicle desires to signal, he will grasp the switch and extend his arm from the vehicle so that the drivers of cars in the rear will be able to see the light from the lamp 11. This extension of the arm unreels the lamp cord 17 and tensions the reel spring. As soon as the switch is removed from the socket the lamp will be illuminated because of the springs 45 forcing the plug 46 into the contact closing position shown in Fig. 3. When the switch is removed from the holder the lamp may also be employed as a trouble lamp to illuminate any desired portion of the vehicle.

When the operator has finished signaling, he will move the switch toward the holder, thus permitting the lamp cord 17 to be wound on the reel by tension of the reel spring, and he will insert the member 8 in the holder and the tension of the reel spring will move the block 39 relative to the sleeve 50, thus breaking the contacts 40, 47, cutting off the electric current from the lamp.

When the car is parked and it is desired to have the lamp 11 illuminated, the switch will be permitted to remain in the holder 6 and the arm 52 will be operated into engagement with the shoulder 53 so as to move the block 39 upwardly against the tension of the spring 31, and effect closing of the contacts 40, 47.

I claim:

1. A signaling apparatus comprising a holder, means to connect the holder to a vehicle, a reel carried by the holder, a switch, a lamp controlled by the switch, an electric cord connecting the switch to the reel, an operating member for the switch engageable with the holder, the switch having spring means tending to close the switch when the operating member is disengaged from the holder and the reel having spring means to effect winding of the cord, the last mentioned spring means being stronger than the first mentioned spring means to operate the switch against the power of the first mentioned spring means when the switch-operating member is engaged with the holder, and means operating in conjunction with the switch-operating member to hold the switch closed when the switch-operating member is engaged with the holder.

2. A signaling apparatus comprising a holder having a socket, a tubular member, an insulation block fixed in the tubular member and detachably fitting the socket, electric contacts carried by the block, a lamp cord

having its wires connected with the respective contacts, a second insulation block movably mounted in the tubular member, electric contacts carried by the second block and engaging with the first mentioned electric contacts when the second block is in one position, a sleeve slidably mounted on the tubular member and connected with the second block and adapted to engage the holder when the first block is inserted in the socket, a third insulation block fixed in the tubular member, electric contacts in the third block, springs pressing the last contacts against the second contacts, and means in the holder to yieldingly pull on the lamp cord with more force than is exerted by the springs.

3. A signaling apparatus comprising a holder having a socket, a tubular member, an insulation block fixed in the tubular member and detachably fitting the socket, electric contacts carried by the block, a lamp cord having its wires connected with the respective contacts, a second insulation block movably mounted in the tubular member, electric contacts carried by the second block and engaging with the first mentioned electric contacts when the second block is in one position, a sleeve slidably mounted on the tubular member and connected with the second block and adapted to engage the holder when the first block is inserted in the socket, releasable means to positively hold the second block with its contacts engaged with th first contacts, a third insulation block fixed in the tubular member, electric contacts in the third block, springs pressing the last contacts against the second contacts, and means in the holder to yieldingly pull on the lamp cord with more force than is exerted by the springs.

4. An apparatus of the character described comprising a switch holder adapted for attachment to a support, a switch including a spring that tends to hold the switch contacts closed, a lamp controlled by the switch, an operating member for the switch movable by the force of the switch spring into switch closing position and movable into a second position to open the switch, a means to releasably hold the switch toward the holder against the force of said spring with the operating member engaged with the holder in the second position to open the switch, and a means to hold the operating member in switch closing position when said operating member is engaged with the holder.

5. An apparatus of the character described comprising a switch holder adapted for attachment to a support, a switch including a spring that tends to hold the switch contacts closed, a lamp controlled by the switch, an operating member for the switch movable by force of the switch spring into switch closing position and movable into a second position to open the switch, a means to yieldingly hold the switch toward the holder against the force of said spring with the operating member engaged with the holder in the second position to open the switch, and a means to hold the operating member in switch closing position when said operating member is engaged with the holder.

Signed at Los Angeles, California, this 25th day of November, 1924.

VENUS L. PAGE.