Jan. 1, 1929.

1,697,586

H. W. BATCHELLER

TRAFFIC SIGNAL FOR MOTOR VEHICLES

Filed March 21, 1925 2 Sheets-Sheet 1

Fig. 1.

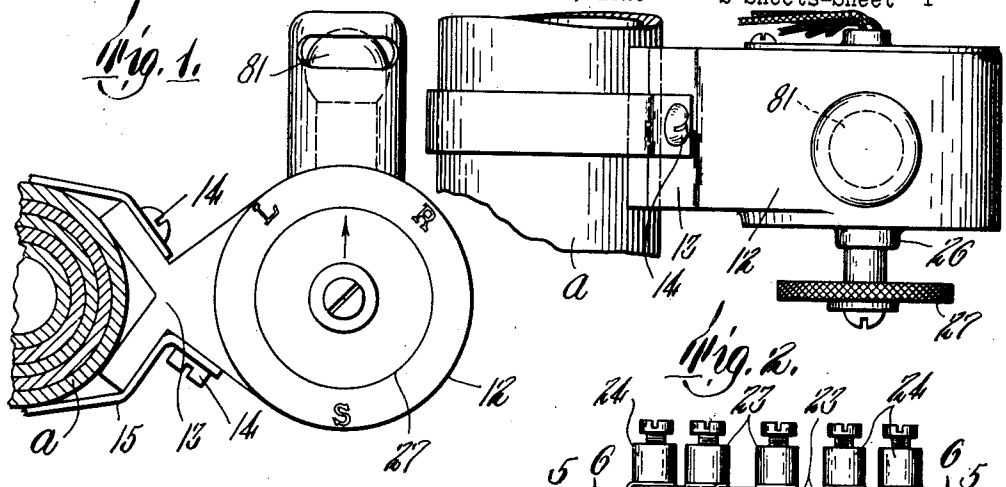


Fig. 2.

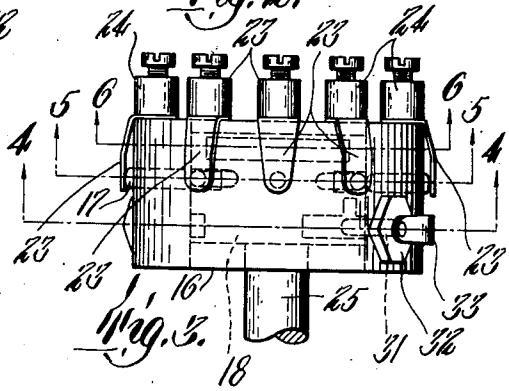


Fig. 4.

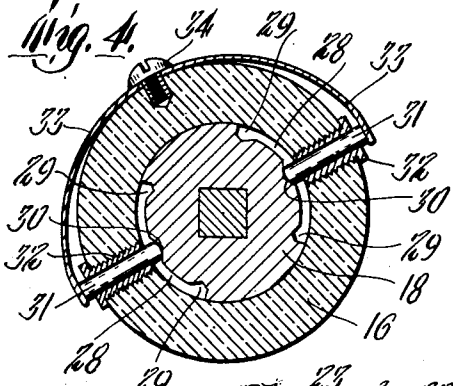


Fig. 5.

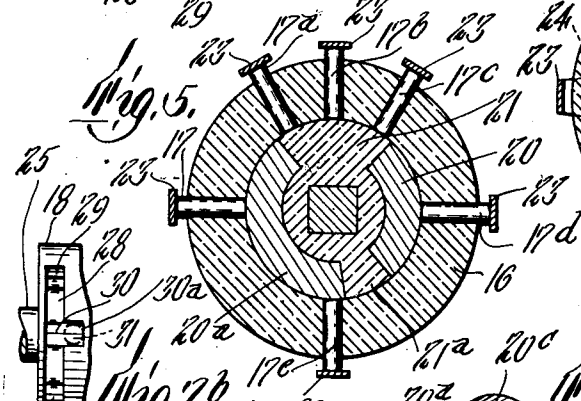


Fig. 6.

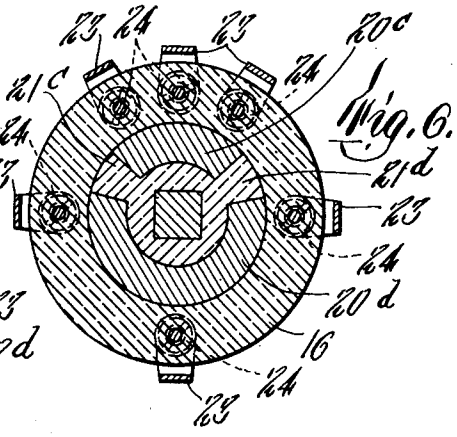


Fig. 7b

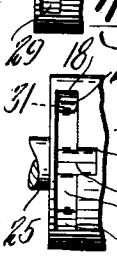
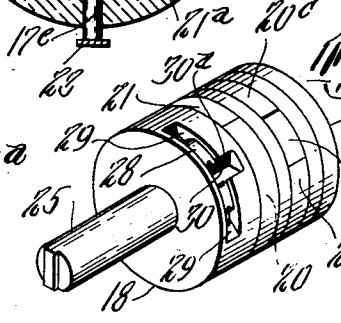


Fig. 7a

Fig. 7.



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TRAFFIC SIGNAL FOR MOTOR VEHICLES

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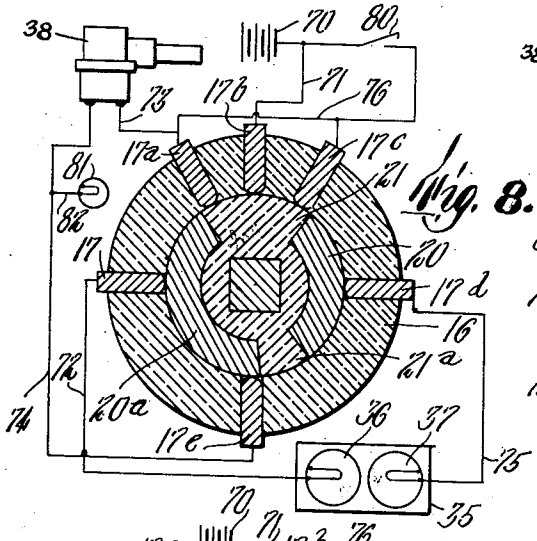


Fig. 8.

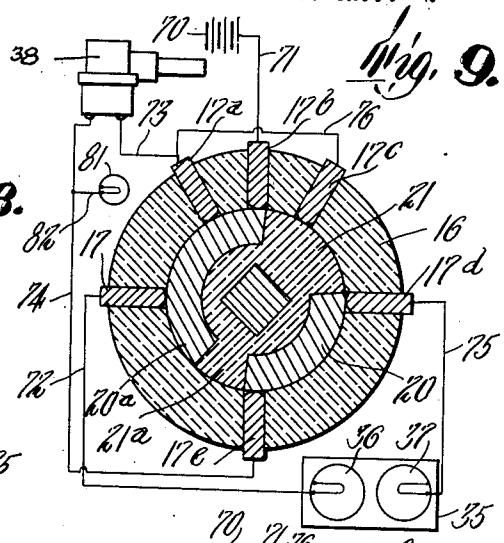


Fig. 9.

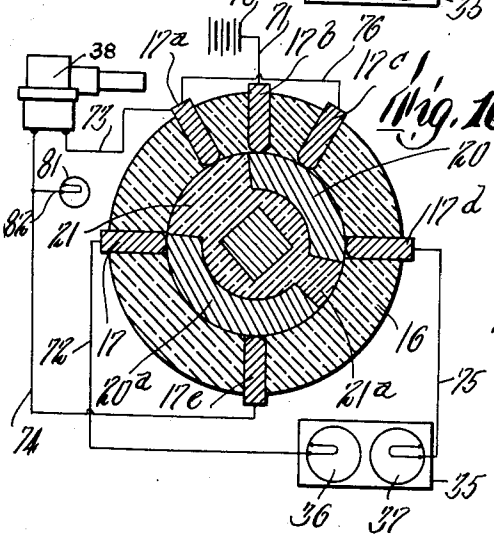


Fig. 10.

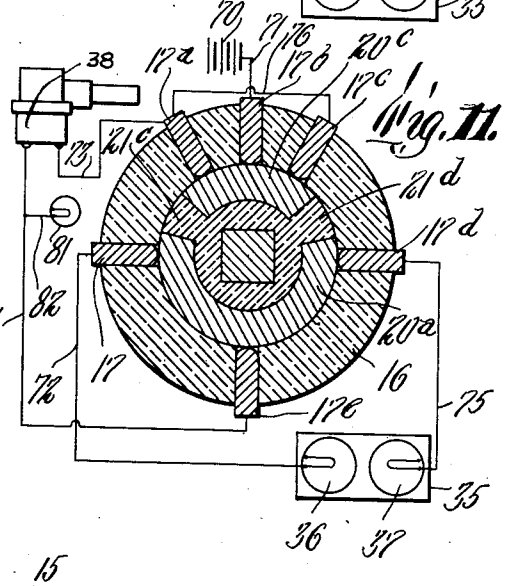


Fig. 11.

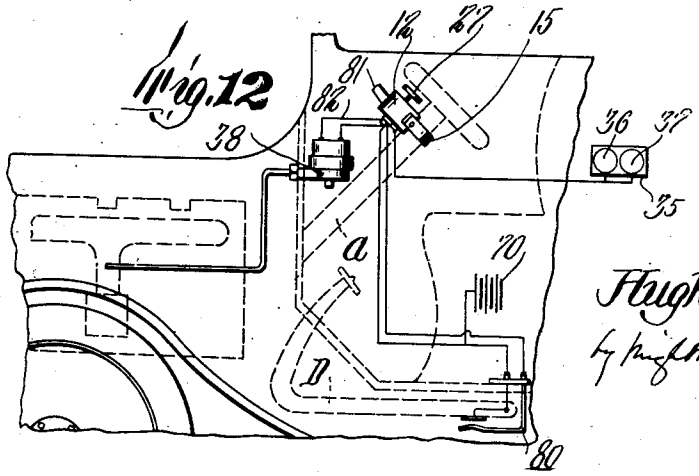


Fig. 12.

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Patented Jan. 1, 1929. 1,697,586

UNITED STATES PATENT OFFICE.

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TRAFFIC SIGNAL FOR MOTOR VEHICLES.

Application filed March 21, 1925. Serial No. 17,218.

The object of this invention is to provide a traffic signal organized to selectively light either of a plurality of electric lamps by a control element, so located adjacent the driver's station that it may be conveniently manipulated by the driver to light said lamps in such a manner as to notify street traffic of an intention to turn to the right, or to the left, and to otherwise operate the vehicle, the signal including a flashing mechanism or element causing a lamp or lamps lighted through the instrumentality of the control element, to flash or wink, and thus give a more distinctive indication than a lamp emitting a steady light.

Other objects will hereinafter appear.

Of the accompanying drawings forming a part of this specification—

Figures 1 and 2 are, respectively, a plan and a side view, showing the control element secured to a steering column.

Figure 3 is a side view, showing the control element removed from the casing.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 3.

Figure 6 is a section on line 6—6 of Figure 3.

Figure 7 is a perspective view of the cylinder, constituting a part of the control element.

Figures 7^a and 7^b are fragmentary side views, showing the cylinder in different positions.

Figures 8, 9, 10 and 11 are diagrammatic views.

Figure 12 is a side view, showing a portion of a motor vehicle equipped with a traffic signal embodying the invention and a diagram of the circuit connections.

The same reference characters indicate the same parts in all of the figures.

12 designates a cylindrical casing, fixed to the steering column A of a motor vehicle, or to any other suitable support adjacent to the driver's station. In this instance, the casing is provided with a forked arm 13, to which are fixed by screws 14 a metal strap 15, the arm and strap embracing the steering column.

The casing contains a control element which includes, first, a ring 16, of insulating material, fixed within the casing and provided with radially arranged contact pins 17, of conducting metal, arranged as shown by Figure 5; and secondly, a circuit-closing and breaking cylinder, shown separately by Figure 7, fitted to turn and move endwise in the bore of the insulating ring.

The cylinder is composed of end heads 18 and 19, and a composite intermediate portion, the periphery of which includes two parallel zones. The zone shown by Figure 5 is composed of members 20, 20^a of conducting metal, such as brass, and members 21, 21^a of insulating material, as vulcanized fiber, alternating with the members 20, 20^a.

The zone shown by Figure 6, is composed of conducting members 20^c, 20^d, and members 21^c, 21^d of insulating material. The members of each zone have arcuate outer surfaces, alternating with each other. The insulating members in the zone shown by Figure 5, are of different lengths, while those in the zone shown by Figure 6 are of equal length, the conducting members in each zone filling the spaces between the insulating members.

The radial conducting pins 17 are movable endwise in orifices in the insulating ring 16, and are all in the same plane, and are pressed inward against the cylinder by springs 23, connected with binding-posts 24 (Figure 3), fixed to one end of the ring.

The cylinder is fixed to a rod 25, whereby it may be turned and moved endwise in the ring 16, the rod passing through a guide 26 (Figure 2) on the casing, and being provided with a knurled head or handle 27, whereby it may be manipulated. The cylinder head 18 is provided with recesses 28 (Figures 4 and 7), each having in its bottom end notches 29, 29, and an intermediate notch 30, said notches being adapted to be engaged by detent pins 31 (Figure 4) movable in radial bushings 32 in the insulating ring 16, and pressed inward by spring 33, attached by a screw 34 to the ring.

When the detent pins engage end notches 29, the cylinder is prevented, by the recess, from moving endwise, as indicated by Figure 7^a and is semi-positively confined

against rotation. The intermediate notches 30 are elongated, and extend into slots 30^a in the head 18, as shown by Figures 7, 7^a and 7^b, so that when the detent pins engage these notches, the cylinder is adapted to have a limited endwise movement to the position shown by Figure 7^b.

When the cylinder is confined against endwise movement, the zone shown by Figure 5, is in position to cooperate with the conducting pins 17, and when the cylinder is moved endwise, as shown by Figure 7^b, the zone shown by Figure 6 is in position to cooperate with the conducting pins, the cooperation in each case being as hereinafter described.

When the detent pins enter the slots 30^a the cylinder is positively confined against rotation by the slots.

Enclosed in a casing 35 (Figure 12), fixed to any suitable part of the vehicle, are incandescent electric signal lamps, controlled by the above-described control element. Two lamps 36 and 37 are employed in this instance, these being visible through lenses with which the casing 35 is provided. The lamps and the conducting pins 17 of the control element, are included in a steady light circuit, and in a flashing light system including a circuit, which is alternately closed and broken by suitable mechanism in a casing 38, to cause a flashing or winking light. These circuits and the casing of the mechanism of the flashing system are shown diagrammatically by Figure 8, 9, 10 and 11.

To facilitate the following description of the operation, I have distinguished the several conducting pins 17 from each other, by exponents added to the reference numerals 17. Thus the six pins shown by Figures 5, 8, 9, 10 and 11, are designated respectively, 17, 17^a, 17^b, 17^c, 17^d and 17^e.

If the vehicle is to be turned to the right, the operator pushes the handle 27 and the control cylinder forward until the detent pins 31 engage the recesses 28, and then turns the handle to the right until the pins enter the notches 29. The zone composed of members 20 and 20^a of conducting metal, and 21 and 21^a of insulating material is thus located in position to cooperate with the conducting pins, as shown in Figure 9. Electric current flows from the battery 70 through the wire 71 to the contact pin 17^b, through the member 20^a to the contact pin 17, through the wire 72 to the left hand lamp 36, and then through the casing 35 and car frame to the battery. This completes the steady light circuit.

The flashing circuit is made from the battery 70, through the wire 71, to the contact pin 17^b, through the member 20^a, through contact pin 17^a and wire 73 to the flasher, then through the wire 74 to the contact pin 17^e, through the member 20, through contact pin 17^d through wire 75, to the right hand lamp 37, which gives a flashing light, then through the casing 35 and car frame to the battery.

After a sufficient signal has been given, the operator returns the handle 27 and the cylinder to the original or neutral position shown in Figures 1 and 8, so that the steady and flashing circuits are interrupted and no current flows to the signal lamps.

If the vehicle is to be turned to the left, the operator turns the handle and cylinder to the left, and a circuit is made as shown in Figure 10, current flowing from the battery 70 through the wire 71, to the contact pin 17^b through the member 20, to the contact pin 17^d through wire 75 to the right hand lamp 37, then through the casing 35 and car frame to the battery. This completes the steady light circuit.

The flashing circuit is made from the battery 70, through the wire 71, through the contact pin 17^b through the member 20, to the contact pin 17^c through the wire 76, to the contact pin 17^a, through the wire 73 to the flasher, through wire 74, through contact pin 17^e through member 20^a through contact pin 17, through wire 72, to the left hand lamp 36 which emits a flashing light, then through the casing 35 and car frame to the battery.

After a sufficient signal has been thus given, the operator returns the handle and cylinder to the neutral position shown in Figures 1 and 8.

If the vehicle is to be brought to a stop, the operator retracts the handle and cylinder, the detent pins 31 sliding in the elongated notches 31^a of the cylinder, so that the zone composed of the conducting members 20^c, 20^d, and insulating members 21^c, 21^d is in position to cooperate with the conducting pins, as shown in Figure 11. The circuit is made from the battery 70, through the wire 71, through the conducting pin 17^b, through the member 20^c to the conducting pins 17^a and 17^c, through the wires 73 and 76 to the flasher, through the wire 74, through the conducting pin 17^e, through the member 20^a to the conducting pins 17 and 17^d through the wires 72 and 75, to the lamps 36 and 37, which results in the emission of a flashing light from both lamps, then from the casing 35 and car frame to the battery.

Figures 8 and 12 show the introduction of a brake switch 80, into the flashing light circuit. The switch when closed by the depression of the brake pedal D, completes the flashing circuit through the left hand lamp 36, giving warning by the single flashing light that the vehicle is slowing down by the application of the brakes.

A tell-tale lamp 81 is attached to the casing 12, and connected by wire 82, so that the lamp will be illuminated whenever the flashing circuit is closed.

A flashing mechanism or element such as hereinbefore referred to is disclosed Patent 1,613,305 granted January 4, 1927.

I claim:

1. A circuit closer for a motor vehicle traffic signalling system comprising a shell or casing provided with a plurality of contacts arranged annularly of the inner face of the casing wall, a cylinder arranged within the casing and movable axially and rotatably therein, two contact members on the cylinder insulated from each other and spaced apart in the direction of the length of the cylinder axis, whereby either of said cylinder contacts may be brought into operative relation to the casing contacts by adjusting the cylinder longitudinally in the casing, and means for locking the cylinder against rotation when in one of said adjusted positions.

2. A circuit closer for a motor vehicle traffic signalling system comprising a cylindrical shell of insulating material having a plurality of contact pins extending radially therethrough, a cylinder arranged within said shell and movable longitudinally and rotatably therein, said cylinder comprising a shaft, a plurality of disks of insulating material on said shaft, and a plurality of contact disks separated by said insulating disks and adapted to be severally positioned in alignment with the contact pins of the shell by longitudinal movement of the cylinder, and means for preventing rotation of the cylinder in the shell in one of its adjusted positions.

In testimony whereof I have affixed my signature.

HUGH W. BATCHELLER.