June 19, 1934. C. L. COLLINS 1,963,293

TRAFFIC SIGNAL DEVICE

Filed April 20, 1929

FIG. 1

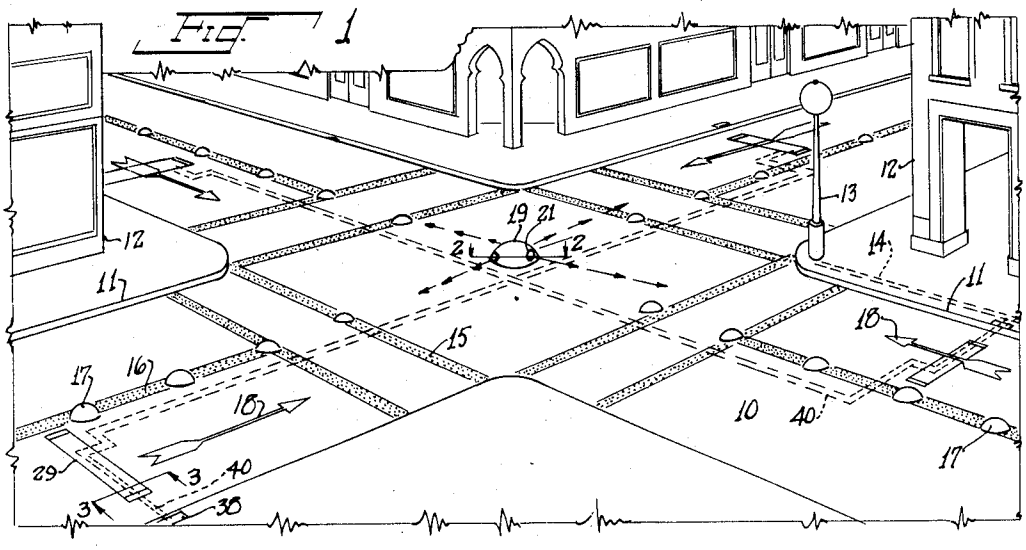


FIG. 2

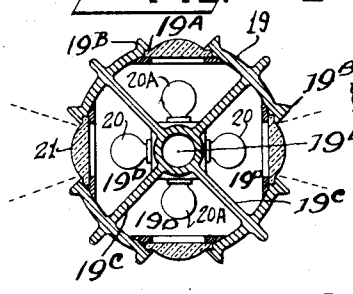


FIG. 5

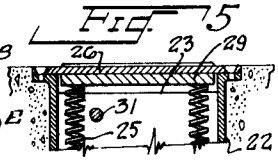


FIG. 3

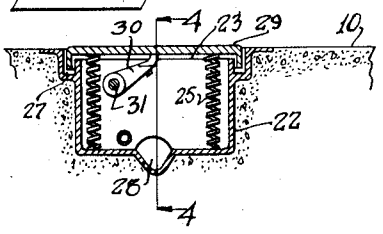


FIG. 4

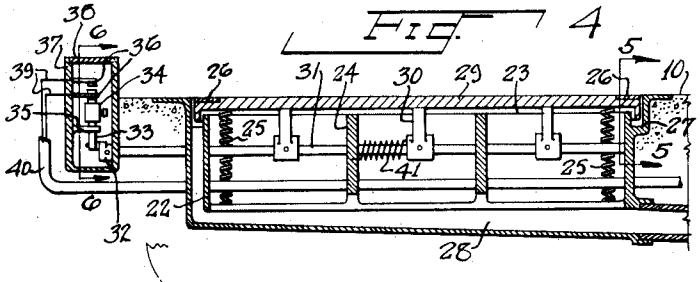


FIG. 7

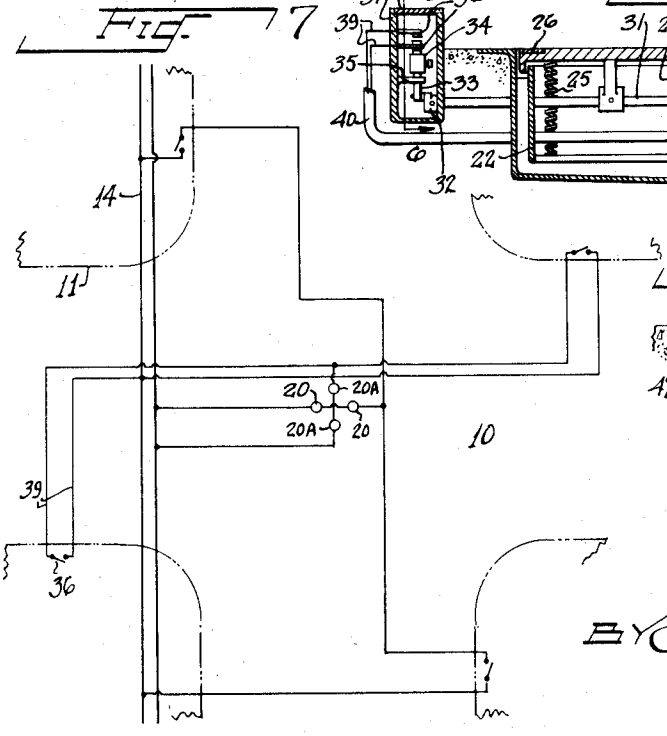
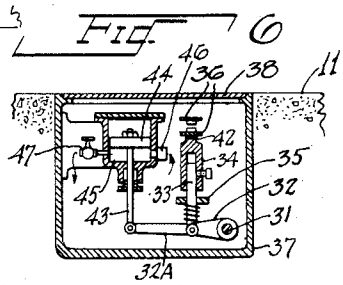


FIG. 6



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TRAFFIC SIGNAL DEVICE

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2 Claims. (Cl. 200—86)

This invention relates to an automatic traffic signal placed at the intersection of two streets to give warning of the approach of an oncoming vehicle.

The object of the invention is to provide an automatic signal which will be operated by the approaching cars to give warning of their approach to cars traveling across their path.

A further object of the invention is to provide a signal which may be placed in the center of the street and which will not be injured or disabled by accidental contacts and which will allow an automobile to pass over it.

A further object is to provide a signal which will indicate the approach of traffic to vehicles traveling north and south but which will not be seen by the traffic traveling east and west provided such traffic has the right of way by reason of its earlier approach to the crossing, that is the traffic first approaching the crossing will actuate the signal which will be seen by vehicles traveling at right angles to said traffic.

A still further object is the provision of an electrically operated switch which is operated by the approaching traffic to actuate the signal.

The invention is illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of a street crossing showing the various traffic lane markings together with the signal and the switches.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a sectional view on the line 3—3 of Figure 1.

Figure 4 is a sectional view on the line 4—4 of Figure 3.

Figure 5 is a sectional view on the line 5—5 of Figure 4.

Figure 6 is a sectional view on the line 6—6 of Figure 4.

Figure 7 is a wiring diagram of the set up signal.

Referring to Figure 1, a street intersection is illustrated with the usual streets 10, curbs 11, and buildings 12. Street lights 13 such as are usually found on corners have line wires 14 to which may be connected the signal of this invention. The crossings are laid out with lanes marked by lines 15 and 16 and traffic buttons 17 all of which serve to guide vehicular as well as pedestrian traffic. Arrows 18 are shown to illustrate the direction of vehicular traffic travel.

Located at substantially the intersection of the center lines of the streets is the signal housing 19 having openings 19A and ribs 19B. The ribs 19B are formed adjacent the openings to act as a protector for the glass 21 fitting in said openings 19A. The housing 19 is divided by two diametrical partitions 19C into compartments 19D and a small circular central compartment 19E. In the opposite compartments are housed lamps 20 and 20A respectively, the lamps being positioned so that all electrical connections may be housed in the small central compartment 19E.

Adapted to be positioned across the street extending from the center line to the curb and below the surface of the street is a box 22 having supporting ribs 24 and housing coil springs 25 upon which rests a plate 29. Secured to the plate 29 are retaining bars 26 which are adapted to engage the edge 23 of the box 22 upon depression of said plate. Provided at each side of the box are water drains 27 while the bottom of the box is formed with an opening allowing water to pass into a drain 28.

Bearing against the under surface of the plate 29 are levers 30 which are secured to a bar 31 carried by the partitions 24. The bar 31 passes through the wall of the box 22 and terminates in a second box 37 and has a crank lever 32 secured at its end. Pivotally connected to the crank is a bar 33 carrying an adjustable contact 34. A guide 35 extends from the side of the box 37 and insures a straight travel for the bar. A stationary contact 36 is provided above the movable contact and is adapted to be engaged by said movable contact, thereby closing an electric circuit. Said box 37 is provided with a removable cover to allow access. Wires 39 are run from a conduit 40 to the separate contacts 34 and 36, the contact 34 being insulated from its support as at 42 (Figure 6).

The boxes 22 are set up at any desired distance from the intersection of the streets in the path of approaching vehicular traffic, the movable plate 29 being at the same level as the street. The wheels of the vehicle passing over the plate 29 depress it against the action of the springs 25, turning the rod 31 through the levers 30, which are held in constant contact with the plate through the spring 41. The rod 31 turns crank 32 closing contacts 34 and 36 by means of the movable rod 33. The lights 20 and 20A in the signal are connected together in opposite pairs and traffic going north and south will illuminate lights exposed to the view of vehicles going east and west and vice versa.

To allow the plate 29 to be narrow and yet give a continued signal that will remain lighted after the vehicle has passed over the plate, an

air valve is connected with the electrical contacting means. The rod 32A, an extension of the crank 32, is pivotally connected to a piston rod 43 which carries a piston 44 reciprocating on a cylinder 45. An automatic check valve 46 for the admission of air located at the lower part of the piston and an adjustable needle valve 47 for an exhaust allows the piston to be moved upwards freely but restricts the downward motion, thereby holding the contacts together for sufficient time to allow a vehicle to clear the intersection.

Such a signal as above described is simple in construction and would materially decrease the number of accidents especially in sections having tall buildings adjacent the intersections, making it impossible to see an approaching vehicle until it is right at the intersection.

What is claimed to be new is:

1. A switch operating means comprising a casing open at the upper end, vertical partitions arranged in spaced relation in and transverse the casing, the partitions terminating at their upper ends below the upper edge of the casing, a shaft rotatably supported in the partitions and extending beyond the casing in one direction, the shaft being mounted above the transverse central line of the partitions and at one side of the vertical central line of the partitions, arms fixed to the shaft and extending upwardly therefrom at an angle, the free ends of the arms terminating substantially in the vertical central line of the partitions, a plate movably closing the open end of the casing and bearing on the free ends of the arms, and springs interposed between the bottom of the casing and the plate to normally maintain the plate elevated with respect to the casing and the downward movement of the plate serving to operate the arms and thereby rotate the shaft.

2. A switch operating means comprising a casing open at the upper end, vertical partitions arranged in spaced relation in and transverse the casing, the partitions terminating at their upper ends below the upper edge of the casing, a shaft rotatably supported in the partitions and extending beyond the casing in one direction, the shaft being mounted above the transverse central line of the partitions and at one side of the vertical central line of the partitions, arms fixed to the shaft and extending upwardly therefrom at an angle, the free ends of the arms terminating substantially in the vertical central line of the partitions, a plate movably closing the open end of the casing and bearing on the free ends of the arms, and springs interposed between the bottom of the casing and the plate to normally maintain the plate elevated with respect to the casing and the downward movement of the plate serving to operate the arms and thereby rotate the shaft, the bottom of the casing being formed with a downwardly offset portion to provide a channel, the lower ends of the partitions in line with the channel being cut away to permit flow through the casing between the partitions into said channel.

CHARLES L. COLLINS.