

July 21, 1925.

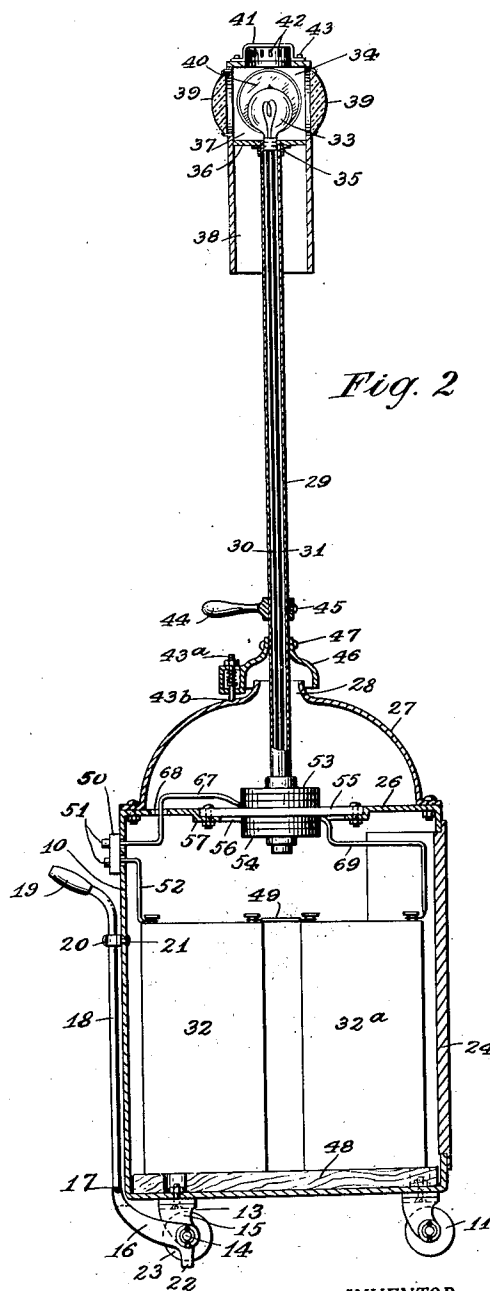
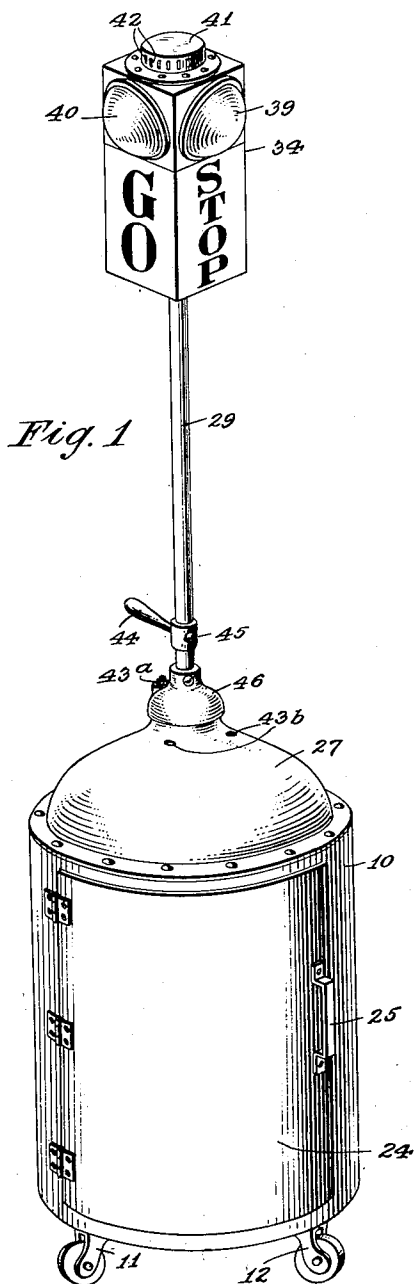
1,546,501

M. L. MARTUS

TRAFFIC SIGNAL DEVICE

Filed March 14, 1923

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

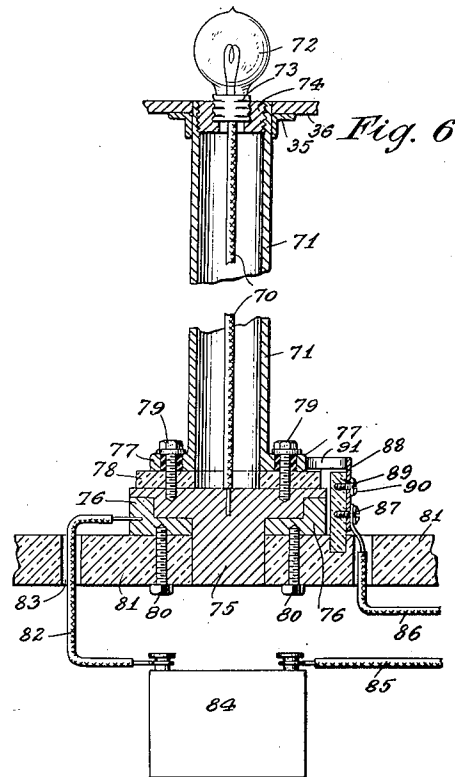
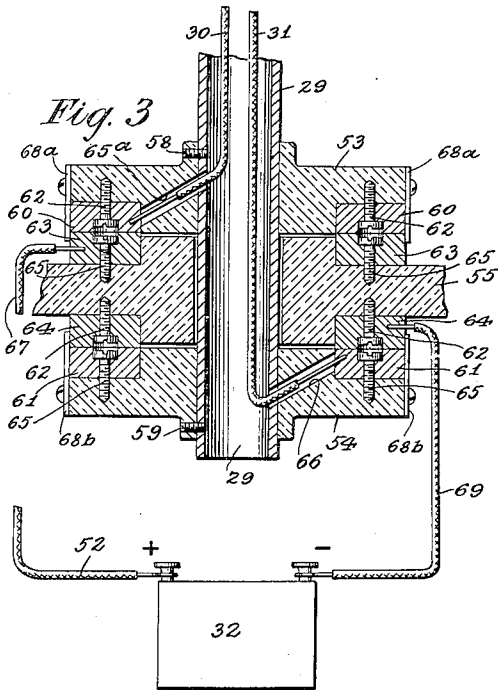


Fig. 4

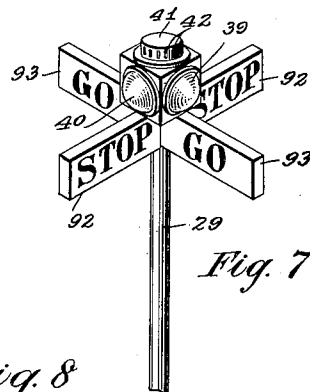
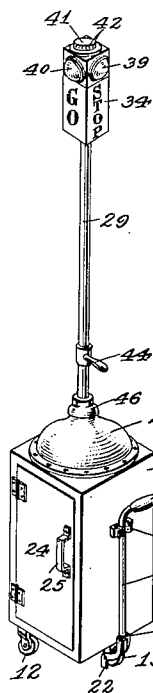
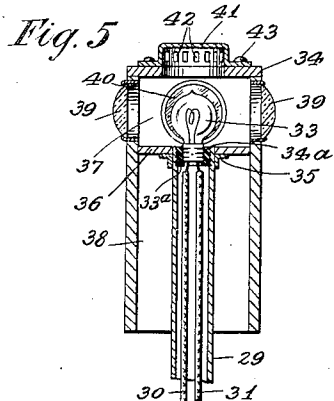
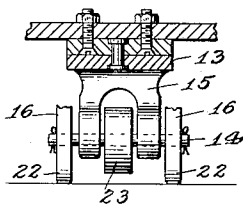
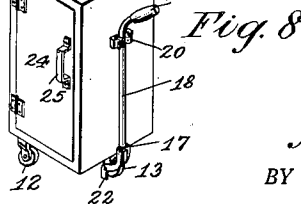


Fig. 7



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Patented July 21, 1925.

1,546,501

UNITED STATES PATENT OFFICE.

MARTIN L. MARTUS, OF WOODBURY, CONNECTICUT.

TRAFFIC-SIGNAL DEVICE.

Application filed March 14, 1923. Serial No. 624,913.

To all whom it may concern:

Be it known that I, MARTIN L. MARTUS, a citizen of the United States, and a resident of Woodbury, county of Litchfield, and State of Connecticut, have invented certain new and useful Improvements in Traffic-Signal Devices, of which the following is a specification.

This invention relates to traffic signals, and more particularly to a portable traffic signal apparatus adapted to be illuminated by a battery-operated electric lamp.

One object of the invention is to provide a traffic signal apparatus having a hollow base adapted to contain one or more electric batteries.

A further object is to provide a traffic signal apparatus which may be easily transported from place to place, and also having means to prevent said apparatus from being accidentally moved out of position.

A further object is to provide a device of the above nature which will be simple, cheap to manufacture, very efficient and durable in use, and requiring very little attention for upkeep.

With these and other objects in view there have been illustrated on the accompanying drawings several forms in which the invention may be conveniently embodied in practice.

Fig. 1 is a perspective view of one form of traffic signal apparatus embodying the principles of the invention.

Fig. 2 is a sectional view of the apparatus shown in Fig. 1.

Fig. 3 is an enlarged sectional view, partly broken away, of the stationary and movable contact elements, and the support for the tubular standard.

Fig. 4 is an enlarged fragmentary sectional view of the locking caster showing how said caster is mounted upon the base of the apparatus.

Fig. 5 is an enlarged sectional view of the top casing of the apparatus shown in Figs. 1 and 2.

Fig. 6 is a sectional view of a modified form of traffic signal apparatus, operating on the one-wire system, certain parts being broken away for clearness.

Fig. 7 is a perspective view of the top portion of another modified form of traffic signal apparatus.

Fig. 8 is a perspective view of a still further modified form of traffic signal apparatus

in which the base is made square, instead of round in cross-section.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the first illustrated embodiment of the invention shown in Figs. 1 to 5 comprises a hollow cylindrical base section 10 preferably formed from cast metal and having three casters 11, 12, and 13 rotatably secured to its bottom face as by means of bolts and nuts, as shown. The caster 13 is provided with an axle 14 which is somewhat longer than the axles of the casters 11 and 12, said axle 14 extending beyond the supporting legs 15 of said caster 13. The extremities of said elongated axle 14 form pivot bearings for the legs 16, 16 of a bifurcated locking member 17, which has an upwardly extending rod 18 terminating at its top in a handle 19. The rod 18 is adapted to be detachably held in vertical position, adjacent the side of the cylindrical base section 10, by means of a resilient clip 20 secured to said base section in any desired manner as by a rivet 21.

The locking member 17 is provided with lugs 22, 22 arranged at an angle to the legs 16, 16, and extending beyond the periphery of the caster wheel 23, and adapted, when the rod 18 is in vertical position, to raise the caster wheel 23 off the ground. When in this position, the lugs 22 act as a brake or drag to keep the signal apparatus in its proper position. The lugs 22, 22 are so constructed, however, that when the rod 18 is disengaged from its clip 20, and lowered to an approximately horizontal position, the wheel 23 will be lowered into contact with the ground, whereupon the apparatus may be readily rolled away on the wheels of its three supporting casters 11, 12, and 13.

In order to permit access to the interior of the cylindrical base section 10, said section is provided on one portion of its circumference with a hinged door 24 having a handle 25. The base section is provided with a horizontal circular top face 26 upon which a dome 27 is attached preferably by bolts and nuts as shown in Figs. 1 and 2. The dome 27 has an upwardly flared tubular section 28 open at its top through which a tubular metal standard 29 is adapted to extend.

The tubular standard 29 forms a conduit for a pair of insulated electrical conducting wires 30 and 31 which are adapted to

supply current from batteries 32, 32^a to an incandescent lamp 33 located in a signal casing 34. The casing 34 which is preferably in the shape of a rectangular box, is rigidly secured to the top of the standard 29 in any suitable manner, as by a collar member 35 attached to a horizontal partition 36 dividing said casing into an upper lamp compartment 37, and a lower compartment 38. The lower compartment 38 is open at its bottom, and has suitable indicia marked on its alternate outer surfaces, such as "Stop" and "Go". The sides of the upper or lamp compartment 37 are provided alternately with red and green lenses 39 and 40 corresponding with the alternate "Stop" and "Go" signs respectively, located below them.

The top of the signal casing 34 is closed by a ventilating cap 41 having a vertical outer edge provided with a series of equally spaced ventilation openings 42 and attached to the casing in any suitable manner, as by rivets or screws 43. The lamp 33 is adapted to be detachably held in an insulating tube 33^a threaded into a screw socket 34^a rigidly mounted in the top of the tubular standard 29.

The standard 29 is provided with an adjustable operating handle 44 secured to the standard by means of a set-screw 45. In order to prevent the entrance of dust and moisture into the interior of the dome 27, an apron member 46 surrounding the tubular section 28 of said dome is rigidly attached to the standard 29 as by screws 47. The apron 46 is preferably provided with a suitable stop 43^a adapted to interchangeably engage in a series of recesses 43^b spaced at ninety degree intervals on the stationary dome 27, whereby the signals will be held in their proper "stop" and "go" positions.

The batteries 32 and 32^a, which are adapted to rest upon a supporting block 48 of wood or other insulating material, are connected together by a short conducting wire 49 and are controlled by a switch 50 having a pair of operating push-buttons 51 connected to the battery 32 by a wire 52. As clearly shown in Fig. 2, the switch 50 is located on the outside of the cylindrical base 10, whereby it may be conveniently manipulated by a traffic officer or any other person desiring to turn the lamp 33 on or off. The batteries 32 and 32^a are preferably of the so-called primary type (such as zinc-copper-oxide-caustic soda), but it is within the scope of the invention to employ secondary (or storage) batteries, or any other source of battery energy.

In order to permit the signal casing to be rotated either successively in one direction or back and forth in both directions, the following mechanism has been provided. This mechanism consists of a pair of upper and lower rotary contact members 53 and 54

constructed of any suitable insulating material, and a stationary contact member 55 secured in a central aperture 56 in the top face 26 by means of bolts and nuts, which are adapted to pass through a depressed flange 57. The lower part of the tubular standard 29 is rigidly secured, as by screws 58 and 59, to flanges on the upper and lower contact members 53 and 54 respectively, as most clearly shown in Fig. 3. A pair of metallic conducting rings 60 and 61 are rigidly secured to the bottom surface of the upper contact member 53, and the top surface of the lower contact member 54, respectively, as by countersunk screws 62, 62. A pair of similar metallic rings 63, 64 are secured to the top and bottom faces of the stationary contact member 55, as by screws 65, 65, the ring 60 being adapted to rotatably engage the ring 63 while the ring 61 rotatably engages the ring 64.

The conducting wire 30 is bent laterally at its lower end, and passes through a downwardly inclined passage 65^a in the member 53, its lower terminal being tightly fitted within a socket in the metallic ring 60, or otherwise electrically connected therewith. The lower end of the other conducting wire 31 is bent laterally, passes through an upwardly extending passage 66, and is tightly fitted within a socket in the metallic ring 61, or otherwise electrically connected therewith. The upper stationary ring 63 is electrically connected to the switch 50 by a wire 67 having its upper terminal tightly fitted in a socket in said ring, and passing through an aperture 68 in the face 26.

A series of metallic spring clips 68^a and 68^b are secured to the top and bottom rotary contact members and overlap the edges of the rotary and stationary rings as shown in Fig. 3. This construction insures a good electrical connection between the rings 60 and 63, 65 and 61, respectively, at all times. The source of current, which in Fig. 3, is represented by a single battery 32, has one terminal, in this instance the positive, connected to the wire 52 leading to the switch, as previously described. The other terminal, in this instance the negative, is connected to a wire 69 leading up to the lower stationary ring 64, the upper terminal of said wire being tightly fitted in a socket in said ring.

In the operation of the form of the invention illustrated in Figs. 1 to 5, when it is desired to illuminate the colored lenses in the signal casing 34, it will only be necessary for the operator to close the battery circuit by pushing in the proper button 51 of the switch 50. The current will then flow through the wire 52, switch 50, wire 67, stationary contact ring 63, movable contact ring 60, wire 30, lamp 33, wire 31, movable ring 61, stationary ring 64, and

wire 69 back to the battery. The signal casing may be rotated by grasping the handle 44 and pushing it to the right or left, as may be desired. During this operation, owing to the rotary engagement of the contact rings 60, 63, 61, 64, the flow of current through the circuit will not be interrupted.

In the modified form of apparatus shown in Fig. 6, which is adapted to operate on the one-wire system, a single insulated wire 70 is located within a tubular metallic standard 71, the standard itself acting as a "ground" to complete the electrical circuit.

Provision is made of a lamp 72 having a central base contact connected to the wire 70 and a screw shell 73 threaded into a metallic plug 74 which in turn is threaded into the top of the tubular standard 71.

The lower end of the wire 70 is tightly fitted in a socket in the metallic stepped cone member 75, the latter being adapted to rotate in electrical contact with the cup-shaped annular stationary contact 76. The lower end of the tubular standard 71 is provided with a flange 77 resting upon an annular insulating disk 78. The flange 77 is secured to the flat top face of the cone member 75 by means of screw bolts 79, said screw bolts being formed of insulating material and passing through aligned apertures in the flange 77, and the disk 78, said screw bolts being adapted to seat in sockets in said cone member 75, as clearly shown in Fig. 6.

The cup-shaped stationary contact 76 is secured, as by bolts 80, to the insulating support 81, which is seated in the top face of the cylindrical base 10, as in the first illustrated embodiment of the invention.

The stationary contact 76 is connected by a wire 82 passing down through an aperture 83 to one terminal of a battery 84. The other terminal of said battery is connected by a wire 85 to a switch, not shown, from which the current flows through the wire 86 and a binding screw 87 to a vertical metallic strip 88, said strip being attached to an upstanding support 89 by means of said binding screw 87 and a screw 90. The upper part of the strip 88 is provided with a resilient brush section 91 adapted to make a good electrical connection with the rotating flange 77 of the tubular standard 71. The operation of the one-wire form of apparatus shown in Fig. 6 is similar to that of the first illustrated embodiment shown in Figs. 1-5.

Fig. 7 illustrates a modified form of single device which may be employed instead of the single casing shown in Figs. 1 and 2. In this form, the words "Stop" and "Go"

are marked on four radial arms 92, 93 arranged in the shape of a cross. The lamp compartment 39 is identical with the corresponding compartment shown in Figs. 1 and 2.

In Fig. 8, another modified form of traffic signal apparatus is shown. This form differs from the first form only in the shape of the base 94, which in this instance is square, instead of cylindrical.

While there have been disclosed in this specification several forms in which the invention may be embodied, it is to be understood that these forms are shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosures, but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a portable traffic signal apparatus, supporting means adapting said apparatus to be readily moved about from place to place, a hollow casing mounted on said supporting means, a hollow standard, means mounting said standard for rotation upon said casing, an electrically operated traffic signal member carried by said standard, a battery located in said casing, a pair of vertically spaced stationary contact rings mounted in said casing, a pair of vertically spaced movable contact rings carried by said standard and engaging said stationary rings, means for connecting said stationary rings to said battery, means for connecting said movable rings to said signal member, and manually-operated means for rotating said standard to indicate to passing traffic when to "stop" and when to "go."

2. In a portable traffic signal apparatus, supporting means adapting said apparatus to be readily moved about from place to place, a hollow casing mounted on said supporting means, a standard, means mounting said standard for rotation upon said casing, an electrically operated traffic signal member carried by said standard, a battery located in said casing, means for electrically connecting said battery to said signal member, and manually operated means for rotating said standard to indicate to passing traffic when to "stop" and when to "go."

In testimony whereof, I have affixed my signature to this specification.

MARTIN L. MARTUS.