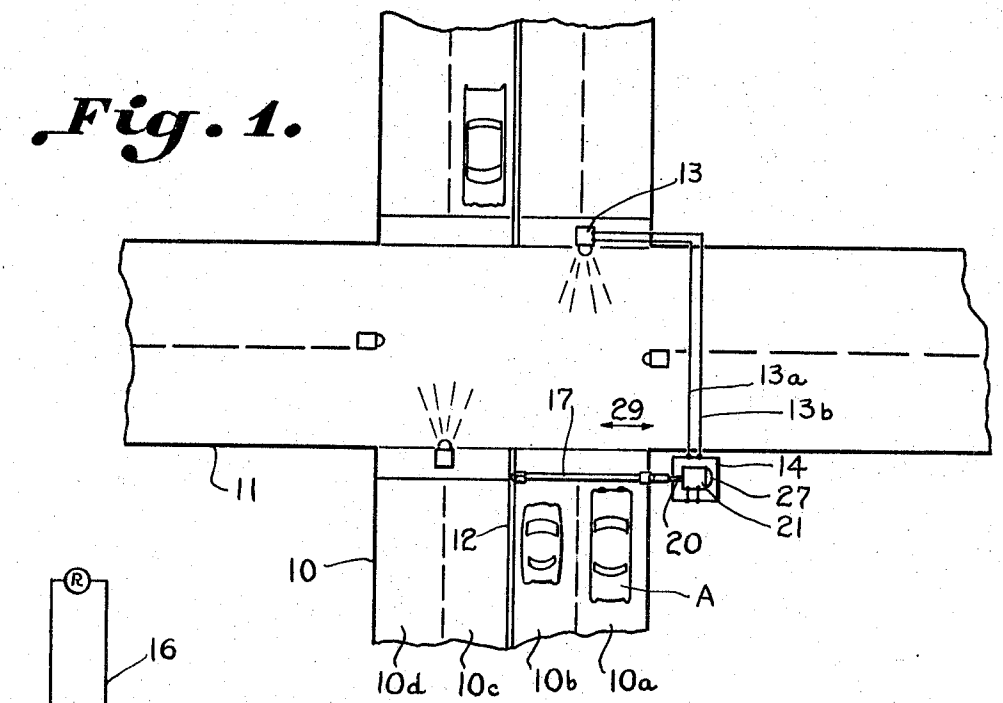
May 9, 1967 J. H. GRANT ETAL 3,319,222

TRAFFIC CONTROL DEVICE

Filed April 9, 1964

Fig. 1.



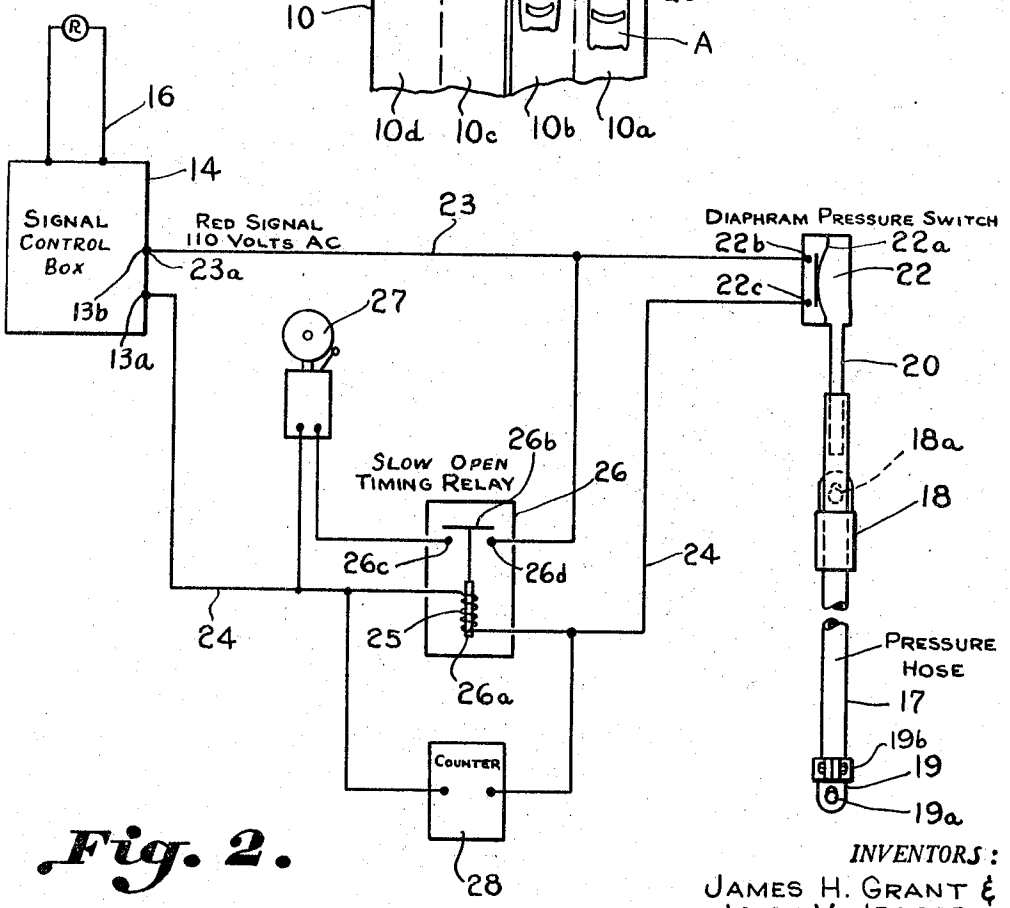


Fig. 2.

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3,319,222

Patented May 9, 1967

3,319,222

TRAFFIC CONTROL DEVICE

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Filed Apr. 9, 1964, Ser. No. 359,550
1 Claim. (Cl. 340—38)

This application is a continuation-in-part of Ser. No. 28,565, filed May 12, 1960, now abandoned.

This invention relates to a traffic control device for giving indication of a traffic signal light violation.

This invention is concerned with the problem of controlling traffic especially from the standpoint of preventing signal violations such as the running of red lights. Formerly, this problem has been dealt with by using the testimony of police officers and other witnesses in the trial of cases in police courts and the like looking toward the conviction of such violators. No devices have been available to give signals and the like upon the occurrence of such a violation, and no devices have been available to prevent vehicles from creeping into predestrian lanes and starting into an intersection too soon. No means have been available to educate or correct such offenders at the time of the occurrence of the violation which is perhaps the time when such correction is most effective.

Accordingly, it is object of this invention to provide a traffic control device for use with traffic lights to prevent running red lights and the like.

Another object of this invention is to provide an indicating device which will reduce the responsibility of the officer involved in making an arrest for a traffic light violation by substantiating his testimony in a subsequent trial of the accused.

An important object of the invention is to provide an electrical operable means for indicating a traffic light violation with accuracy which will allow police officers to carry on other duties at the scene.

A principal objective of this invention is to educate and discourage drivers of vehicles from moving into a pedestrian lane prematurely, and to further prevent the running of red lights by the driving public. This objective is obtained by causing an audible or other type signal of a predetermined duration to emphatically alert the driver and/or other persons in the vicinity. In this invention the power source is connected through the red signal or stop signal of a traffic device with further means to close circuitry for a predetermined length of time upon the energization of a pressure operated switch. The desired delay is accomplished through the use of a timing relay which remains closed for a period of time subsequent to the closure of said switch even though the closing time of the switch is substantially instantaneous.

Another important object of this invention is to reduce traffic accidents by reducing traffic light violations.

Another object of the invention is to discourage drivers of vehicles moving into pedestrian lanes prematurely.

Another object of the invention is to discourage drivers of vehicles entering an intersection before the traffic light has changed to the proper signal.

Another object of this invention is to provide a simple and inexpensive traffic control device to prevent the running of red lights and the like.

Another important object of the invention is to provide an audible signal and the like to make a violation known to the driver of a vehicle and those around him at the time of the occurrence of such volations.

Yet another object of the invention is to increase revenue from fines and convictions for such traffic violations.

Still another object of the invention is to provide a device with which counting mechanism might be incorporated to provide statistics concerning the number of such traffic violations occurring at a particular locality.

The construction designed to carry out the invention will be hereinafter described, together with other features thereof.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing forming a part thereof, wherein an example of the invention is shown and wherein:

FIGURE 1 is a schematic plan view showing an intersection and a traffic control device constructed in accordance with the present invention being employed therewith; and

FIGURE 2 is a circuit diagram showing the various electrical connections and devices employed in the embodiment of the invention illustrated.

FIGURE 1 shows an intersection of a main traffic artery **10** with a side street **11**. The artery **10** has a center line **12** dividing the artery into four lanes **10***a*, **10***b*, **10***c*, and **10***d*. The lanes **10***a* and **10***b* are controlled by the traffic signal light **13** which is controlled by a traffic signal control, box **14**, located at a suitable position, as shown schematically in the drawing, at the intersection. The traffic signal light may be of any of the well known types having a red or stop signal. The traffic light **13** is energized through the lines **13***a* and **13***b* from the signal box **14**. The signal box **14** is energized through the lines **15** and **16** from a suitable source of electrical energy.

A traffic control cable device in the form of a pressure hose **17** is shown extending across the lanes **10***a* and **10***b* and secured to the street as by suitable brackets **18** and **19**. The hose **17** is suitably positioned by fastening means such as nails **18***a* and **19***a* driven into the asphalt. If desired, the device may be moved from one point to another to control different traffic lanes by removing the nails. One end of the pressure hose **17** is connected to a suitable plug **20** projecting from the housing **21** of the traffic control device, while the other end of the hose is clamped closed by the clamp **19***b*.

The pressure hose **17** actuates a diaphragm pressure switch **22** so that the movable contact **22***a* connects a pair of fixed contacts **22***b* and **22***c* to close a circuit through a line **23**. The line **23** is thus connected to the red signal contact **23***a* of the signal box and a line **24** through a coil **25** of a solenoid and the like forming a part of a timing relay **26**. The energization of the coil **25** causes the solenoid core **26***a* to move downwardly in FIGURE 2 moving the movable contact **26***b* into engagement with the fixed contacts **26***c* and **26***d* of the timing relay. The timing relay may be of any of the well known types and serves to keep the circuit closed for an appreciable period of time for the purpose of ringing the bell **27** or other signalling devices for a predetermined length of time. Thus a signalling device, in the form of a bell **27**, is placed across the lines **23** and **24** when the red signal is energized.

The timing relay **26** utilizes a pneumatic time delay unit which is mechanically operated by a coil **25** which operates its plunger **26***a*. The time delay function is dependent upon the transfer of air through a restricted orifice (not shown). Adjustment of the timing range may be accomplished by positioning a needle valve to vary the degree of orifice restriction. Energization or deenergization of the timing relay in this instance is controlled by the closing of contacts **22***b* and **22***c* responsive to actuation of the diaphragm switch **22**. A pneumatic timing relay designated Class No. 9050, Type No.

AG–1E by Square D company has been found to be satisfactory.

A suitable counting mechanism 28 may be connected across the timing relay so as to be connected across the lines 23 and 24 when the bell 27 is energized to signal a violation. The counting mechanism 28 makes it possible to keep statistical data as to the number of signal light violations occurring at a particular locality.

As noted in FIGURE 1 the vehicles are shown just behind the traffic lane 29. The pressure hose 17 is illustrated as being placed on the edge of the traffic lane 29 nearest the vehicular traffic. This prevents the vehicles A from creeping into the traffic lane 29 since the signal bell 27 would be actuated indicating this violation. Thus the device not only indicates the occurrence of an actual violation but also serves as a positive deterrent to further violations.

While a preferred embodiment of the invention has been described using specific terms, such description is for illustrative purposes only, and it is to be understood that changes and variations may be made without departing from the spirit or scope of the following claim.

What is claimed is:

An intersection traffic control comprising an intersection of two streets, said intersection having an edge, traffic signal means for said intersection, a source of electrical power, traffic signal control means, said control means energizing said signal means from said source of power, including a red stop signal for one direction of traffic entering said intersection, said control means having terminals which are energized while said red signal is energized, compressible pressure hose means, said hose means being positioned on one street extending across one direction of traffic adjacent said edge, a normally open pressure actuated switch means, said pressure switch means being coupled to said hose means for actuation thereby, said pressure switch having two contacts which are connected upon actuation of said pressure switch by said pressure hose, normally open timing relay means, said relay means having an actuating coil, a pair of fixed contacts, and means for making a circuit connection between said pair of fixed contacts, said last mentioned means being actuated by said coil to make said circuit, and to open said circuit a predetermined time after de-energization of said coil, a counter connected across said coil, first circuit means connecting said pressure actuated switch and said actuating coil in series across said terminal, signalling means, and second circuit means connecting said signalling means and said fixed contacts in series across said terminals whereby actuation of said pressure actuated switch means causes operation of said counter and said signalling means.

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