

E. E. SIRRINE.
STREET TRAFFIC SYSTEM.
APPLICATION FILED APR. 28, 1910.

976,939.

Patented Nov. 29, 1910.

3 SHEETS-SHEET 1.

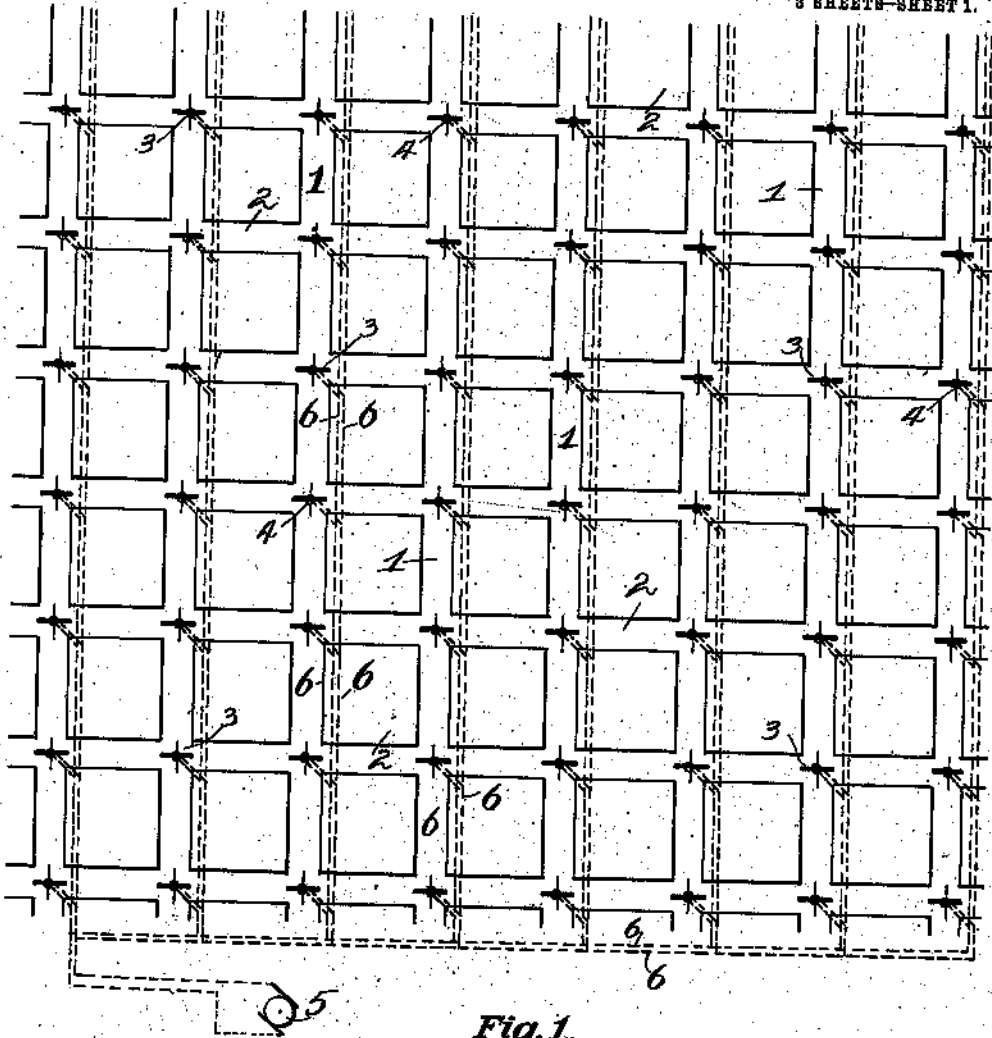


Fig. 1.

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8 SHEETS-SHEET 2.

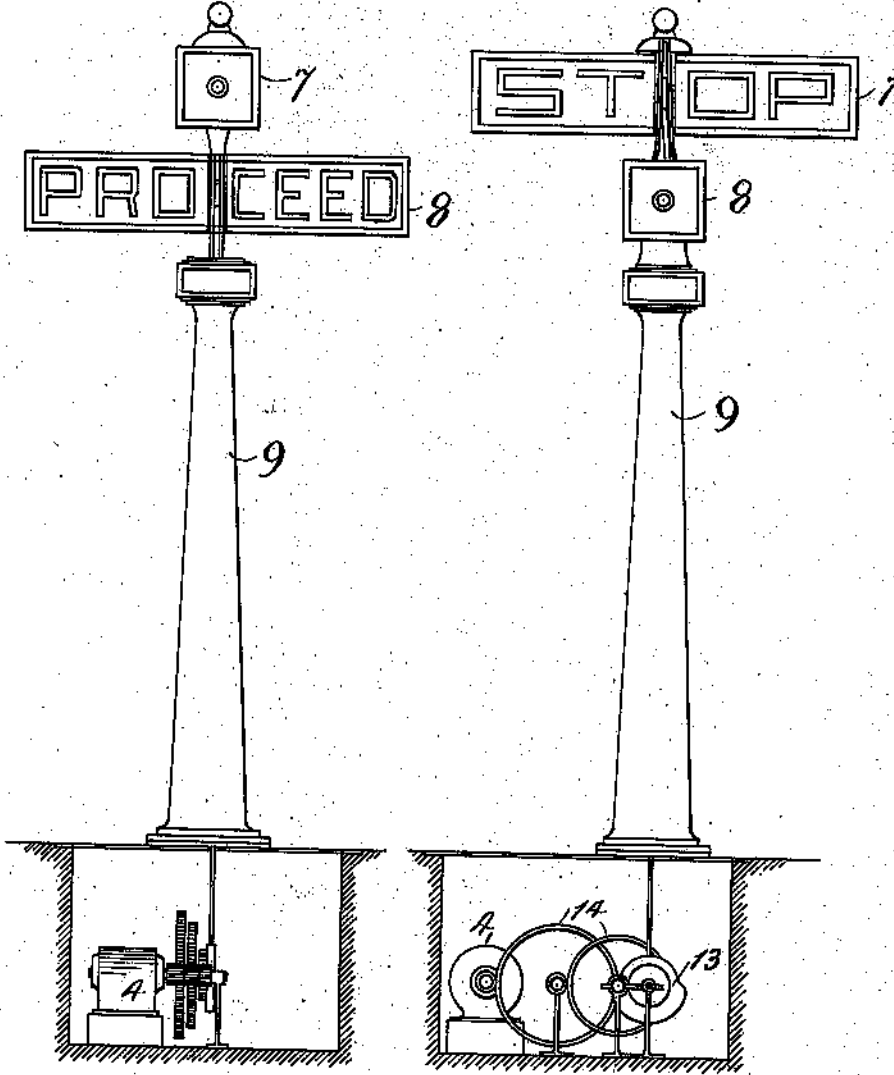


Fig. 2.

Fig. 3.

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3 SHEETS-SHEET 3.

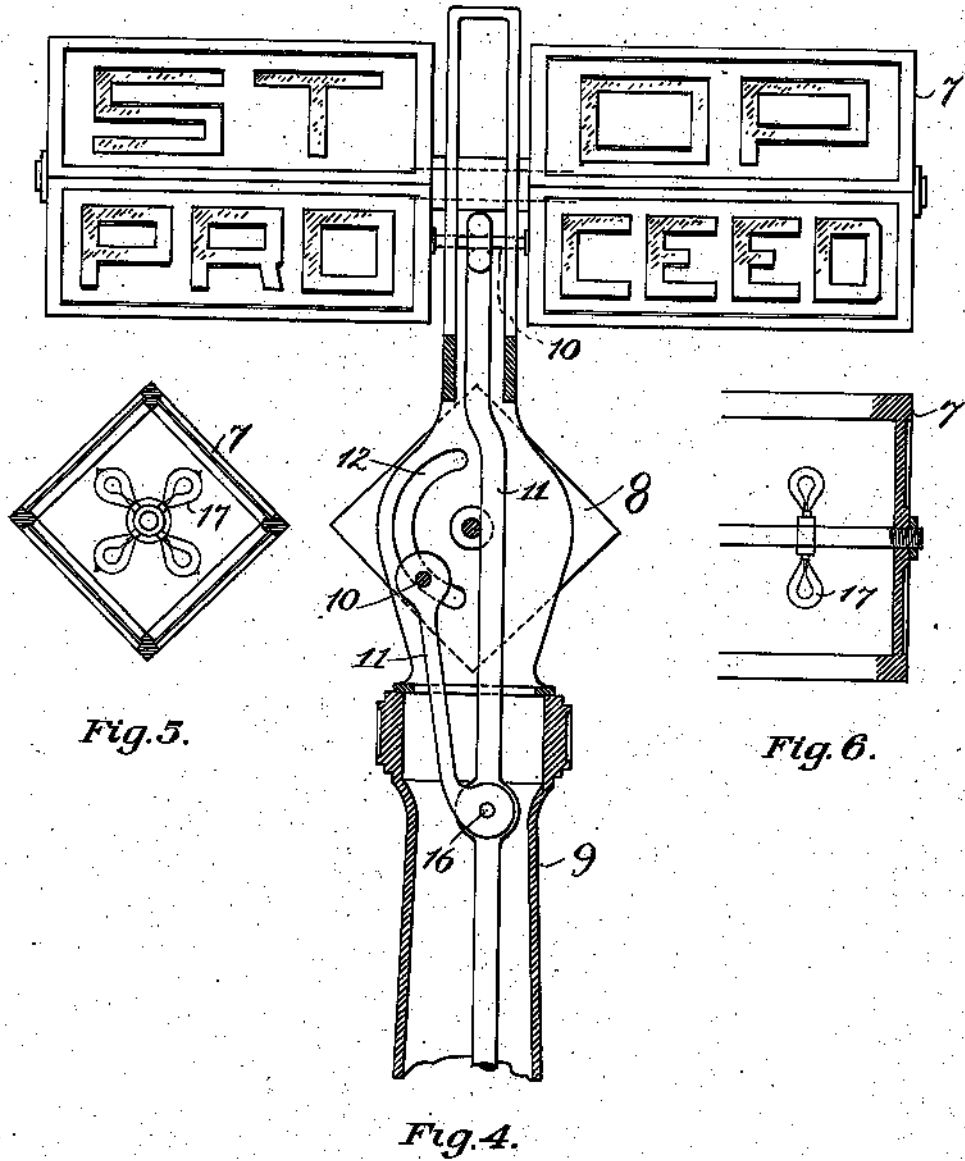


Fig. 5.

Fig. 6.

Fig. 4.

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STREET-TRAFFIC SYSTEM.

976,939.

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To all whom it may concern:

Be it known that I, ERNEST E. SIRRINE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Street-Traffic Systems, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a system for controlling street traffic and has a number of objects and advantages in view.

In accordance with one embodiment of my invention, I locate changeable sign devices substantially at the intersections of the axes of the streets, each sign device, when brought to one position or display condition, indicating that traffic may proceed along one line of travel and may not proceed along a transverse line of travel, and when brought to an alternative position or display condition indicating that traffic along the first line of travel is to cease for the time being and is to be resumed along the transverse line of travel. By this feature of my invention, the number of crossing policemen may at least be reduced, while at the same time the direction signs constitute division posts to separate oppositely moving streams of traffic in each line of travel.

In accordance with another feature of my invention, I employ means whereby the changeable sign devices are operated substantially in unison, whereby substantially parallel lines of travel are opened and closed while other lines of travel, transverse to the foregoing, are at the same time respectively closed and opened. By simultaneously operating the sign devices at intervals suited to a rate of travel estimated to be proper, traffic may well be conducted without material bunching or crowding at the street crossings and without the aid of several policemen at each crossing who are now employed in congested districts of large cities to perform the functions that are to be performed by the system of my invention, though it may be desired to retain one policeman at each crossing whose duty it will be to see that the instructions automatically conveyed by the sign devices are obeyed by the drivers of horses and vehicles.

If the sign devices are located at the intersections of the axes of the streets, which locations I prefer, then the single policeman

retained at each crossing may stand beside the sign there located, better to perform his duties. By means of the second feature of my invention, great expense to civic authorities may be saved, and a more orderly control of the traffic may be effected.

I will explain my invention more fully by reference to the accompanying drawings, illustrating the preferred embodiment thereof, and in which—

Figure 1 is a diagrammatic view of the system as arranged in accordance with my invention, Fig. 2 is a view in one elevation of a sign device which may be used in my system, Fig. 3 is a view of the structure taken at right angles to the direction in which Fig. 2 was taken, Fig. 4 is a sectional elevation of the upper portion of the structure as it is preferably constructed, Fig. 5 is a view in cross section of one of the sign arms, and Fig. 6 is a view in longitudinal section of one end of a sign arm.

Like parts are indicated by similar characters of reference throughout the different views.

Referring first more particularly to Fig. 1, I have there shown the preferred traffic controlling system of my invention. I have indicated a plurality of substantially parallel streets 1 that have lines of travel that are of course parallel, each street of course affording means for permitting opposite streams of traffic thereupon. I have also indicated another group of substantially parallel streets 2 that have the described characteristics of streets 1, but which are transverse to the streets 1. In other words one group of substantially parallel streets may, in certain cases, constitute streets extending lengthwise of a city or town, and the other streets may constitute cross-town streets. I have only shown a few streets in each group, but it is to be understood that the system may embrace any selected plurality of streets in each of the two groups of intersecting streets, and that the system need only include the streets in the more central portions of cities or towns where the traffic is very active.

Sign devices 3 are preferably located at the intersections of the axes of the streets, these sign devices being of such a nature that they may have two alternative display conditions each. Each sign device when having one display condition indicates that the traffic in one direction is open, and when

having an alternative display condition that the traffic is open in a transverse direction, the sign devices indicating also that the streets transverse to those that are open are at that time closed. The sign devices that are employed for the purpose of my invention may be of any well known or suitable construction, and while they are preferably adapted to indicate positively the opening of the streets to traffic and the closure of streets to traffic by the presentation of sign devices each positively indicating one or the other of these two conditions of the streets, yet I do not wish to be limited to the number of positive signals displayed at each street intersection, as one of the signals may be presented by the mere appearance of a sign element, and the other signal by the withdrawal of such element from view, sign devices of this latter character being well known.

The sign devices 3 are preferably adapted to perform the functions specified by presenting positive signals that may be viewed from all streets in the system, and in the diagram of Fig. 1 the heavy short lines may indicate either the closed or open condition as predetermined for sake of illustration, and for the sake of the present illustration may indicate the open condition of the streets transversely of which said lines extend. The companion light lines included within the illustration of the sign devices 3 in Fig. 1 indicate closed conditions of the streets across which such lines extend. These light and heavy lines may be indicative of wings or arms that are rotatable in horizontal planes about vertical axes that are located at the intersections of said arms. Motor devices, preferably in the form of electric motors, are located at the street intersections, there being one motor 4 at each street crossing. These motors preferably are operated by means of power furnished from a central source, and in the case of electric motors the power may be furnished from a dynamo 5 supplying current to the conductors 6 in bridge of which the motors 4 are disposed. The motors are constantly operating, in the preferred form of the invention, and serve jointly to effect the collective operation of the sign devices 3 in proper time relation. The time relation in which the sign devices are preferably operated is preferably such that all parallel streets are opened to traffic simultaneously or are closed to traffic simultaneously, but I do not wish to be limited to this particular way of practicing my invention. As the invention is illustrated in Fig. 1, the periods in which the cross arms of the sign devices are to remain in their set positions may be so timed with regard to the proper speed of the traffic that all parallel streets may readily be opened simultaneously to traffic

and may all be simultaneously closed to traffic.

While I have illustrated sign devices of the character described in connection with Fig. 1, I prefer to employ the structures actually illustrated in the remaining figures of the drawing. Referring now more particularly to the construction shown in Figs. 2 to 6 inclusive, I prefer to employ two display arms 7 and 8 which are rotatable about fixed horizontal axes instead of about a fixed vertical axis, as in the case of the equipment shown in Fig. 1. Each of the arms is centrally mounted upon a post 9 that is located in the preferred portion of the street intersection to be equipped therewith. Each arm has two alternative positions, in one of which one signal is conveyed and in the other of which the other signal is conveyed. Thus each arm is adapted in one of its alternative positions to display the word "Proceed" and in the other of its alternative positions to display the word "Stop." Fig. 4 illustrates a sign arm in a mid position between its two alternative positions, and shows the double sign structure of one of the centrally mounted arms, both arms being alike in these respects, though one is mounted above the other. Each of the arms is provided with a crank pin 10 that is inclosed by the free end of a motor reciprocated arm 11. The crank pin 10 connected with the lower display arm 8 is guided in its movement by a cam slot 12 located in a fixed extension of the arm supporting post. The crank pin 10 connected with the upper arm is located sufficiently to one side of the vertical plane including the axis of rotation of the upper arm as to insure the rotation of the upper arm about its axis in a manner to bring the arm to each of its alternative positions.

The motor 4 belonging to each sign post operates a cam 13 through the intermediation of gearing diagrammatically shown at 14. The cam 13 is driven at a constant speed and at a rate to suit the estimated proper speed of street traffic, and is of such a nature as to operate the arms 11 at proper intervals, this operation of these arms being simultaneous as they are linked at 16. Each time the arms 11 are operated both arms 7 and 8 are rotated about their fixed horizontal axes, whereby one arm displays one signal and the other arm displays an opposite signal each time the arms are rotated. As I have hitherto explained, the signals displayed across parallel streets are preferably caused to read alike and are simultaneously changed, though I do not wish to be limited to this arrangement.

The sign devices as illustrated in Figs. 2 to 6 inclusive have their arms hollow and composed in part of glass panels bearing the sign letters, electric lamps 17 being located

within the hollows of the arms to illuminate the signs at night.

While I have herein shown and particularly described preferred embodiments of various features of my invention, I do not wish to be limited to precise details of construction and arrangement herein shown and specifically described, as changes may readily be made without departing from the spirit of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:—

1. A street traffic system including sign devices located substantially at the intersections of the axes of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices at the street intersections are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import substantially simultaneously to the streets of each group.

2. A street traffic system including sign devices located substantially at the intersections of the axes of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are operated at predetermined intervals.

3. A street traffic system including sign devices located at the intersections of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to

traffic, and means whereby said sign devices at the street intersections are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import substantially simultaneously to the streets of each group.

4. A street traffic system including sign devices located at the intersections of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are operated at predetermined intervals.

5. A street traffic system including sign devices located upon the streets of two intersecting groups of streets, said sign devices being operable to have alternate display conditions to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import to the streets of the same general direction substantially simultaneously.

6. A street traffic system including sign devices located upon the streets of two intersecting groups of streets, said sign devices being operable to have alternate display conditions to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are operated at predetermined intervals.

In witness whereof, I hereunto subscribe my name this eighteenth day of April, A. D., 1910.

ERNEST E. SIRRINE.

Witnesses:

G. L. CRAGG,
R. E. AHERTON.