C. E. LYMAN.

ROAD SIGNAL.

APPLICATION FILED DEC. 12, 1917.

1,356,455.

Patented Oct. 19, 1920.

3 SHEETS—SHEET 1.

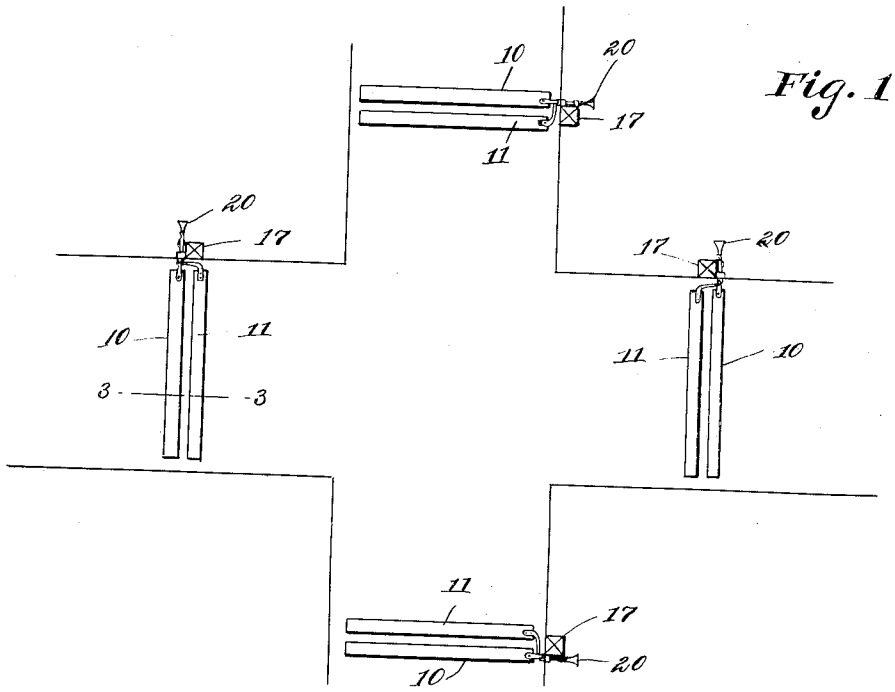


Fig. 1

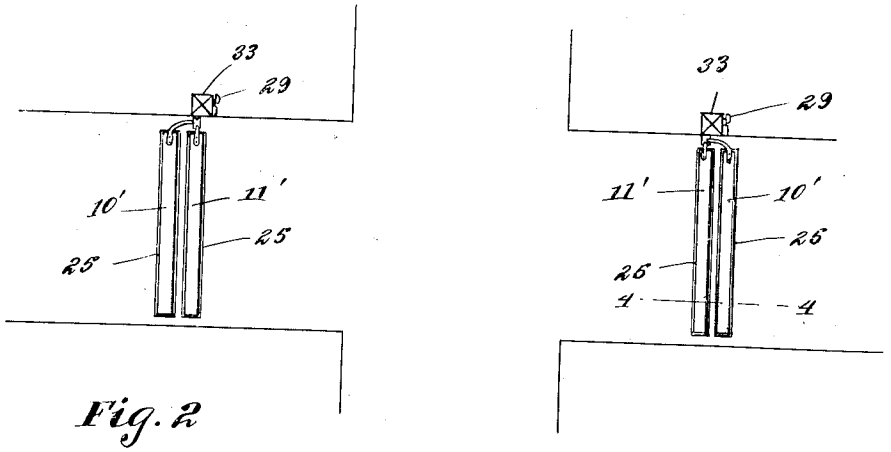


Fig. 2

Witness
C. F. Rudolph
F. L. Moorhead

Inventor
Charles E. Lyman,
By Victor J. Evans
Attorney

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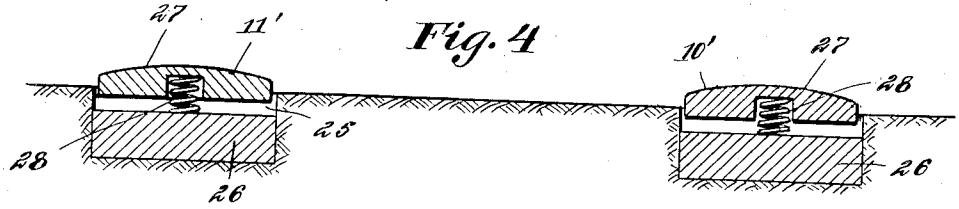


Fig. 4

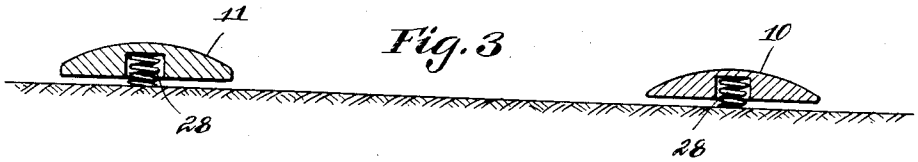


Fig. 3

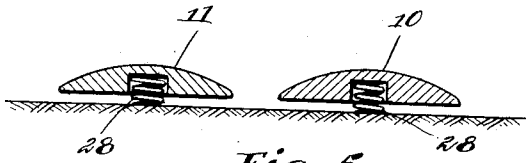


Fig. 5

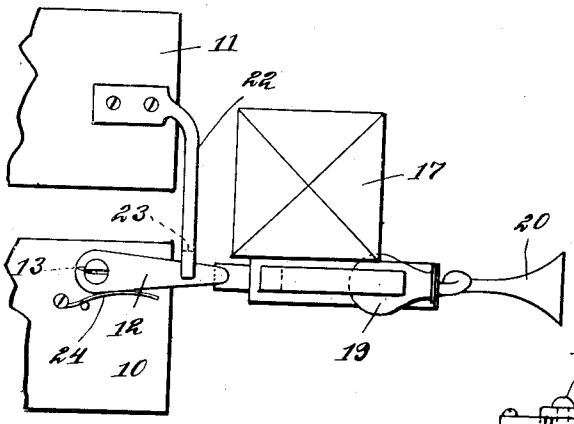


Fig. 6

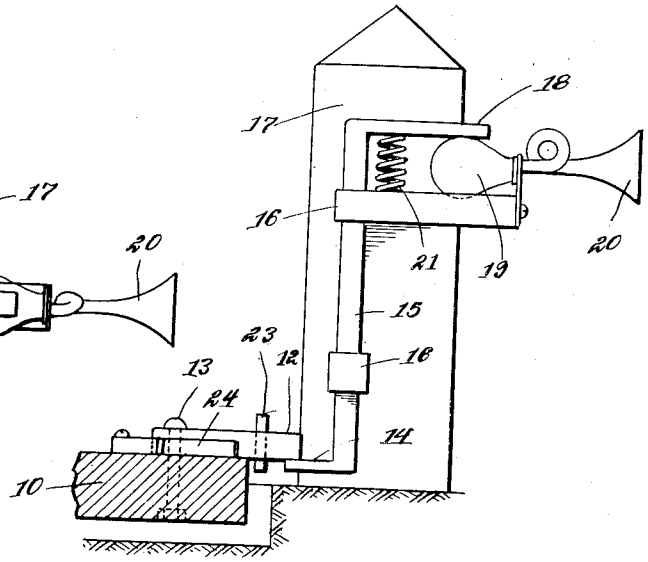
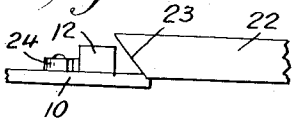


Fig. 7

Fig. 7.a



Witness
C. F. Rudolph
F. L. Kocyba

Inventor
Charles E. Lyman,
By Victor J. Evans
Attorney

C. E. LYMAN.

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3 SHEETS—SHEET 3.

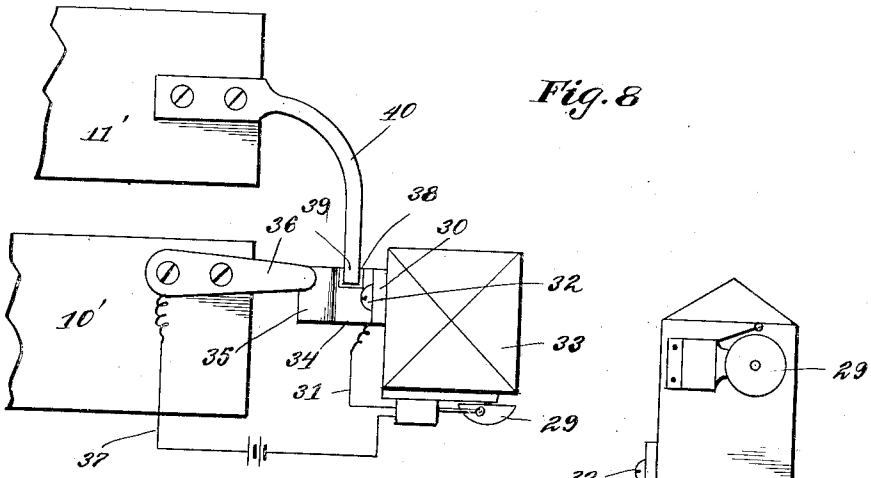


Fig. 8

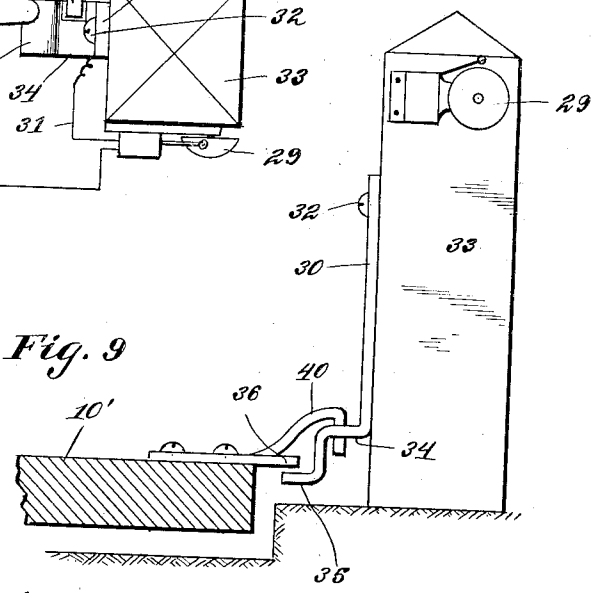


Fig. 9

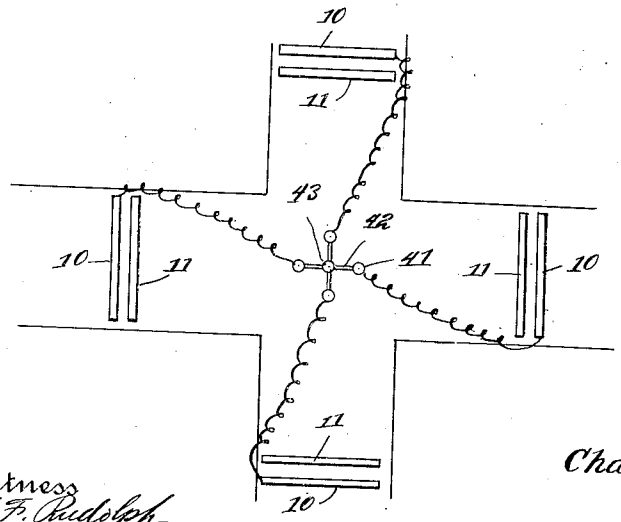


Fig. 10

Witness
C. F. Rudolph

T. L. Hoopster

Inventor
Charles E. Lyman,

By Victor J. Evans
Attorney

UNITED STATES PATENT OFFICE.

CHARLES E. LYMAN, OF ASHEVILLE, NORTH CAROLINA.

ROAD-SIGNAL.

1,356,455. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed December 12, 1917. Serial No. 206,785.

To all whom it may concern:

Be it known that I, CHARLES E. LYMAN, a citizen of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented new and useful Improvements in Road-Signals, of which the following is a specification.

This invention relates to traffic signals and is an improvement upon a patent granted to me March 27, 1917, and No. 1,220,762.

One of the objects of the invention is the provision of a signal which is operated by a vehicle approaching a point of danger, but which will not be operated if the vehicle is leaving such point, so that other vehicles will not become confused by having the signal operated unnecessarily, a suitable form of switch for cut-out being utilized to render the signal inactive in a latter event.

A further object of the invention is to provide a practical system of warning signals for use at the intersection of highways, factories passages, sharp turns or other points where vehicles are liable to collide, the signal being operated by the vehicle when a sufficient distance from the point of danger to give ample warning to other traffic.

Other objects and advantages of the invention will appear when the following description is read in connection with the accompanying drawings, in which;

Figure 1 is a plan view of a portion of a roadway showing the signal in position;

Fig. 2 is a similar view of another form of signal;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a similar view on the line 4—4 of Fig. 2;

Fig. 5 is a cross sectional view of the form of threads shown in Figs. 1 and 3 but illustrating the threads arranged side by side;

Fig. 6 is a plan view of one form of switch used in connection with the signal;

Fig. 7 is a fragmentary vertical longitudinal sectional view through one of the threads and showing this switch in side elevation;

Fig. 8 is a plan view of a different form of switch;

Fig. 9 is a view similar to Fig. 7, illustrating the subject matter of Fig. 8; and

Fig. 10 is a view in diagram showing the arrangement of the signal at the intersection of a roadway.

Referring to the drawings in detail and especially to Figs. 1 and 3, there is illustrated a signal which includes a pair of treads arranged transversely of the roadway and having their upper surface disposed slightly above the surface of the road. These treads are designated by the numerals 10 and 11, the tread 10 being hereinafter referred to as the main tread, while the tread 11 will be referred to as the switch tread.

These treads are similar in construction and are designed to rest upon the surface of the road and to extend transversely across the same, so as to be in the path of traffic. They are rigid throughout their length, so that a vehicle depressing them at any point will effect the entire length of the tread. As illustrated in Figs. 1 and 3 these treads are formed with an oval or curved top surface, which is capable of being depressed transversely by a movement of the vehicle thereover.

Secured to the main tread 10 near one end thereof and so as to be operated by the depression of the top surface of the tread is a pivoted arm 12, the pivot of this arm being indicated at 13. The arm 12 is so positioned as to project beyond the end of the tread and is adapted for engagement over the angular end 14, of a vertically movable bar 15. This bar is slidable in the guides 16 secured to a post 17 arranged in any convenient position adjacent the roadway. The upper end of the bar 15 carries a right angular extension 18 and beneath this extension is arranged a rubber bulb 19 of a horn 20. While the signal just described is in the form of a horn it is of course obvious that any other audible or visual signal may be substituted for the one shown. Positioned beneath the angular extension 18 of the bar 15 is a spring 21, which serves to normally hold the said bar in a raised position. It will be seen from the foregoing that the depression of the upper surface of the tread 10 will impart a similar movement to the arm 12, which will in turn pull downward the bar 15 and sound the horn.

The switch tread 11 which is spaced from and arranged parallel to the main tread 10, has secured upon the end adjacent the arm 12, a right angularly disposed arm 22. This last mentioned arm has its extremity beveled as shown at 23, such beveled extremity being positioned above the arm 12, so that by

depressing the tread 11, the beveled surface 23 of the arm 22 will move the arm 12 upon its pivot, so that a vehicle passing from the tread 11 to the tread 10 will depress the last mentioned tread without operating the signal. A spring 24 secured to the tread 10 and bearing against the arm 12, serves to normally position the said arm above the angular extension 14 of the bar 15.

In the construction shown in Figs. 2 and 4 the treads 10′ and 11′ are arranged within the depressions 25 disposed transversely in the road way, abutment members 26 positioned beneath these treads serving to hold them at the proper height for action by a vehicle. In this form of tread the upper surface 27 is raised by means of springs 28 positioned within the treads. The signal shown in connection with the treads 10′ and 11′ is in the form of a bell 29, which is electrically connected to a pivoted bar 30, through the medium of a conductor 31. The bar 30 is pivoted at its upper end as shown at 32 to a post 33, the lower end of the bar being offset as shown at 34 and further provided with an angularly disposed extremity 35. This last mentioned portion normally lies beneath and in the path of movement of an arm 36 located upon the adjacent end of the tread 10′, so that by depressing the said tread the arm 36 will contact with the angularly disposed portions 35 and complete the circuit in which the bell is included, through the conductor 37.

The offset portion 34 of the bar 30 is beveled transversely as shown at 38, so as to form a cam surface to be acted upon by the end 39 of an arm 40 carried by the tread 11′. While this construction differs slightly from that previously described the principle of operation is the same.

The treads illustrated in Fig. 5 are similar in construction to those shown in Figs. 1 and 3, the difference being only in their relative arrangement. These treads as well as the ones first described may be secured upon the surface of the road in any desired manner.

In Fig. 10 there is illustrated an arrangement of signal system for use at the intersection of roadways, for the purpose of notifying traffic approaching the crossing of the approach of traffic in an opposite or right angular direction. In this arrangement a main tread 10 and a switch tread 11 is positioned transversely of each of the roadways approaching the crossing. These treads are electrically connected to individual signals 41 preferably supported upon radially disposed arms 42, supported by a post 43, the signals being so rotated as to be conveniently seen by the drivers of vehicles approaching from any direction. These signals 41 may be in the form of either visual or audible signals or both. The arrangement of the treads 10 and 11 is such that a vehicle approaching the crossing will operate the signal but a vehicle leaving the crossing will not operate the signal, any of the constructions previously described being utilized for this purpose.

While the various constructions shown and described illustrate the preferred manner of carrying out the invention, it is of course understood that other means may be employed, it being only necessary to provide a main tread, a switch tread, a signal and means connecting the treads and signals, whereby a vehicle traveling in the direction of danger will operate the signal, but a vehicle traveling in the opposite direction will depress the switch tread to operate a switch to prevent the unnecessary operation of the signal.

Having described the invention what I claim is:

A mechanical signaling device embodying a pair of alined treads disposed transversely across and slightly above the plane of the roadway, yielding means for holding said treads in a raised position, a vertically movable member terminating at its respective upper and lower ends in reversely projecting arms, upper and lower guides for said member, a spring mounted on the upper guide for upholding said member and yieldingly opposing its downward movement, a signal arranged for operative engagement with the upper arm of said member, a pivoted bar mounted on one of said treads for longitudinal movement, that is adapted to be swung into overlying engagement with the lower arm of said vertically movable member, a spring arranged to bear against the pivoted bar in a manner to maintain the engagement of said pivoted bar with said member, and a beveled arm carried by the other tread for engagement with the pivoted bar to swing the latter out of engagement with the lower arm of the vertically movable member.

In testimony whereof I affix my signature.

CHARLES E. LYMAN.