July 14, 1931. E. B. THOMAS 1,814,233

VEHICLE SIGNAL

Filed Nov. 18, 1930 2 Sheets-Sheet 1

Fig. 1.

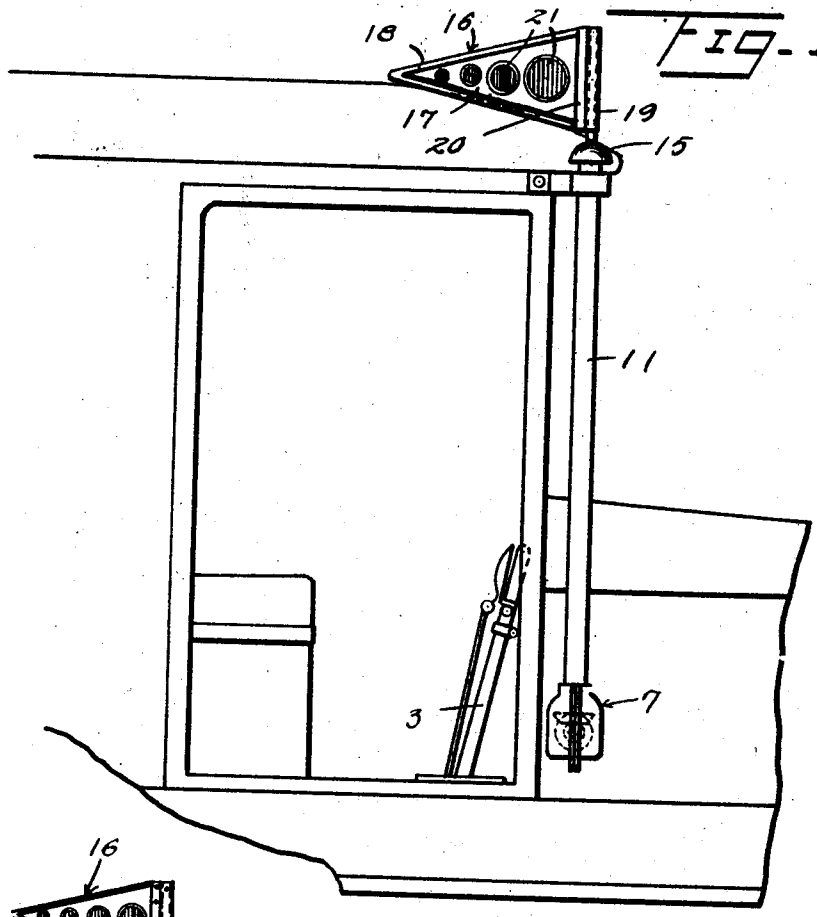


Fig. 3.

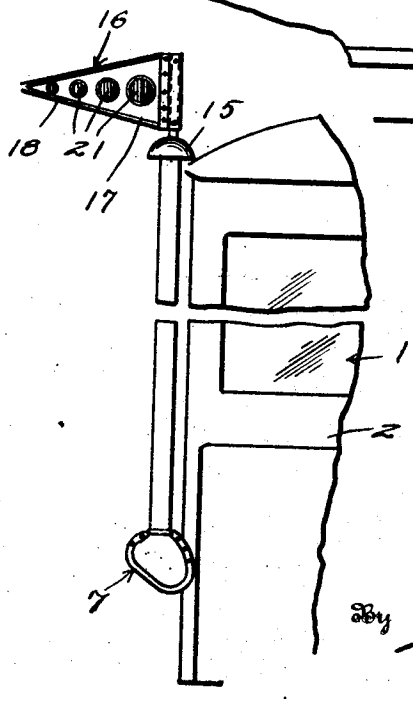
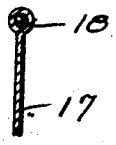


Fig. 6.



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Filed Nov. 18, 1930 2 Sheets-Sheet 2

Fig. 2.

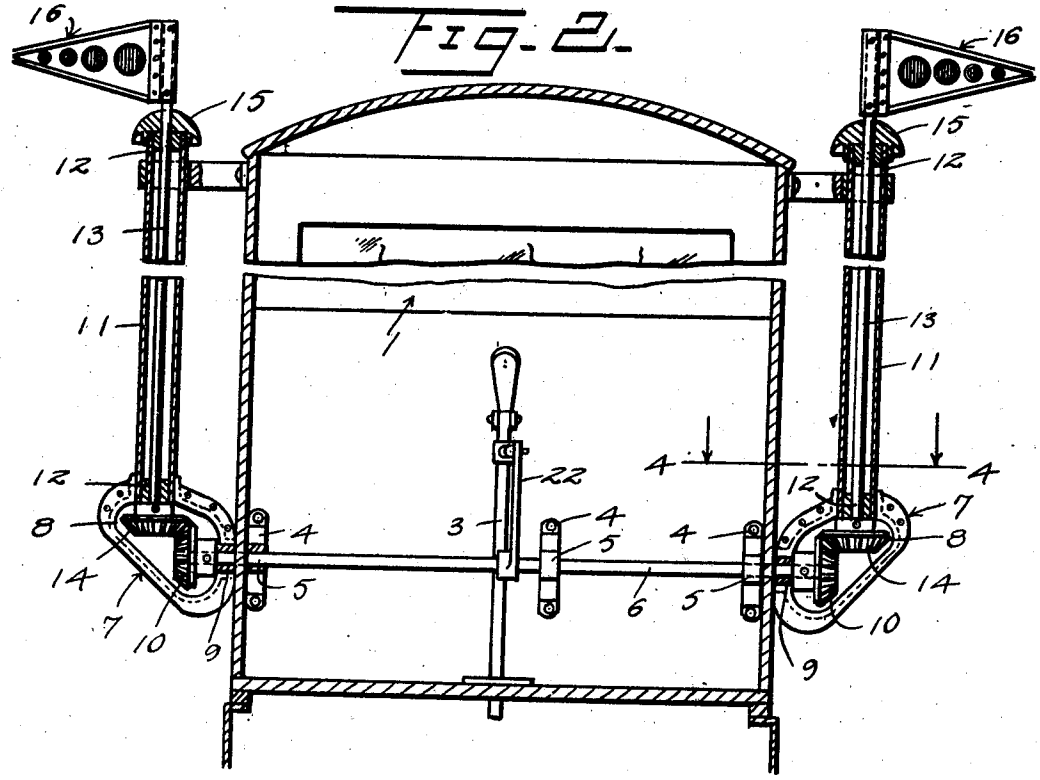


Fig. 4.

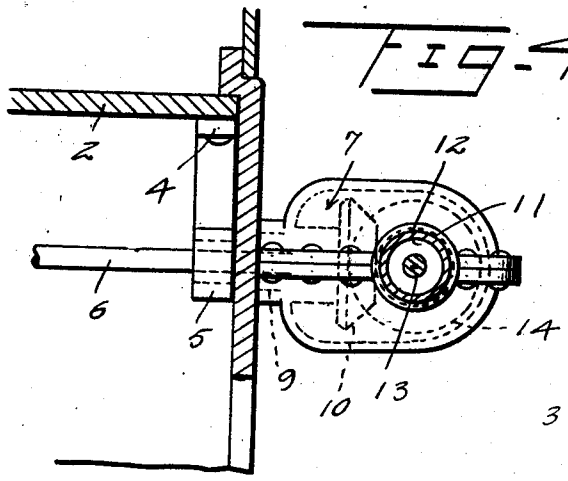
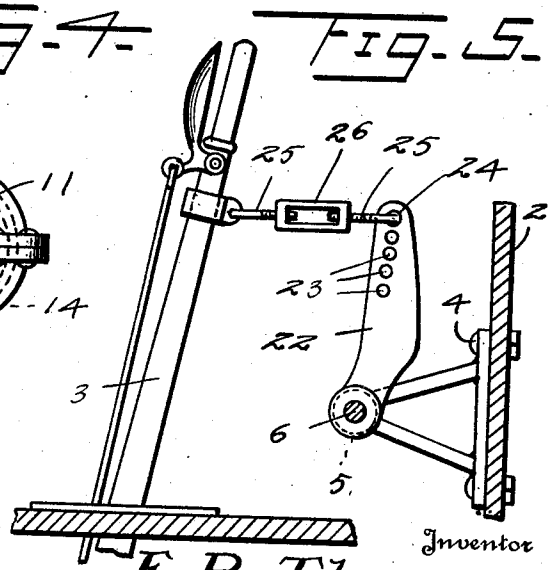


Fig. 5.



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UNITED STATES PATENT OFFICE

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VEHICLE SIGNAL

Application filed November 18, 1930. Serial No. 496,517.

This invention relates to improvements in vehicle signaling devices, and pertains particularly to a signal designed primarily for use upon the hacks or buses employed for carrying children to and from school.

In rural sections and in some cities where the school children attending a particular school, live at points remote from the school, buses are frequently employed for conveying the children from their homes to the school and back again. Accidents frequently happen when the school bus stops to let a child off, as the result of the failure of other motorists to observe the children leaving the bus.

The primary object of the present invention is to provide a signal device which will indicate to motorists following and those approaching the school bus upon which the device is mounted, that the vehicle is a school bus and that caution is necessary in passing it. This device is designed to be actuated simultaneously with the setting of the hand or emergency brake of the machine by the driver before he leaves the machine to let a child off.

Another object of the invention is to provide a device which will always be set to indicate the character of the vehicle to which it is applied to motorists approaching the vehicle from across streets, while the same is moving, and which will be shifted after the vehicle is stopped and the emergency brake has been set, so that the character of the vehicle will be indicated to motorists approaching the same from the front or from the rear.

A still further object of the invention is to provide a signaling device of the above described character which is of simple design, strong and durable, easy to install and operate, and efficient.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a view in side elevation of a portion of a motor vehicle showing the manner in which the present signal is mounted thereon.

Figure 2 is a vertical transverse section of the front portion of the vehicle body showing parts of the signal structure in section and parts in elevation.

Figure 3 is a detailed view looking toward one of the signal elements from the front of the machine showing the position of the signal when the machine is still.

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

Figure 5 is a detailed sectional view through a portion of the vehicle dash showing the connection with the hand brake lever.

Figure 6 is a detailed sectional view through a portion of one of the signal elements showing the edge reinforcement thereof.

Referring more particularly to the drawings wherein like numerals of reference indicate corresponding parts throughout the several views, the numeral 1 indicates generally the windshield of a motor vehicle of the character to which the present invention is to be applied, the usual dash of the vehicle being indicated by the numeral 2 and the hand or emergency brake by the numeral 3.

The signaling device comprises a series of bearing brackets 4 which are secured in a row transversely of the dash 2 upon the inner face thereof with the bearings 5 in alignment. Extending transversely of the inner face of the dash through the bearings 5 is an oscillatable shaft 6 which passes out through the adjacent sides of the vehicle body into a gear housing 7 mounted upon the outside of the vehicle in the manner shown. While any form of gear housing may be employed, it is preferred that the same be in the form of two cup like sections 8 which have flanges about their edges, which flanges are brought into abutting relation and secured together by screws or other suitable holding elements passing transversely therethrough. The ends of the shaft 6 pass through suitable

bearings 9 formed in the confronting faces of the flanges of each gear housing, each end of the shaft carrying, within the adjacent gear housing, a bevel gear 10.

Mounted vertically at each side of the windshield 1 is a tubular casing 11, the lower end of which is secured in and between the sections of the adjacent gear housing 7. In the upper and lower ends of the housings 11 are bearings 12 through which extend the vertical shafts 13 which, of course, pass longitudinally through the housing, the lower end of each shaft extending into the adjacent gear casing 7 and carrying a bevel gear 14 which meshes with the other gear therein. A suitable cap 15 covers the upper end of each housing 11 which prevents water from getting into the bearings therein.

Upon the upper end of each shaft 13 is a rigid signal 16 in the form of a pennant. Each of these signals is made up of a light metal plate 17 which is reinforced along the side edges by steel wires or rods 18 of suitable weight, over which the adjacent edges of the panel are turned.

To the back or base of each signal panel there is secured a tubular body 19 by means of the integral plate 20, this tubular body or sleeve being designed to slip over and be secured in any suitable manner to the upper end of a shaft 13.

In order that the device may be effective at night, each of the signal elements 16 is provided with a number of red glass bull's-eyes 21 which cover reflecting surfaces (not shown). These elements, which are of well known construction and are not therefore shown in detail, will reflect the light rays issuing from the headlights of approaching vehicles and thus draw the attention of the drivers of other vehicles to the signal elements.

Mounted upon the shaft 6, which is within the vehicle, is an arm 22 which is relatively broad adjacent its free end, the planes of the faces lying parallel with the longitudinal center of the vehicle body.

The board upper portion of the arm 22 is provided with a series of apertures 23, these apertures being disposed at varying distances from the forward edge of the arm and in one thereof there is mounted a securing screw or bolt 24 which holds against the arm one of the two links 25 which are connected by a turn buckle 26. The other of these links 25 is secured in the manner shown to the adjacent hand brake lever 3.

From the foregoing description it will be readily seen that when the vehicle to which the present signal is attached, is in operation, the hand brake lever will be shoved forwardly and when in this position the signal element 16 will be extended or directed rearwardly of the machine. When the machine is stopped, the driver, before leaving his seat, will draw the hand lever back to set the emergency brake and at the same time he will oscillate the arm 22 and the shaft 6 to which it is attached. This will, of course, cause the vertical shafts 13 to be oscillated and the signal element 16 to be swung outwardly to a position at right angles to the sides of the vehicle. It will thus be seen that another motorist approaching the vehicle to which the signal is attached will be at once apprized of the character of the vehicle and may then use the necessary caution in passing it. It will also be apparent that when the vehicle is moving the signal panels or elements 16 will be in a position where they will be readily seen by motorists approaching the signal carrying vehicle from side or intersecting streets.

It will, of course, be understood that the signal structure may, if it be desired, be illuminated when used at night so that entire dependence will not have to be placed in the light reflecting bull's-eyes 21 for drawing the attention of the signal to the drivers of other motor vehicles. No particular arrangement has been illustrated for lighting the signals as it will be understood that any satisfactory means may be employed.

Having thus described my invention, what I claim is:

1. In a motor vehicle signal including a signal element and rotary means for moving it to and from signaling position, an operating shaft designed to be mounted transversely of the vehicle adjacent the dash thereof, a means connecting said shaft and rotary means whereby the same may be simultaneously oscillated, and means for connecting said transverse shaft with an oscillatable element of the vehicle for oscillating said shaft with said element.

2. In a motor vehicle having an emergency brake lever, a signal structure including a signal element and a rotatable support therefor, a shaft, means for supporting said shaft in position transversely of the vehicle adjacent said lever, a gear connection between said shaft and said rotatable support whereby simultaneous rotation of the shaft and support may be effected, and a connecting element between said transverse shaft and said lever whereby oscillation of the shaft is effected upon the shifting of the lever, to move the signal element.

3. In a signal for a motor vehicle having an oscillatable hand brake lever, said signal including a signal element and a rotatable support therefor, a shaft, bracket elements designed to be mounted upon the motor vehicle dash to support said shaft in the forward part of the vehicle, transversely thereof, gear means connecting an end of the transverse shaft with said support, an arm carried by the transverse shaft, and a connection between the arm and the hand brake

lever through the medium of which the arm and transverse shaft is oscillated upon the shifting of the lever.

4. In a motor vehicle having an oscillatable hand brake lever, a signal element and supporting means therefor; an oscillatable shaft mounted transversely of the vehicle, an arm rigid with said shaft, a rigid coupling between said arm and said hand lever, said shaft having an end extended to the exterior of the vehicle at one side thereof, and a connection between said shaft and said signal supporting means for transmitting motion to the signal, said arm having a vertical series of openings therein whereby adjustment of the connection of said coupling therewith, may be made for altering the throw thereof.

5. In a structure of the character described for motor vehicles having an ocillatable lever, a shaft disposed transversely of the interior of the vehicle and mounted for oscillation, one end of the shaft being extended to the exterior of the vehicle, a second shaft disposed exteriorly of the vehicle, a coupling between said shafts whereby motion may be transmitted from one to the other thereof, an arm secured to said first mentioned shaft adjacent the lever, a coupling between said arm and said lever whereby upon oscillation of the lever oscillatory motion will be transmitted to the arm and the shafts, and a signal carried by the second mentioned shaft and actuated thereby to operative or inoperative position.

In testimony whereof I hereunto affix my signature.

ERNEST B. THOMAS.