BACK-UP WARNING SIGNAL FOR AUTOMOTIVE VEHICLES

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My invention relates to and provides a novel warning signal mechanism for automotive vehicles having reversing mechanisms.

More specifically my invention relates to audible warning signals and provides means for automatically initiating said signal simultaneously with operation of the vehicle's reversing mechanism.

The primary object of my invention is the provision of a device of the class above described which incorporates but a minimum of working parts, is rugged and durable in construction, and relatively foolproof in its operation.

A further object of my invention is the provision of a device of the class described which may be produced almost indefinitely without appreciable wear or service.

A still further object of my invention is the provision of a device of the class described which may be produced at a minimum of expense and which adds but a minimum of weight to the vehicle.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view in side elevation of a conventional motor truck having my novel warning apparatus attached thereto;

Fig. 2 is a view in side elevation of my novel warning apparatus;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 5, some parts being broken away; and

Fig. 5 is a diagrammatic view of the electrical circuit utilized in my invention.

Referring with greater particularity to the drawings, the numeral 1 indicates in its entirety a mounting bracket adapted to be suitably secured to the chassis of a conventional motor vehicle identified by the letter A. As shown, the bracket 1 comprises a generally C-shaped bracket element 2 formed from metal strap or the like and having a vertically extended portion 3 which is adapted to be secured to the vehicle A by any suitable means.

A metal mounting plate 4 is welded or otherwise rigidly secured to the extended upper and lower end portions 5, 6 of the C-shaped bracket element 2 in a vertical plane.

A conventional bell 7 is rigidly secured to the outer surface 8 of the mounting plate 4 through the medium of a mounting post 9, the projected outer end of which engages the center of the bell 7 and holds the same in spaced relation to the mounting plate 4. A striker 10 has one end pivotally secured at 11 to the outer surface 8 of the mounting plate 4 within the confines of the bell 7 for swinging movements of the free opposite end 12 thereof toward and away from the inner peripheral surface 13 of the bell 7. A coil tension spring 14 has one end anchored as at 15 remotely from the striker 10 and has its opposite end in engagement with the intermediate portion of the striker 10 as indicated at 16, whereby to Yieldingly bias the free end 12 away from striking engagement with the bell 7.

For the purpose of imparting intermittent striking movements to the striker 10, I provide an electric motor 17 which is rigidly secured to the inner face 18 of the mounting plate 4. The motor 17 has a drive shaft 19 which projects through the mounting plate 4 and terminates in a cam element 20. As shown particularly in Fig. 3, the spring 14 maintains the intermediate portion of the striker 10 in engagement with the cam 20 at all times, rotation of said cam 20 causing the intermittent engagement of the free end 12 with said bell 7.

As shown in Fig. 5, the motor 17 is interposed in an electrical circuit 21. The circuit 21 has a normally open switch 22 which is automatically closed, whereby to initiate audible warning signals from the bell 7, when the shifting lever 23 is moved from the neutral dotted line position to the reverse full line position thereof.

Under certain conditions, it may be desirable to render the signaling apparatus above described inoperative and for this purpose I provide a normally closed manual switch 24 in the circuit 21. As shown particularly in Fig. 2, the switch 24 is of conventional pull type and is secured to the inner surface 18 of the mounting plate 4.

For the purpose of deflecting sand or the like falling from the bed B of the vehicle A, I provide a generally semicylindrical guard plate 25. The guard plate 25 is formed from the upper portion of the mounting plate 4 and is in overlying spaced relationship to the bell 7. Obviously this arrangement tends to keep the bell ringing mechanism free of sand or the like, which would otherwise fall from the bed B and enter through the space between the bell 7 and the surface 8 of the mounting plate 4.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects and while I have shown a preferred embodiment thereof, I wish it to be understood that same may be capable of modification without departure from the scope and spirit of the appended claim.

What I claim is:

In a device of the class described, a mounting plate, a bell, anchoring means extending between said mounting plate and the central portion of said bell and rigidly connecting said bell in spaced overlying relationship to said mounting plate, a striker for said bell, means pivotally securing one end of said striker to said mounting plate within the confines of said bell for movements of the opposite end thereof toward and away from striking engagement with the periphery of said bell, an electric motor, means securing said electric motor to the opposite side of said mounting plate with its drive shaft projecting therethrough, cam means on the projected end of said drive shaft and engageable with the intermediate portion of said striker to move the free end thereof into bell striking engagement, and spring means yieldingly biasing said striker in a direction away from striking engagement with said bell, said mounting plate projecting laterally outwardly in all directions from the perimeter of said bell, the upper end portion of said mounting plate defining a semi-cylindrical guard plate which overlies said bell in spaced concentric relationship to said bell and substantially covering said bell.

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