July 8, 1930. H. I. DIAMOND 1,770,128

TRAFFIC SIGNAL

Filed April 27, 1929

Fig. 1.

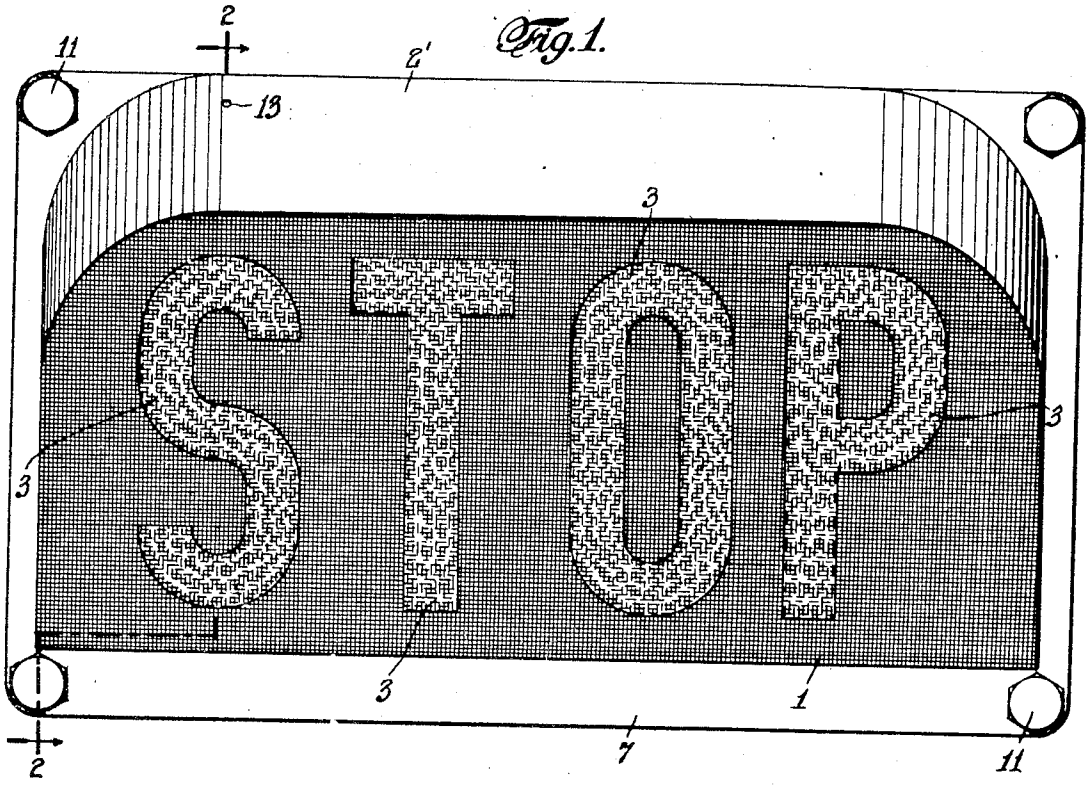


Fig. 2.

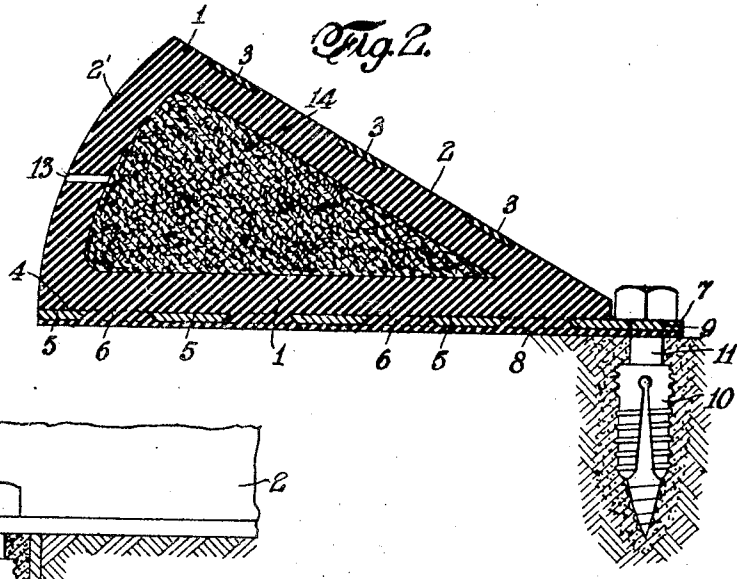
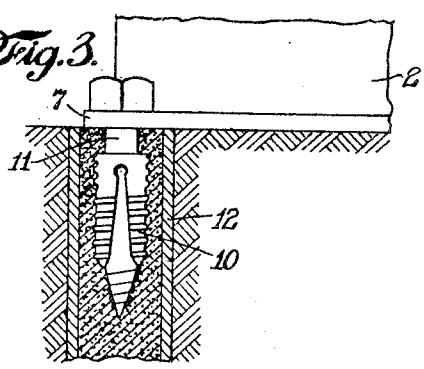


Fig. 3.



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UNITED STATES PATENT OFFICE

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TRAFFIC SIGNAL

Application filed April 27, 1929. Serial No. 358,498.

This invention relates to a traffic signal and more particularly to a traffic signal adapted to be placed in a roadway and project above the surface thereof.

Traffic signals, to give information or warning to those who use the highways, are very necessary. Signals that project from the surface of the roadway are more effective than those placed on posts, buildings, at the side of the street or the like, for the reason that the latter signals may not be seen by the drivers, while the former cannot be overlooked.

Prior to this invention two types of road signals projecting from the roadway were used, namely, a rigid or unyielding type made of metal and a flexible type consisting of a plate or slab of rubber or other resilient or yielding material set in a suitable base and adapted to bend when it came in contact with the wheels of a vehicle. The unyielding rigid metal type of signal proved more durable in use. This signal commanded more attention than the flexible yielding signal made of slab rubber or similar material. It, however, had the disadvantage of being occasionally crushed or damaged. Also, it in turn occasionally damaged the vehicle as the wheels thereof came in contact with it When struck by a vehicle moving at a high rate of speed, serious results sometimes occurred, both to the vehicle and its passengers. Ofttimes when the surface of the road or street was slippery from rain or sprinkling, the wheels of a vehicle were caused to skid whereby the wheels were damaged when they struck against the unyielding metal signal and in some cases injuring the people in the vehicle. The other type of signal, viz., that made of a yielding material was more desirable as far as damage to a vehicle was concerned. It, however, possessed certain disadvantages. Due to the fact that it offered little resistance to a vehicle passing thereover, drivers made little or no effort to avoid running over it. This subjected the signal to a great deal of abuse so that it soon became damaged and required replacement. For the same reason the signal did not command the respect and attention which was accorded to a signal which resisted to a notable degree being ridden over.

I have found that by making a traffic signal adapted to project from the roadway of sufficient rigidity to withstand abuse and yield or compress when vehicles pass thereover, I can combine the advantages of both of the types of traffic signals used prior to this invention without their attendant disadvantages.

It is therefore an object of this invention to provide a compressible traffic signal adapted to be secured on a roadway from which it will project and permit the passage of vehicles thereover.

Another object of this invention is to provide a traffic signal which is adapted to project from a roadway, said traffic signal being capable of easy fastening and removal from said roadway.

A further object of this invention is to provide a traffic signal comprising a hollow shell made of elastic or a resilient material with or without a resilient filler therein, whereby said shell is compressed or collapsed when a vehicle travels thereover and assumes its normal condition after the vehicle has passed thereover.

A specific object of this invention is to provide a traffic signal which comprises a hollow shell of a resilient and elastic material secured to a metal base, whereby the signal may be secured to the roadway, said shell being substantially triangular in cross-section and having its bottom parallel to said roadway and its front face sloping and bearing a legend thereon.

Further objects will appear from the following description, appended claims and accompanying drawings in which:

Figure 1 is a top plan view of the traffic signal constituting this invention.

Figure 2 is a cross-section taken on the lines 2—2 of Figure 1 and illustrating one manner of securing the signal to a roadway.

Figure 3 is a detail showing another way of securing the signal to a roadway.

Referring to the drawings wherein one modification of the traffic signal constituting this invention is illustrated and wherein like

reference numerals designate like parts, the reference numeral 1 designates a hollow shell. This shell is made of a resilient material such as rubber, rubber reinforced with a fabric or other filler, or the like. In the drawings, the shell is illustrated as being made of one layer of rubber. It is to be understood that it may be formed of two or more layers, as desired. The signal may be made in any desired shape. I have obtained satisfactory results when the shell 1 is substantially triangular in cross-section. The front face 2 slopes and carries a legend 3 which serves as a signal or warning to the driver. If desired, the back face 2' may also be provided with a legend. The legend 3 may be applied to or formed in the faces of the shell in any suitable manner.

I prefer to form the legend of rubber having a color different from the rest of the shell and imbed or inlay it in the face of the shell. This construction will form a smooth uniform surface and attract attention. A signal so made will be cleaned by rain or water used in sprinkling the roadway thereby keeping it clean and legible.

The shell may be secured to the base in any suitable manner. For instance, it may be secured thereto by some suitable cement. Or, if desired, it may be directly vulcanized thereto. In the drawings still another manner of attaching the shell to the base is illustrated. According to the latter, the bottom 4 of the shell is provided with projections or plugs 5 which cooperate with holes 6 formed in a base 7 made of metal or any other suitable material. The holes 6 are shaped as illustrated in Figure 2, that is, wider at the bottom than at the top thereof. By means of the plugs 5 being forced in the holes 6 of the base 7, the shell 1 is securely anchored to the base. If desired, a sheet of rubber 8 may be disposed on the bottom of the base 7, said sheet being united to the ends of the plugs 5. This tends to make the anchoring of the shell to the base more secure, though it is not essential.

The base 7 is preferably formed so that it is slightly larger in size than the bottom of the shell. In each of its corners the base is provided with a hole 9 which is adapted to receive means whereby the signal may be securely and removably fastened in or to a roadway. In the case of stone or concrete surfaced streets or roads, holes disposed in direct alignment with the holes 9 of the base 7 are drilled. By placing expansible sleeves 10 within the holes and threading bolts 11 therein, the signal is firmly secured to the roadway. When the signal is to be fastened to the surface of a road or street which is not covered with concrete, I have found it advisable to place short sections of ordinary pipe 12 in the street or roadway, said pipes being disposed directly beneath the holes 9 of the base 7. After the pipe is in position in the ground, it is filled with concrete in which, before it sets, the expansible sleeve 10 is placed. The bolt 11 is screwed through the hole 9 of the metal base down into the expansible member 10, said member having become firmly embedded inside of the pipe 12. This manner of securing the signal to the roadway is simple and easy. It in no way damages the roadway. If at some time the signal is removed, there remains only a few small holes in the roadway. These, of course, can be filled with concrete or the like without any great expense.

As above pointed out, the shell 1 is hollow. In order to permit easy compression thereof and to make it more yielding under pressure produced by a vehicle traveling thereover, means may be provided whereby the air contained within the interior of the shell is permitted to escape during compression and to allow the return of air after compression to aid the signal in assuming its normal condition. To attain this object holes 13 are disposed in the sides of the shell. It is to be understood that any desired number of holes located in any suitable place may be used, the single hole disclosed in the drawing being merely illustrative. Instead of the holes 13 suitable valve mechanisms may be used. If desired, the interior of the shell may be filled either in whole or in part with a sponge rubber or other resilient filler 14.

The signal above described comprises a hollow shell suitably secured to a base. It is within the scope of this invention to use a compressible and/or resilient member, hollow or otherwise, for the hollow shell described.

From the above it is apparent that I have provided a traffic signal which attracts and commands attention. It is easy to apply and remove from the roadway. Due to its construction, it is capable of withstanding abuse without any substantial injury to itself or to the vehicle coming in contact therewith. The manner in which it is secured to the roadway does not damage or injure the latter. If, after its installation, removal thereof becomes necessary, no substantial damage to the roadway is done. The entire damage consists of a few small holes which may be filled up very cheaply.

Since it is obvious that various changes may be made in the specific details above described without departing from the nature of the invention, I do not intend to limit myself thereto except as defined in the appended claims.

I claim:

1. A traffic signal comprising a hollow compressible member having a legend thereon, resilient means within said member to aid said compressible member to assume its normal shape after being compressed, and means to secure said member to the roadway.

2. A traffic signal comprising a hollow resilient shell adapted to be compressed by vehicles passing thereover, said hollow shell being provided with a passageway therethrough to permit the escape of and return of air from and to the interior thereof during and after said compression, resilient means in said shell to aid said shell to assume its normal shape after being compressed, and means to secure said shell to the roadway.

3. A traffic signal comprising a hollow shell of resilient material, plugs of resilient material extending from the bottom of said shell, a base having a plurality of holes adapted to receive said plugs whereby said shell is anchored to said base, and means to secure said base to the roadway.

4. A traffic signal comprising a hollow shell of resilient material, plugs of resilient material extending from the bottom of said shell, a base having a plurality of holes adapted to receive said plugs whereby said shell is anchored to said base, and means to secure said base to the roadway, said shell being substantially triangular in cross-section and having one face thereof parallel to said roadway and another face bearing a legend thereon inclined thereto.

5. A traffic signal comprising a hollow shell of resilient material adapted to be compressed by vehicles passing thereover, said shell being provided with a passageway to permit the escape of and return of air from and to the interior of said shell, plugs extending from the bottom of said shell, a base having a plurality of holes adapted to receive said plugs, whereby the shell is secured to said base, and means to secure said base to the roadway.

6. A traffic signal comprising a hollow shell of resilient material adapted to be compressed by vehicles passing thereover, said shell being provided with a passageway to permit the escape of and return of air from and to the interior of said shell, plugs of resilient material extending from the bottom of said shell, a base having a plurality of holes adapted to receive said plugs, whereby the shell is secured to said base, and means to secure said base to the roadway, said shell being substantially triangular in cross-section and having one face thereof parallel to said roadway and another face bearing a legend inclined thereto.

7. A traffic signal comprising a substantially enclosed hollow shell made of resilient material and adapted to be compressed by vehicles passing thereover, said shell being provided with a passageway therethrough to permit the escape of and return of air from and to the interior thereof during and after said compression, porous resilient material substantially filling the interior of said shell, and means to secure said shell to the roadway.

8. A traffic signal comprising a substantially enclosed hollow shell made of resilient material and adapted to be compressed by vehicles passing thereover, said shell being provided with a passageway therethrough to permit the escape of and return of air from and to the interior thereof during and after said compression, sponge rubber substantially filling the interior of said shell, and means to secure said shell to the roadway.

In testimony whereof, I have affixed my signature to this specification.

HARRY I. DIAMOND.