

P. M. FELTHAM.
DANGER SIGNAL.

APPLICATION FILED AUG. 23, 1919. RENEWED MAY 8, 1920.

1,364,490.

Patented Jan. 4, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

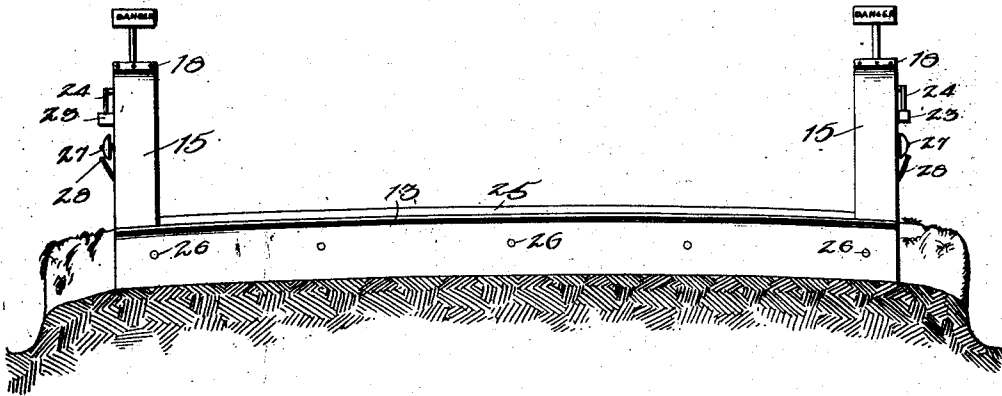
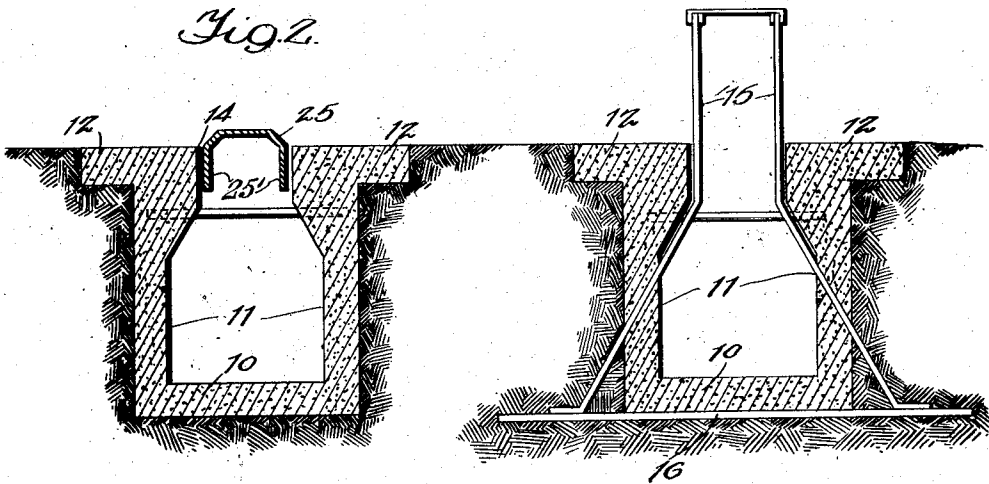


Fig. 3.



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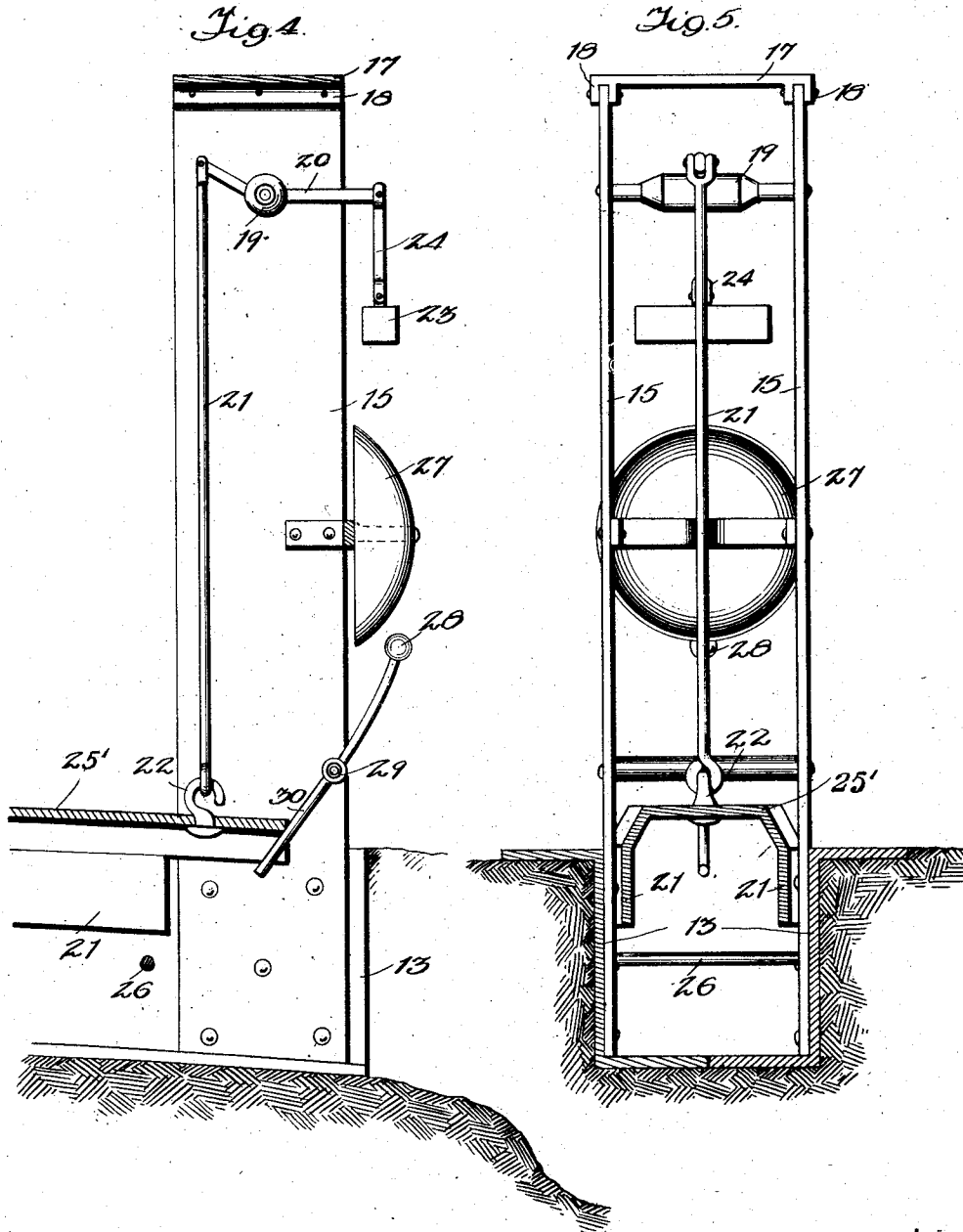
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DANGER-SIGNAL.

1,364,490.

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To all whom it may concern:

Be it known that I, PERCY M. FELTHAM, a citizen of the United States, and a resident of Edgefield, in the county of Edgefield and State of South Carolina, have invented a new and useful Improvement in Danger-Signals, of which the following is a specification.

My invention relates to danger signals and more particularly to signals for road vehicles adapted to warn the driver of the automobile or other vehicle of the proximity of a railroad crossing, dangerous curve or other danger.

An important object is to provide a device of this kind operated by the vehicle and of simple and durable construction and reliable in operation and in which any possibility of the operation of the device becoming impaired or being interfered with in any manner by sand, ice, snow, clay or the like, is absolutely precluded.

Another important object is to provide a device of this character which will not impair the smooth surface of the road, the yielding obstruction offered to the passage of the vehicle being of such a nature as not to occasion discomfort to the occupants of the vehicle.

Other objects and advantages reside in the certain novel features of the construction, arrangement and combination of parts which will become apparent as the description proceeds, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a front elevation of the device embodied in a road, the surface of the road being broken away and the road-bed being shown in section for the sake of illustration.

Fig. 2 is a vertical section through the center of the device showing one form of housing.

Fig. 3 is a vertical section through the road-bed near one end thereof, parts being shown in elevation.

Fig. 4 is a vertical section on the line 4—4 of Fig. 5, and

Fig. 5 is an end elevational view, the parts adjacent and below the surface of the road being shown in vertical section.

Referring to the drawings my invention comprises a housing arranged in a suitable

excavation in the road. The housing extends entirely across the road and its top surface is flush with the top surface of the road and generally it conforms in section with the section of the road. This housing may consist of a concrete structure having a bottom wall 10, side walls 11 and outwardly extending top walls 12 flush with the surface of the road as shown in Figs. 2 and 3, or it may consist of a pair of Z-bars 13 as shown in Fig. 5. In either instance the housing has a top opening 14 and incloses a substantial unobstructed space and its lower portion is adapted to act as a drain for a purpose to be hereinafter more fully described.

A pair of standards 15 are provided at each side of the road and may be secured to a suitable base 16 as shown in Fig. 3, or bolted directly to the Z-bars, as shown in Fig. 5. A top plate 17 has spaced flanges 18 at each end thereof which engage over the standards and are secured thereto. Mounted in suitable bearings in each pair of the standards 15 adjacent the top thereof are rock shafts 19. Bell-crank-levers 20 are mounted on each of these rock shafts and have one arm thereof pivotally connected to links 21. The links 21 have an eye formed on their opposite end for engagement with the hook 22 of the floating platform to be hereinafter more fully described. The other arm of the bell-crank 20 is provided with a counterweight 23 suspended therefrom by means of the bar 24 having yoked ends as shown in the drawings.

A floating platform consisting of an inverted channel iron 25 is suspended from the links 21 by virtue of the engagement of the eyes of said links with the hooks 22 secured to the channel iron at each end thereof as shown in the drawings. This floating platform is positioned in the opening 14 of the housing and extends entirely across the road and has its top surface normally disposed above the surface of the road. Secured in the walls of the housing and extending entirely between said walls are a plurality of horizontally disposed bars 26 which constitute stop members. These stop members serve to arrest the downward movement of the floating platform and are disposed at such distance below the sur-

face of the road as to cause the top surface of the floating platform to be absolutely flush with the surface of the road when further downward movement of the platform has been prevented.

In this connection it is to be noted the flanges 25' of the channel iron rest against these bars when the downward movement has been arrested and in this manner they serve to positively support the platform. A gong 27 is secured by a suitable bracket to either or both pairs of standards and a clapper 28 adapted to sound the gong is pivoted to a shaft 29 and an arm 30 of the clapper extends downwardly, as shown in Fig. 4, and is engaged by the underside of the top surface of the platform.

The channel iron constituting the floating platform being suspended and counter-weighted as shown and described, is normally disposed or normally floats slightly above the level of the road. In this normal position of the channel member the depending flanges thereof are adjacent the walls of the housing and in this manner the platform is constrained to substantially vertical movement. When a vehicle passes, the wheels thereof striking the bevel surface of the tilting platform depress the platform until the flanges rest upon the bars 26. The downward movement of the platform by virtue of the engagement of the end of the platform with the arm of the clapper actuates the clapper to sound the gong 27 and so give warning to the driver of the proximity of the danger.

An important feature of the present invention is the provision of the drain in the housing below the tilting platform or signaling actuating means. Devices of this kind are exposed to the weather and all action of the elements and accumulations of sand, ice, snow, clay or the like have in all devices previously proposed served to clog the operating parts thereof and greatly impair, if not prevent, efficient operation of the signal. In the present invention any such foreign substance finding its way between the tilting platform and the walls of the housing will under the influence of gravity or under the influence of the action of the platform be conveyed to the interior of the housing and the bottom portion thereof acting as a drain will serve to collect and carry away these foreign substances.

Another important feature to be noted is that the platform being floated and evenly balanced is very sensitive and yielding and when actuated by the slight initial pressure of the walls of the vehicle presents a surface flush with the surface of the road and so does not impair the evenness of the surface of the road or present any obstruction likely to cause discomfort to the occupants of the vehicle and additional wear on the

vehicle. In this connection it is to be observed that the channel iron is shaped to conform to the surface of the road.

I claim:—

1. A danger signal comprising signaling means consisting of a gong and a clapper therefor, means for actuating said clapper, adapted to be operated by the vehicle, consisting of an inverted channel bar arranged for vertical movement in the roadway, a housing for said inverted channel bar and means for normally maintaining said channel bar floating slightly above the surface of said roadway consisting of vertical standards arranged at each side of the road, bell-crank-levers pivoted to said standards, links connecting one arm of said bell-crank-lever with said channel bar and a counter-weight on the other arm of said bell-crank-lever.

2. A danger signal comprising signaling means consisting of a gong and a clapper therefor, means for actuating said clapper, adapted to be operated by the vehicle, consisting of an inverted channel bar arranged for vertical movement in the roadway, a housing for said inverted channel bar, means for normally maintaining said channel bar floating slightly above the surface of said roadway consisting of vertical standards arranged at each side of the road, bell-crank-levers pivoted to said standards, links connecting one arm of said bell-crank-lever with said channel bar, a counterweight on the other arm of said bell-crank-lever and means for arresting the downward vertical movement of the channel bar when its top surface is flush with the surface of the roadway, said means consisting of horizontally disposed bars adapted to support said channel bar.

3. A danger signal comprising signaling means, means for actuating said signaling means adapted to be operated by the vehicle, consisting of an inverted channel bar arranged for vertical movement in the roadway, a housing for said inverted channel bar and means for normally maintaining said channel bar floating slightly above the surface of said roadway, consisting of vertical standards arranged at each side of the road, bell-crank-levers pivoted to said standards, links connecting one arm of said bell-crank-lever with said channel bar and a counterweight on the other arm of said bell-crank-lever.

4. A danger signal comprising signaling means, means for actuating said signaling means adapted to be operated by the vehicle, consisting of an inverted channel bar arranged for vertical movement in the roadway, a housing for said inverted channel bar and means for normally maintaining said channel bar floating slightly above the surface of said roadway, consisting of vertical standards arranged at each side of the road,

bell-crank-levers pivoted to said standards, links connecting one arm of said bell-crank-lever with said channel bar, a counterweight on the other arm of said bell-crank-lever, 5 and means for arresting the downward vertical movement of the channel bar when its top surface lies in the same plane as the surface of the roadway.

10 5. A danger signal comprising signaling means, means for actuating said signaling means adapted to be operated by the vehicle consisting of an inverted channel bar arranged for vertical movement in the roadway, a housing for said inverted channel 15 bar, and means for normally maintaining said channel bar floating slightly above the surface of said roadway, including a stand-

ard and counterweighting means mounted on said standard and connected with said channel bar above the surface of the roadway, 20 all as and for the purposes set forth.

6. A danger signal comprising signaling means, means for actuating said signaling means consisting of a vertically movable floating platform and means for normally 25 maintaining said floating platform slightly above the level of the surface of the roadway consisting of a vertical standard, a rock shaft journaled in said standard, a bell-crank fixed to said rock shaft, a link con- 30 necting one arm of said bell-crank with said platform and a counterweight secured to the other arm of said bell-crank.

PERCY M. FELTHAM.