July 26, 1932. G. J. BARRY 1,868,489

SIGNAL SYSTEM

Filed Aug. 15, 1931

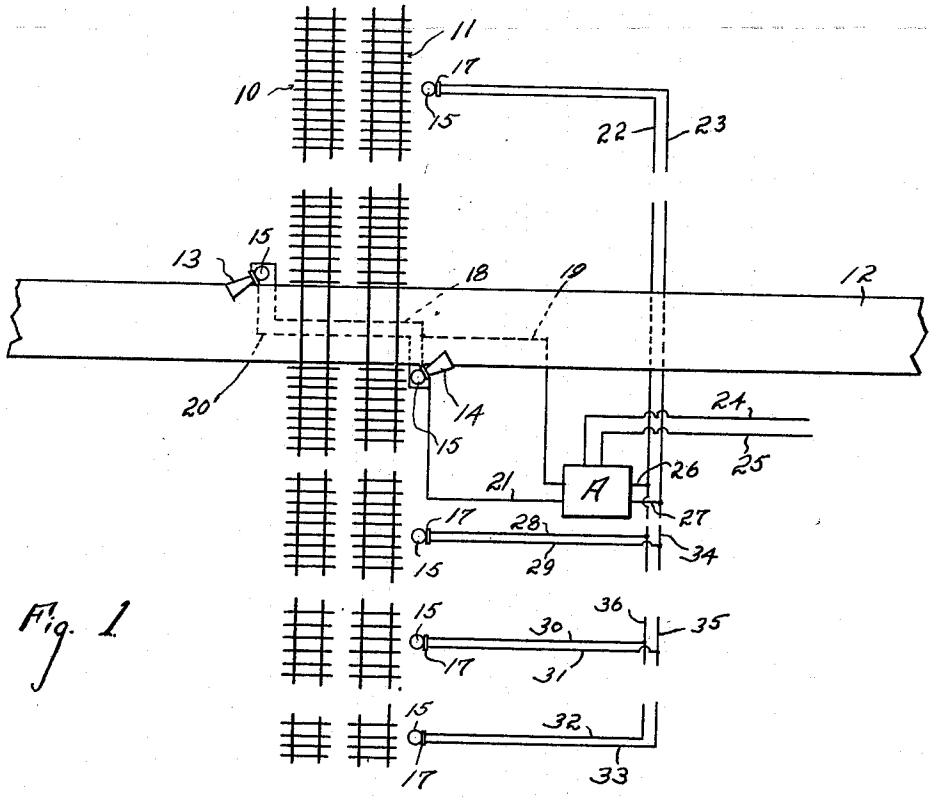


Fig. 1

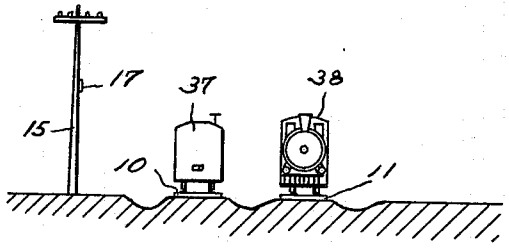


Fig. 2.

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UNITED STATES PATENT OFFICE

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SIGNAL SYSTEM

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This invention relates to a safety signal system adapted to be used at railroad crossings or other similar road or highway intersections for the purpose of preventing collisions, especially between locomotives and automobiles.

An object of the invention is to provide means responsive to the sound of a distant approaching locomotive or other vehicle on one road for giving the impression to a motorist or person approaching the crossing or intersection that such locomotive is much closer to the crossing than it really is. A further object is to provide an audible signal at a crossing which will emit a warning characteristic of the approaching locomotive or vehicle. Other and more limited objects will become apparent from the following description when taken in connection with the accompanying drawing.

Fig. 1 is a schematic plan view of the intersection of a double track railroad with a highway showing one embodiment of my improved signalling system, and Fig. 2 is a schematic cross section of the railroad showing the relation of the sound responsive device or transmitter to the rolling stock.

Referring now to the drawing by the use of reference numerals, 10 and 11 indicate parallel sections of railway track and 12 represents a highway or street. A pair of annunciative devices 13 and 14, which may be constructed on the general plan of radio loud speakers, are mounted on suitable supports 15 adjacent the highway 12. The supports 15 may be posts of any suitable material set into the ground for the special purpose of supporting the annunciator devices or may be the usual telegraph poles which ordinarily parallel railroads. Mounted on other suitable supports 15 as, for example, telegraph poles, are a plurality of sound responsive devices or transmitters 17. I have found that a suitable spacing of the devices 17 for use at highway and railroad intersections is to space the closest transmitter at about 1300 feet from the intersection and the others, any suitable number, at distances of about 200 feet. This spacing lends itself very well to the blasts of the whistle of a locomotive approaching the crossing and gives the warning at the proper time. However, I wish it understood that any suitable spacing may be employed within the scope of my invention.

The sound responsive devices 17, connected in parallel by means of the conductors 22, 23 and 26 to 36, will be connected with an amplifier A of conventional construction. The annunciative devices 13 and 14 will be connected by means of conductors 18 to 21 with the output of the amplifier A. A suitable current supply will be received from the line 24, 25. It is to be understood that the amplifier A may be of any suitable construction such as is well known to those skilled in the art. This device will have a suitable power supply, the conductors 26 and 27 will be connected in the grid circuit of a vacuum tube, while the conductors 19 and 21 will form a part of the plate circuit of the last stage of amplification, if more than one stage is employed. The sound responsive devices or transmitters 17 may be similar to a telephone transmitter.

As is indicated in Fig. 2, the devices 17 are so positioned as to receive unmuffled the sound waves produced by the whistle of the locomotive irrespective of whether another train or a line of cars intervenes between the track upon which such locomotive is approaching and the support upon which the transmitter is mounted.

While I have shown and described an illustrative embodiment of my invention, I wish it understood that I am not limited to the details thereof except in accordance with the appended claims.

Having thus described my invention, what I claim is:

1. A protective device for use at intersections of highways and railways, comprising, an audible annunciative device at such intersection, a sound actuated mechanism positioned near such railway at a distance from such intersection, and connecting means between said device and said mechanism of such character that the latter when actuated causes the former to emit an audible sound, at such intersection, of the same character as the sound which actuates said mechanism.

2. A protective device for use at road intersections, including, a transmitter positioned near one road at a distance from the intersection, an annunciative device positioned at the intersection, an amplifier, a source of current, and connections between the mentioned elements such that loud sounds in the vicinity of said transmitter will cause loud sounds to be emitted from said annunciative device, said transmitter being supported at a height considerably greater than that of the rolling stock employed whereby to receive unmuffled the sound of a locomotive whistle or bell in spite of the presence of such rolling stock on tracks between that upon which said locomotive is running and the transmitter support.

3. A protective device for a railroad crossing including, an annunciative device at such crossing and means responsive to the sound of a distant, approaching locomotive to cause a loud sound like that of the locomotive to be emitted by said annunciative device, whereby to create the impression upon the mind of a motorist approaching said crossing that the locomotive is closer than it really is, said means including a transmitter positioned at a distance from said crossing and connecting and amplifying means between said transmitter and said annunciative device.

In testimony whereof, I hereunto affix my signature.

GARRETT J. BARRY.