C. AURAND.

RAILROAD SIGNAL.

APPLICATION FILED SEPT. 10, 1912.

1,092,004. Patented Mar. 31, 1914.

Fig. 1.

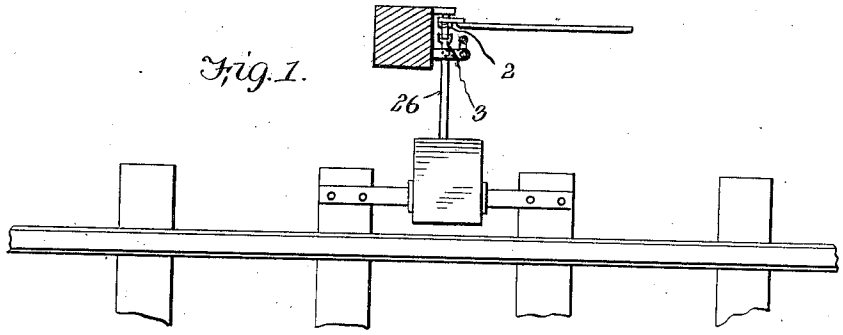


Fig. 3.

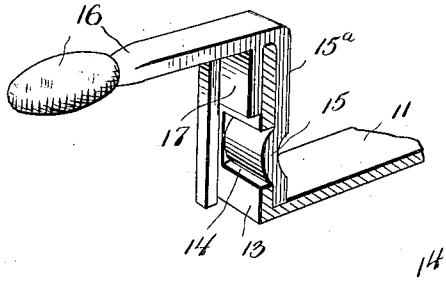
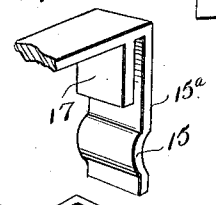


Fig. 5.



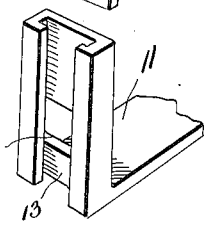


Fig. 4.

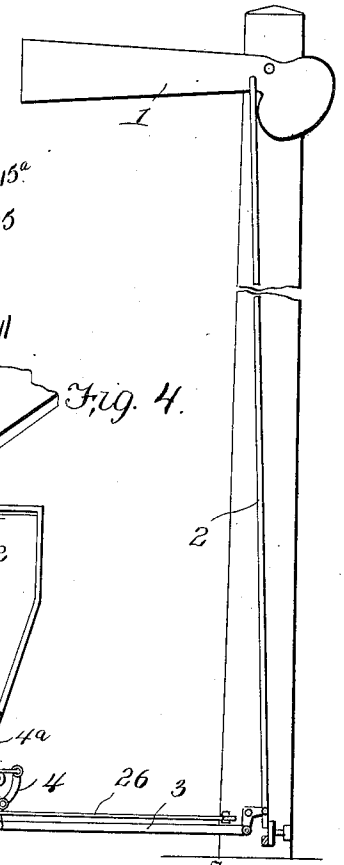
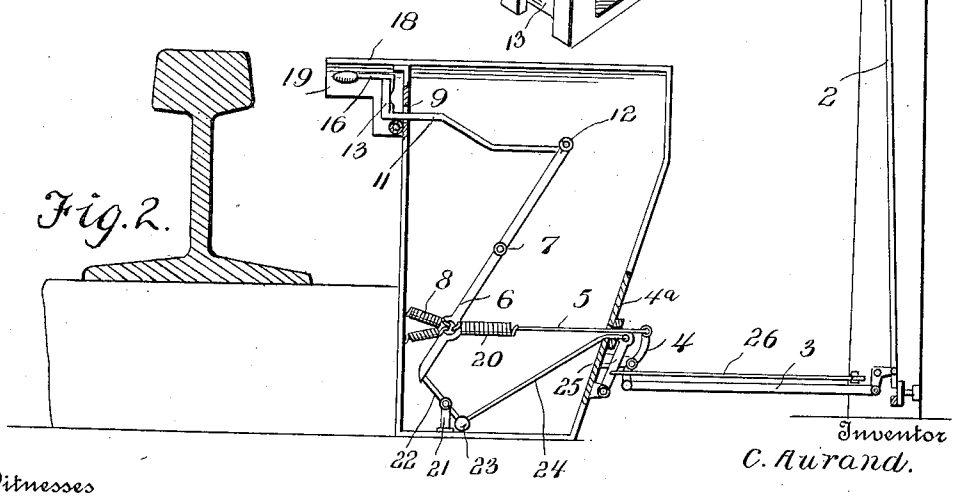


Fig. 2.



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RAILROAD-SIGNAL.

1,092,004. Specification of Letters Patent. Patented Mar. 31, 1914.

Application filed September 10, 1912. Serial No. 719,612.

To all whom it may concern:

Be it known that I, CLYDE AURAND, a citizen of the United States, residing at Lewistown, in the county of Mifflin and State of Pennsylvania, have invented new and useful Improvements in Railroad-Signals, of which the following is a specification.

This invention relates to railroad signaling devices and the principal object of the invention is to provide a simple and efficient signal adapted to be used in connection with the ordinary semaphore which is practically useless in foggy weather.

A further object of the invention is the provision of a novel form of torpedo projector and a novel form of torpedo holder adapted to be used in connection therewith in such a manner that the holder may be conveniently mounted upon the projecting mechanism.

A still further object of the invention is the provision of means for projecting a torpedo over the rail in the operation of the ordinary semaphore and for controlling the projecting means so that the semaphore may be readily operated without projecting the torpedo.

Further objects of the invention will appear as the following specific description is read in connection with the accompanying drawing, which forms a part of this application, and in which:—

Figure 1 is a top plan view. Fig. 2 is a side elevation with one of the sides of the casing removed. Fig. 3 is a detail perspective view of the torpedo holder with parts in section. Fig. 4 is a detail perspective view of the end of the projecting arm. Fig. 5 is a detail perspective view of the torpedo holder.

Referring more particularly to the drawing 1 represents an ordinary semaphore arm which is controlled in any suitable manner through the rod 2. This rod has its lower end connected through a bell crank lever to the audible signal operating rod 3. This rod extends horizontally and is connected at one end to a lever 4 pivoted upon the case 4^a and connected at its upper end through a wire 5 to the lower end of an operating lever 6 which is pivoted at 7 within the casing and is normally held in the position shown by means of the springs 8. The forward portion of the casing is provided as shown with an opening 9 and outside of the casing adjacent the opening is mounted an antifriction roller adapted to support the free end of the projecting arm 11 whose opposite end is connected at 12 to the upper end of the lever 6. The outer or free end of the projecting arm 11 is bent upwardly as shown at 13 and is provided with an aperture 14 adapted to receive the inwardly extending portion 15 of the long leg 15^a of the torpedo holder. This torpedo holder comprises a substantially right angular plate 16 of malleable metal with a short leg 17 connected thereto and extending parallel with the leg 15^a. The material of which this torpedo holder is made is sufficiently resilient to permit the projecting portion 15 to snap into the aperture 14 and thereby secure the torpedo holder in position upon the projecting rod. In this connection it may be stated that it is desirable to hold the torpedo which is secured to the outer end of the member 16, about a fourth of an inch above the rail and free of the same to as to prevent the torpedo from freezing to the rail which would prevent the operation of the device. The free end of the arm 11 and the torpedo is covered and protected from the elements by means of an overhanging shelf 18 having depending flanges 19 to lie upon opposite sides of the torpedo holder.

As now described it will be seen that when the semaphore arm is operated the lower end of the lever will be pulled upon and the upper end thrown forward to project the torpedo arm 11. In many instances the signal operator will throw the semaphore before a train has completely passed the station so as to warn the train in the rear of the same, in this instance it is not desirable to have the torpedo projected on account of the fact that it will be exploded by the rear wheels of the train. In order to prevent the operation of the torpedo projector when desired there is interposed in the length of the wire 5 a spring 20 which is as strong as the combined strength of the two springs 8 and pivoted upon a standard 21 rising from the bottom of the casing 4^a is a dog 22 having a weighted end 23 to which is connected an operating wire or cable 24. This cable passes out of the casing and is connected to a leaf 25 pivoted on the casing which is operated by a rod 26 controlled in any suitable manner. When the operator desires to move the torpedo over the rail

simultaneously with the elevation of the semaphore arm he raises the weighted end of the dog 22 by operating the rod 26 through any suitable means so as to carry the end of the dog out of the path of the lower end of the lever 6. If it is desired to operate the semaphore without projecting the torpedo the dog is allowed to remain in the position shown in full lines in Fig. 2 so that when the semaphore is operated the lever 6 will be brought against the end of the dog and held against movement. Further operation of the semaphore will stretch the spring 20 as will be readily understood. The operator can then release the lever 6 by operating the rod 26 to withdraw the dog as will be readily understood, at which time the spring 20 will act to operate the lever 6 and project the torpedo.

The connecting rod 11 has a lateral offset 30 formed within its length which is adapted to engage the roller 31 at the lower edge of the opening 9 so that the torpedo holder will be raised above the level of the head of the rail simultaneously with its projection. Therefore, it will be seen that under normal circumstances with the torpedo retracted the same is below the level of the rail and, therefore, free from engagement by trailing parts on the car.

What is claimed is:—

1. The combination with a semaphore and operating mechanism, of a horizontally slidable torpedo projecting arm having an apertured end, and a malleable torpedo holder having parallel legs to straddle the apertured end, one of said legs having a bulge or projection adapted to engage the aperture in the holder so as to secure the holder in position upon the projecting arm.

2. The combination with a semaphore and means for operating the same, of a slidably mounted torpedo projecting arm, an operating connection between the arm and the semaphore including a resilient member, a torpedo supporting member carried by the arm and means to prevent the operation of the said projecting arm during the operation of the semaphore.

In testimony whereof I affix my signature in presence of two witnesses.

CLYDE AURAND.

Witnesses:
ARTHUR AURAND,
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