G. C. WALSH.

TORPEDO ALARM SIGNAL.

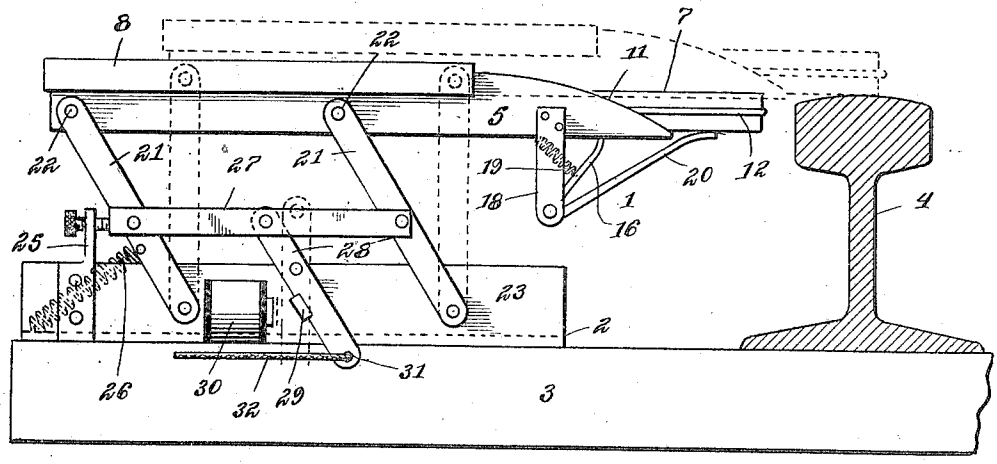
APPLICATION FILED AUG. 1, 1917.

1,301,767.

Patented Apr. 22, 1919.

2 SHEETS—SHEET 1.

Fig. 1



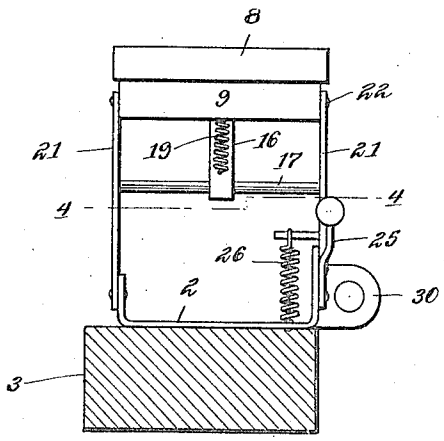


Fig. 2

WITNESSES

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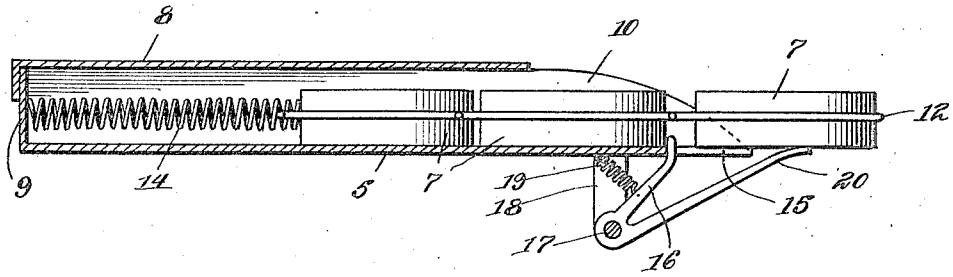
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2 SHEETS—SHEET 2.

Fig. 3



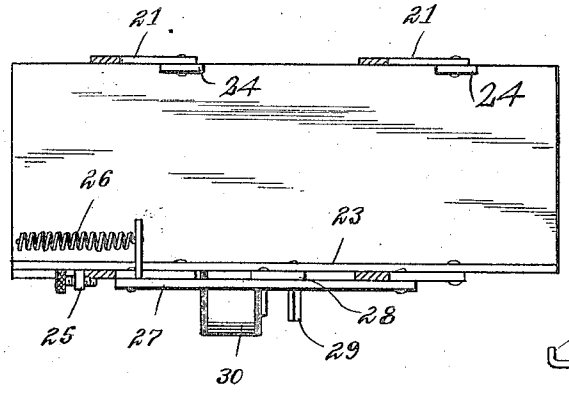


Fig. 4

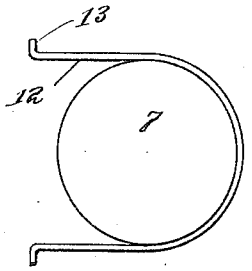


Fig. 5

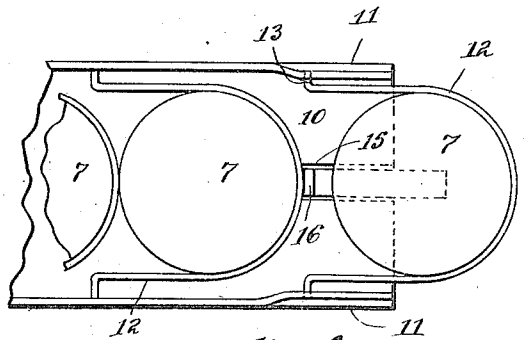


Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE CARL WALSH, OF SAWTELLE, CALIFORNIA.

TORPEDO ALARM-SIGNAL.

1,301,767. Specification of Letters Patent. Patented Apr. 22, 1919.

Application filed August 1, 1917. Serial No. 183,911.

To all whom it may concern:

Be it known that I, GEORGE C. WALSH, a citizen of the United States, residing at Sawtelle, in the county of Los Angeles and State of California, have invented new and useful Improvements in Torpedo Alarm-Signals, of which the following is a specification.

This invention relates to improvements in railroad torpedo signals.

The chief object of the invention is to provide a device which may be actuated from a distance to place a torpedo in a position to be exploded by the wheels of a train and to remove the torpedo if this should become desirable before the approach of the train.

Another object is to provide a device of the class described having a torpedo holding mechanism, a magazine adapted for containing a plurality of torpedoes and for feeding the torpedoes to the holding mechanism, and means normally preventing torpedoes from being fed to the holding mechanism which will be released each time a torpedo is exploded.

It is further purposed to provide an improved structure and operative mechanism for the signal whereby the magazine and torpedo holding mechanism will normally be disposed at one side and below the top of the track rail out of the way.

In the accompanying drawings I have illustrated a form of the invention which I consider preferable. It will be better understood by reference to the specification below and the novel features of the invention are broadly set forth in the appended claims.

In the drawings:—

Figure 1 is a side elevation of the device in the inoperative position, as associated with the track rail, the operative position of the device being indicated in dotted lines.

Fig. 2 is an end view.

Fig. 3 is a longitudinal vertical section through the magazine showing the trigger mechanism and associated parts.

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2.

Fig. 5 is a plan view of a form of torpedo which is preferred for use with the device.

Fig. 6 is a fragmentary top plan view of the device.

Referring to the drawings in detail the device constituting the preferred form of the invention is indicated in entirety by the numeral 1. It has a base 2 of convenient form and material by which it may be attached to a cross tie 3 or otherwise maintained in proximity to a track rail 4. A torpedo magazine consists in the present instance of a chute or slide 5 adapted to contain a row of torpedoes 7. The chute 5 may have a removable cover 8 to facilitate the insertion of new torpedoes when desired and to protect the torpedoes from the weather. One end of the chute 5 is closed as indicated at 9 while the other end 10 is open and is adapted for retaining a torpedo in an outwardly projecting position. Preferably, this is accomplished by providing inturned flanges 11 on the inner sides of the chute 5 toward the end 10. The torpedoes are preferably of the form having an encircling wire 12, the projecting ends of the wire 12 being cut to a suitable length and bent outwardly to form hook portions 13 when engaging against the flange 11 to hold the torpedo. Means are provided tending to force torpedoes in the chute toward the open end 10, such means being here indicated as a compression spring 14 bearing against the end 9 of the chute. A retaining mechanism is provided preventing torpedoes in the chute from being forced against a torpedo which is held in the outward projecting position by the flanges or retaining jaws 11. This mechanism is adapted to be released by the explosion of a torpedo so held to permit a new torpedo to move into position. In the preferred form shown the chute 10 is formed for this purpose with a longitudinal slot 15 in the bottom toward the end 10 through which projects into the path of torpedoes in the chute, the upper extremity of a trigger 16. The trigger 16 is mounted for vertical swinging movement upon a spindle 17 extending tranversely below the chute and suitably journaled as in downwardly extending bearing members 18 affixed to the sides of the chute in any acceptable manner. A spring 19 is provided in the present instance for normally maintaining the upper end of the trigger 16 in the inward position. In order to move the trigger out of the path of the torpedoes to permit one of the latter to move to the jaws 11, it has an arm 20 which extends somewhat beyond the end of the chute 5 and is adapted to bear against the bottom of, and assist in supporting, a torpedo held by the jaws 11.

In accordance with the invention a sup-

porting structure for the chute 5 constitutes a means for moving the chute 5 to carry a torpedo held by the jaws 11 into a position over the track rail 4 where it will be struck by the wheels of the passing train, or out of such position as desired. To effect this, supporting members 21 are pivoted to the chute as by rivets 22 fastened to the side of the chute, and extend downwardly for terminal pivotal connection, in the present instance, to an upturned flange 23 and a pair of ears 24 on the base 2. A stop 25 is provided on the flange 23 in the path of one of the members 21, which is normally maintained against the stop by a spring 26 to hold the chute 5 in an inoperative position at one side and below the top of the rail 4. To move the chute to the operative position, a link 27 is pivoted by its ends to a pair of the members 21 and to one end of the downwardly extending lever 28 pivoted intermediately of its ends and carrying upon the lower end an armature 29 disposed for attraction by a magnet 30 mounted on the flange 23. The magnet 30 may be included in a circuit containing a suitable battery and normally maintained open by a pair of contacts adapted to be closed by movement of a semaphore arm to the danger position, or by a similar movement of a switch signal, or adapted in any other desired manner to be energized to place a torpedo in position when necessary. To permit direct mechanical actuation of the device from a distance, either manually or by connection to a portion of the railway signal system, the lever 28 may be provided with an opening 31 for attachment of a cord or wire 32.

The trigger 16 is so positioned longitudinally of the chute that in returning to normal position after actuation to permit a torpedo to move to the jaws 11 it will engage against the forward edge of the next torpedo which will be forced by the spring 19 away from the torpedo already in position. In this manner a space is provided whereby accidental explosion of torpedoes in the magazine by the concussion from that held by the jaws is prevented. It will be seen that friction of the outwardly springing wire extending against the sides of the chute will prevent displacement of the torpedo held by the jaws.

What is claimed is:

1. In a railroad torpedo-placing mechanism, a torpedo holding device, means for moving said device to carry a torpedo in and out of the path of the car-wheels, a torpedo magazine adapted to feed torpedoes to said device, means normally restraining the movement of torpedoes from said magazine to said device, and means adapted to be actuated by the explosion of a torpedo carried by said device to release the last-mentioned means.

2. In a torpedo-placing mechanism, a chute adapted for containing a plurality of torpedoes, restraining means on the end of the chute for engaging with means carried by a torpedo to hold the torpedo in a position projecting from the end of the chute, a pivoted trigger having one end normally projecting into said chute to prevent movement of torpedoes toward said open end, and a lever on said trigger having one end adapted to engage against a torpedo held by said restraining means.

3. In a railroad torpedo-placing mechanism, a chute adapted for containing a plurality of torpedoes, restraining means on the end of the chute for engaging with means carried by a torpedo to hold the torpedo in a position projecting from the end of the chute, a pivoted trigger having one end normally projecting into said chute to prevent movement of torpedoes toward said open end, a lever on said trigger having one end adapted to engage against a torpedo held by said restraining means, a base, link members pivoted to said base and said chute, means normally holding said link members in an inclined position to maintain a torpedo held by said restraining means on one side of the track-rail, and means for moving said link members to a vertical position to carry a torpedo held by said restraining means over the top of the track rail.

4. In a device of the class described, a torpedo holding device, means for mounting the latter permitting movement transversely with reference to a track rail, feeding means including a spring exerting lateral pressure on the torpedoes, and retaining and releasing means carried by the holding means and operated by the explosion of a torpedo.

5. In a device of the class described, a torpedo holding device, means for mounting the latter for transverse movement with reference to a track rail and comprising a plurality of pivoted arms, a torpedo retaining and releasing device mounted on the holding device and actuated by the explosion of a torpedo for releasing another torpedo.

6. In a device of the class described, a torpedo holding device, means for mounting the latter permitting upward and outward movement with reference to a track rail, feeding means, and retaining and releasing means carried by the holding device and actuated by the explosion of a torpedo.

In testimony whereof I affix my signature.

GEORGE CARL WALSH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."