

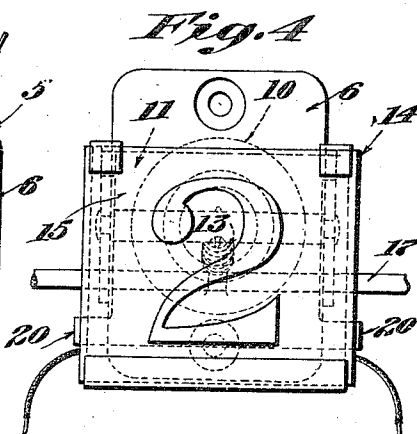
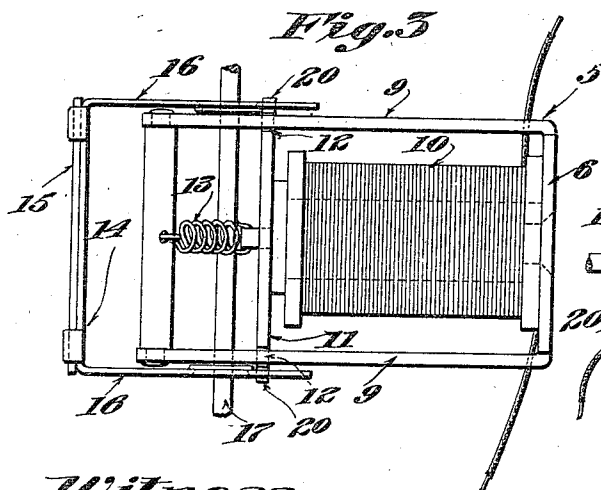
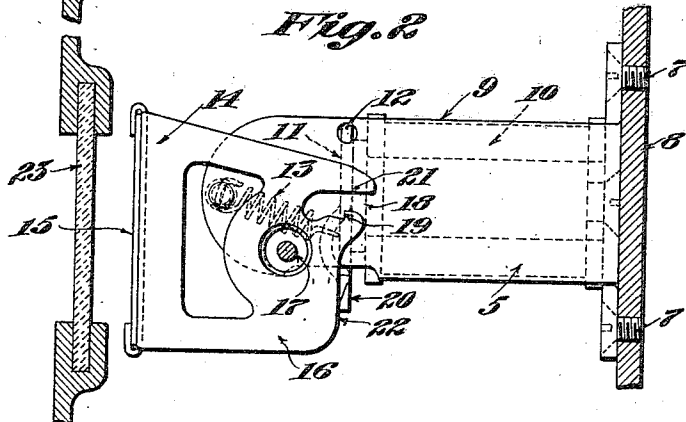
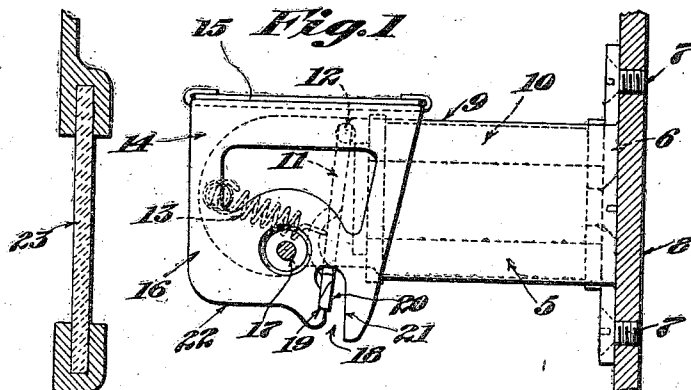
April 29, 1924.

V. DURBIN

1,491,904

ANNUNCIATOR

Filed June 30, 1919



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ANNUNCIATOR.

Application filed June 30, 1919. Serial No. 307,601.

To all whom it may concern:

Be it known that I, VERNON DURBIN, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Annunciators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in annunciators, and more particularly to annunciators which are designed primarily for use on ships.

Annunciators having the usual gravity operated drops are unsuitable for use on shipboard inasmuch as the rolling and pitching of the ship, together with the vibration of the engines, and in war ships, the shocks produced by the firing of the guns, tends to cause the drops to operate irregularly.

One of the objects of the present invention is to provide an annunciator having a drop or target which will not become accidentally released by the jarring or swaying of the apparatus.

Another object of the invention is to provide, in an annunciator, a drop or target, the face of which will be totally hidden from view when the drop is set in normal or inoperative position.

To the accomplishment of these objects, the improved annunciator of the present invention consists in the structure hereinafter described and pointed out in the appended claim.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which Figure 1 is a view, in side elevation, of the annunciator with the drop or target occupying normal or inoperative position and showing also, in section, a portion of the casing in which the annunciator is mounted; Fig. 2 is a view similar to Fig. 1, showing the drop released and in operative or announcing position; Fig. 3 is a top plan view of the device with the drop released; and Fig. 4 is a view in end elevation thereof.

As shown in the drawings, the movable or operative parts of the annunciator are supported upon a frame 5, consisting of a bent plate having an end piece 6, which is

secured by means of screws 7 to the rear of the usual casing 8, and two opposite side pieces 9, extending at right angles to the end piece 6. The frame 5 embraces an electro-magnet 10 which is secured to the end piece 6 of the frame and is provided with a light armature 11 that is pivoted at 12 in the opposite side pieces 9. The armature 11 is normally retained in the position shown in Fig. 1 by a light spring 13 but when the magnet is energized the armature is swung into the position shown in Fig. 2, elongating the spring 13. The drop or target, which is indicated at 14, consists of a plate having a middle portion 15, forming the face of the drop, and opposed end pieces 16, which are bent at right angles to the middle portion 15 and embrace the side pieces 9 of the frame 5. The drop 14 is pivotally mounted on a pin 17, which extends through the opposite end pieces 16 of the drop and through the side pieces 9 of the frame 5. Each of the end pieces 16 of the drop 14 is formed with a recess 18 at the bottom thereof and is provided with a shoulder 19 which projects from one side of the recess and is adapted to engage a projecting lug 20 upon the armature 11. The location of the pivot pin 17 is such that the drop will be maintained in stable equilibrium, irrespective of the engagement of the lugs 20 on the armature with the shoulders 19 on the drop, when the drop is set in normal or inoperative position, as indicated in Fig. 1, but if not prevented by said lugs would be easily released by vibrations or by a slight tilting of the apparatus toward the left in said figure.

When the drop 14 is set in normal or inoperative position the engagement of the lug 20 with the shoulder 19 locks and prevents any movement of the drop, even though the device is subjected to excessive vibration or the ship may roll to any extent. Immediately upon the armature being retracted toward the magnet, however, the shoulders 19 are released by the lugs 20 and before the armature 11 reaches the limit of its movement, the lugs 20 engage the sides 21 of the recesses 18 which are opposite the shoulders 19 and initiate the operative movement of the drop 14, after which the drop falls by gravity into the operative or announcing position shown in Fig. 2. The location of the pivot pin 17 may be such

that the drop will be permitted to swing into the position shown in Fig. 2, by gravity, as soon as the lugs 20 are released from the shoulders 19. In such case the engagement of the lugs 20 with the sides 21 of the recess 18 will serve to accentuate the movement of the drop and thrust it toward operative position. When in operative or announcing position, as shown in Fig. 2, the drop has moved through an arc of approximately ninety degrees and rests with the two bottom edges 22 of the end pieces 16, bearing against the lugs 20 of the armature, which are positioned as shown in Fig. 2, when the armature is closed against the electro-magnet. The weight of the drop is sufficient to hold it in operative position until reset manually, when the spring 13 throws the armature back into the position shown in Fig. 1, with the lugs 20 engaging the shoulders 19. When in this position the face of the drop is visible through a glass 23, which is inserted in the front of the annunciator casing 8. After the drop has been reset into normal position, as shown in Fig. 1, the face of the drop will be totally concealed from view.

From the foregoing description it will be apparent that a very simple and efficient means has been provided for positively operating an annunciator drop by the energization of its magnet and for preventing its operation except when the magnet is energized. Thus the jarring or swaying to which the apparatus would be subjected if installed in a ship or vehicle cannot cause accidental operation of the drop. The device may be manufactured cheaply, without the

necessity of machining operations, inasmuch as the frame 5, the armature, and the drop may all be died out of single pieces of flat stock, the frame and the drop may stamped or bent into the required shapes, and the whole readily assembled. The device, moreover, is durable and is not liable to get out of order.

While it is preferred to employ the specific construction and arrangement of parts shown and described it will be understood that this construction is not essential except so far as specified in the claims, and may be changed or modified without departing from the broader features of the invention.

The invention having been described what is claimed is:—

An annunciator having, in combination, an actuating magnet, an annunciator drop pivoted adjacent the magnet and having side plates each provided with a recessed portion having a locking shoulder and an actuating abutment, an armature for the magnet pivoted adjacent the upper portion and having the lower portion movable in the direction of length of the magnet, locking members mounted upon the armature adapted to engage with the locking shoulders upon the side plates to positively lock the annunciator drop in one position when the magnet is de-energized and to engage the actuating abutments to move the drop when the armature is retracted toward the magnet, and a spring for retaining the armature in locking position.

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