W. PIASECKY.

SHIP PROTECTOR.

APPLICATION FILED SEPT. 5, 1917.

1,257,525.

Patented Feb. 26, 1918.

FIG. 1.

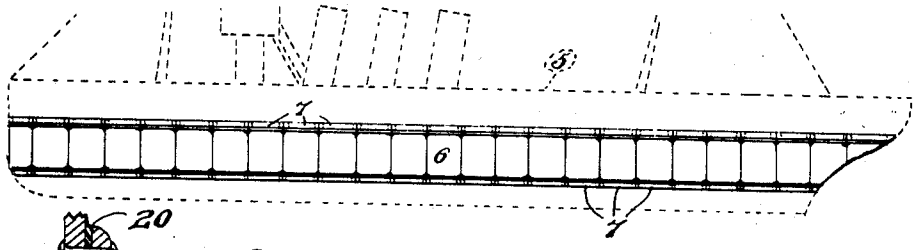


FIG. 2.

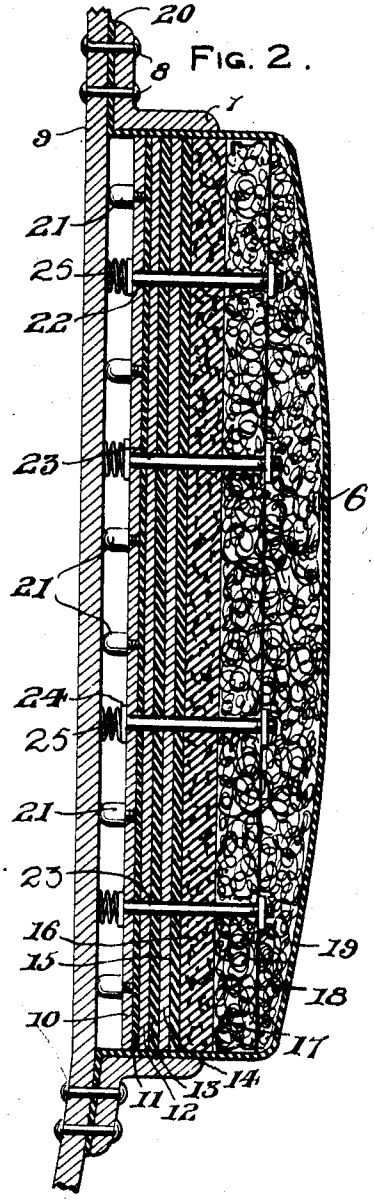


FIG. 3.

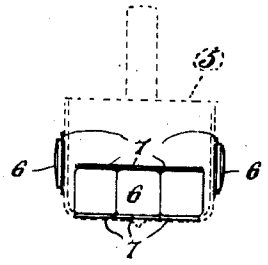
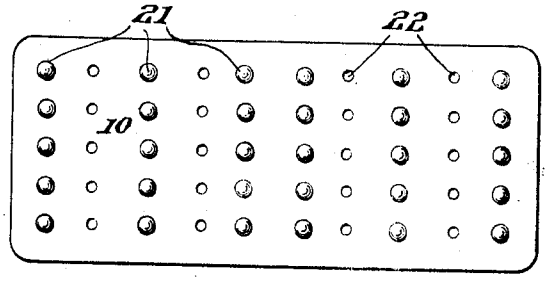


FIG. 4.



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SHIP-PROTECTOR.

1,257,525. Specification of Letters Patent. Patented Feb. 26, 1918.

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To all whom it may concern:

Be it known that I, WALTER PIASECKY, a citizen of Russia, but having declared his intention to become a citizen of the United States, residing at Cambridge, 6 Burleigh St., in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Ship-Protectors, of which the following is a specification.

This invention relates to certain new and useful improvements in ship protectors.

The primary object of the invention is to provide a protector in the form of cushion buffers arranged in series completely around the hull of the ship adjacent the water line thereof, whereby a torpedo traveling toward the ship equipped with this protector will fail in its operation by being cushioned at the time of contact with the protectors and caused to change its direction of travel. Should the torpedo upon striking the protectors be exploded, such explosion would not reach the side wall of the ship in view of the peculiar construction of the protecting buffers, the arrangement ther of being practically impenetrable, and the damage to the adjacent buffer caused by the torpedo would be comparatively slight and inexpensive to replace.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination, construction and arrangement of parts hereinafter more fully described and then claimed.

In the drawing forming a part of this application and in which like reference characters designate corresponding parts throughout the several views,

Figure 1 shows diagrammatically in dotted lines a ship provided with the present form of protecting device in operative position thereon illustrating the device as completely surrounding the hull of a ship.

Fig. 2 is a vertical sectional view through one of the protecting buffers and a portion of the ship's hull.

Fig. 3 is an end elevational view of the device shown in Fig. 1, and

Fig. 4 is an elevational view of the inner wall of the buffer removed from the ship's side.

Briefly described, the present invention aims to provide a protecting device for ships against the ravages of torpedoes and similar devices and the protective devices are in the form of buffers arranged in juxtaposition completely surrounding the ship's hull above and below the water line thereof. Each buffer consists of a plurality of metal plates such as steel alternately arranged with leather and lead sheets with the outer portion thereof comprising, preferably in the order named, relatively thick layers of cork, hemp and cotton, while a flexible covering, such as rubber incloses the same, there being provided retaining angle plates for securing the buffers in proper position.

Referring more in detail to the accompanying drawing the reference numeral 5 designates in general a ship having arranged in juxtaposition about the water line thereof a series of independently constructed buffers 6 retained in position thereon by the angle bars 7 having bolts 8 passing through one leg thereof and through the adjacent portion of the side wall 9 of the ship's hull.

Each buffer comprises in detail, as is more clearly shown in Fig. 2 a series of plates preferably arranged in the order named, the inner plate 10 being of steel, the adjacent plate 11 being rubber, and in this order including a steel plate 12, a leather plate 13 while the next plate 14 is of lead with an outer plate 15 of leather. A relatively thick layer of cork 16 is superposed on the outer leather layer 15 while in the order named are superposed layers of hemp 17 and compressed cotton 18. As shown in Fig. 2 a flexible covering 19 as rubber completely incloses the buffer 6 and lies in contact with the outer layer 18 of cotton while the inner ends 20 thereof are clamped between the adjacent portions of the ship's side 9 and the angle bars 7, it being noted that the portion of the covering 19 adjacent the bars 7 is in substantially frictional contact therewith.

In order further to cushion the buffer 6 there are provided resilient members arranged between the inner steel plate 10 and the outer face of the ship's side 9, these devices being more clearly shown in Figs. 2 and 4 and comprising rows of rubber buffers 21 having threaded plugs received in the plate 10 while the metal and leather plates have registering openings 22 therein for the reception of bolts 23 having their heads 24 positioned exteriorly of the plate 10 while the inner threaded ends thereof are provided with retaining means whereby the several metal and leather plates, and cork and hemp layers are retained in proper relative posi-

tions. Compression springs 25 are arranged between the heads 24 of the bolts and the adjacent portions of the ship's side, any suitable means being employed for retaining the springs in proper position.

From this detail description of the invention it is thought that the construction and operation thereof will be readily apparent, it being noted that a torpedo striking the buffer will compress the buffer and will be cushioned in the stoppage thereof with the possibility that the torpedo will fail to explode, and even should the torpedo explode the same will occur at a point so spaced from the ship as to cause no damage thereto.

While I have shown and described the preferable embodiment of the invention, it will be understood that minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:—

1. A ship protector embodying a plurality of juxtapositioned buffers, each including in the order named steel, leather, steel, leather, lead, and leather plates, superposed layers in the order named of cork, hemp, and cotton, a rubber covering inclosing said buffer and having the inner edges thereof lying adjacent the side wall of the ship, angle bars having one leg engaging the adjacent edge of the buffer and the other leg superposed on the rubber covering, fastening means passing through the last named leg and ship's side, a series of rows of rubber buffers carried by the inner steel plate in engagement with the outer face of the ship's side, bolts extending through the plates and layers, and a cushioned spring arranged between the inner face of the bolts and the outer face of the ship.

2. A ship protector embodying a plurality of juxtapositioned buffers, each including a series of alternately positioned metal and leather plates, cork, hemp and cotton layers superposed on said plates, a flexible covering for the buffer and means engaging said covering adapted for securing the same to the side of the ship.

3. A ship protector embodying a plurality of juxtapositioned buffers, each including a series of alternately positioned metal and leather plates, cork, hemp, and cotton layers superposed on said plates, a flexible covering for the buffer and means engaging said covering adapted for securing the same to the side of the ship, and rubber blocks arranged between the outer side of the ship's hull and the inner face of the buffer.

4. A ship protector embodying a plurality of juxtapositioned buffers, each including a series of alternately positioned metal and leather plates, cork, hemp and cotton layers superposed on said plates, a flexible covering for the buffer and means engaging said covering adapted for securing the same to the side of the ship, and compression springs arranged between the outer side of the ship's hull and the inner face of the buffer.

5. A ship protector embodying a plurality of juxtapositioned buffers, each including a series of alternately positioned metal and leather plates, cork, hemp and cotton layers superposed on said plates, a flexible covering for the buffer and means engaging said covering adapted for securing the same to the side of the ship, and rubber blocks arranged between the outer side of the ship's hull and the inner face of the buffer, and springs arranged between the outer side of the ship's hull and the inner face of the buffer.

6. A ship-protector including a plurality of buffers intimately assembled in position upon, and encompassing the ship's hull adjacent the water-line, each buffer comprising a plurality of alternating metal and leather plates, layers of cork, hemp and cotton superposed with respect to said plates, a flexible covering for the buffer, means for the attachment of said covering to the ship's hull, resilient members interposed between and spacing the metal plate and the ship's hull, and bolts securing said plates of metal and leather and layers of cotton, hemp and cork together, and positioned in alinement with certain of said resilient members.

In testimony whereof I affix my signature.

WALTER PIASECKY.