April 16, 1946. R. W. McCARTER 2,398,753

TORPEDO PROTECTOR FOR SHIPS

Filed July 16, 1942 2 Sheets-Sheet 1

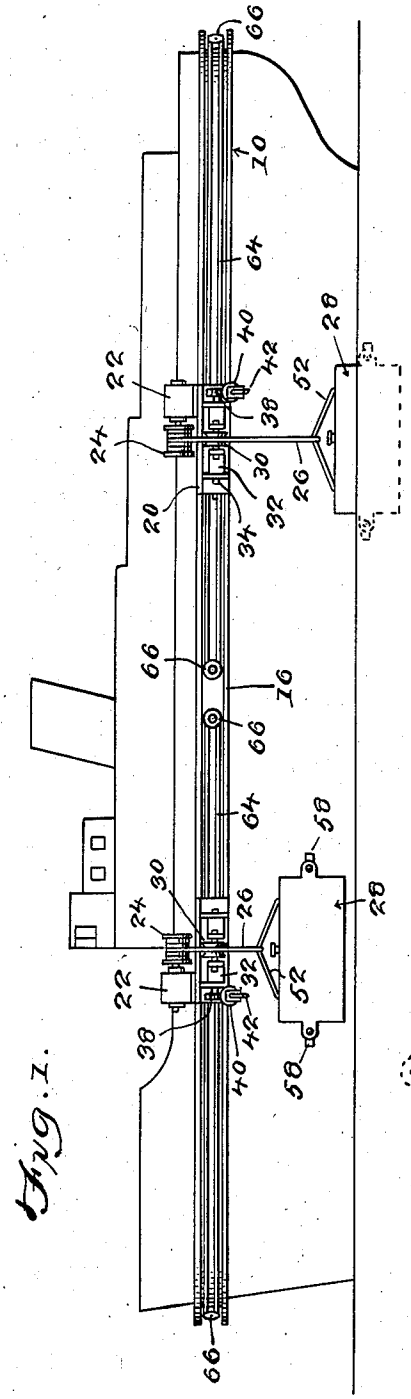


Fig. 1.

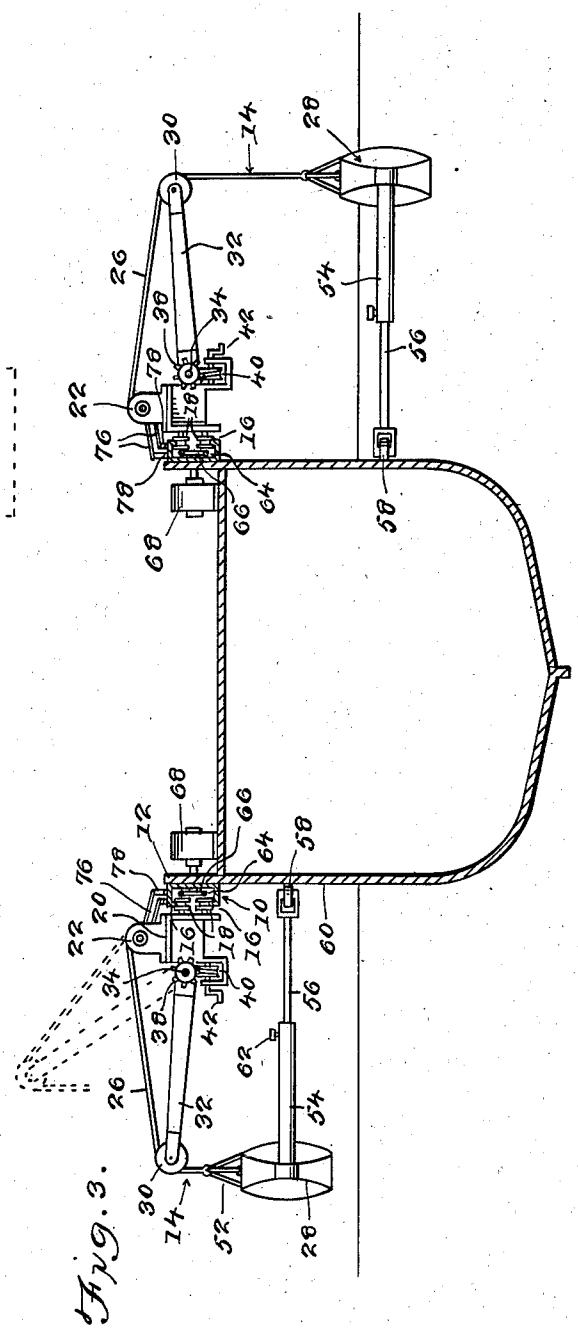


Fig. 3.

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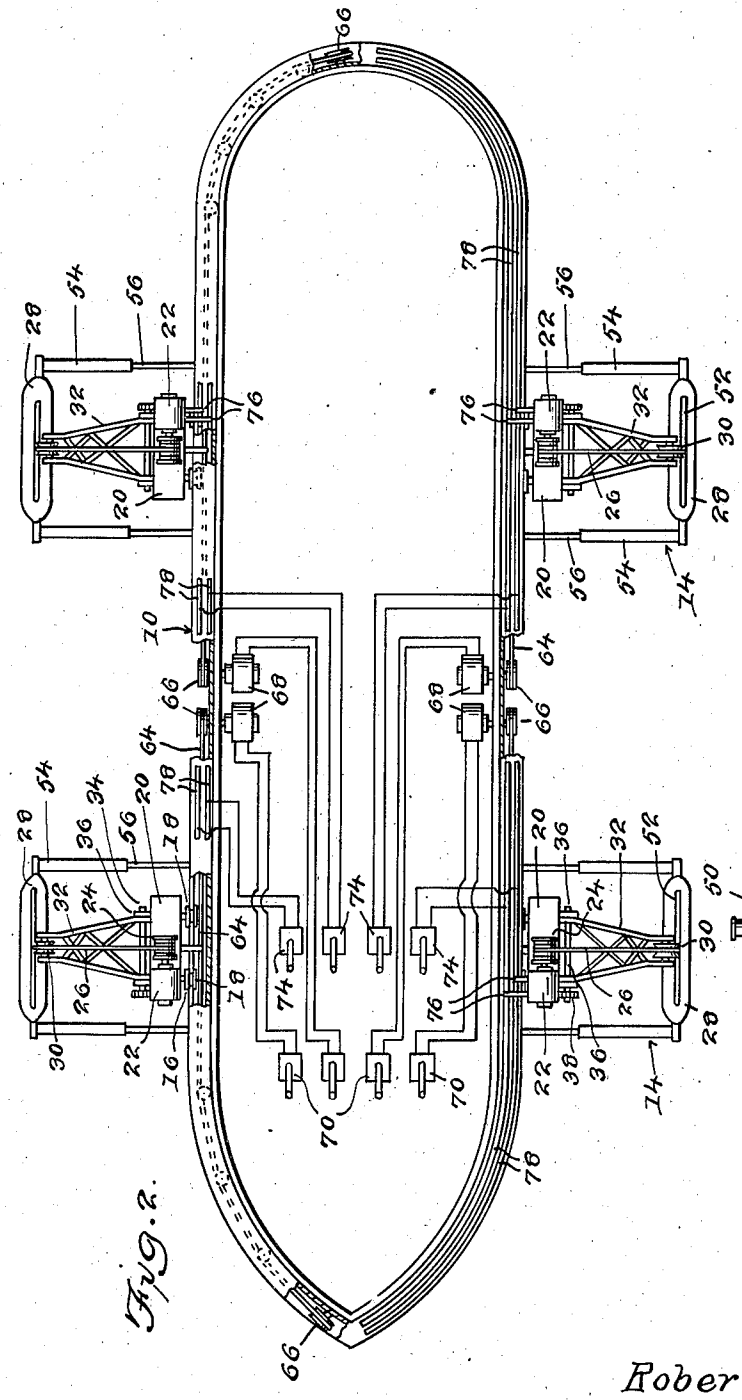


Fig. 2.

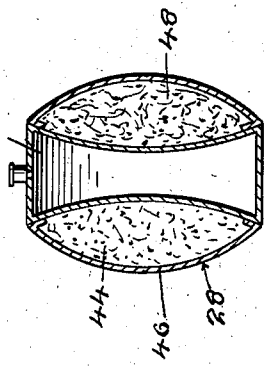


Fig. 4.

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TORPEDO PROTECTOR FOR SHIPS

Robert W. McCarter, Pittsburgh, Pa.

Application July 16, 1942, Serial No. 451,171

3 Claims. (Cl. 114—240)

My invention relates to ships, and has among its objects and advantages the provision of an improved torpedo protector.

In the accompanying drawings:

Figure 1 is a side elevational view of a ship illustrating my invention applied thereto;

Figure 2 is a top plan view;

Figure 3 is a transverse sectional view; and

Figure 4 is a sectional view of a torpedo exploder.

In the embodiment of the invention selected for illustration, I make use of a track 10 attached to the rail structure 12 of the ship and extending completely thereabout. This track supports four torpedo exploding devices 14 projecting laterally from the vessel. Two of the devices are located forwardly of the beam line of the ship and on opposite sides thereof, while the remaining two are located on opposite sides of the ship rearwardly of the beam line. Each of the devices located forwardly of the beam line is movable back and forth along the track from the beam line to a position substantially forwardly of the ship. The two stern devices are movable back and forth along the track from the beam line to positions substantially astern the ship. All the devices 14 are identical in construction and operation so that the description of one will apply to all.

In Figure 3 the track 10 is channel shaped in cross section and provided with flanges 16 for supporting flanged wheels 18 mounted on a carriage 20. This carriage supports a motor 22 to which a spool 24 is operatively connected for raising and lowering a cable 26 to the lower end of which is connected a body 28 to be positioned in the path of the torpedo for exploding the same.

One end of the line 26 is connected with the spool 24 and passes around a grooved wheel 30 at the outer end of a boom 32 having its inner end attached to a shaft 34 rotatably supported in bearings 36 on the carriage 20. A gear 38 is attached to the shaft 34 and meshes with a worm 40 which may be rotated through the medium of a crank 42 for raising and lowering the boom.

Figure 4 illustrates the body 28 as comprising an outer chamber 44 having a convexed wall 46 to be engaged by the torpedo and filled with material such as sand, filings or the like. Chamber 44 is separated from a similar rear chamber 48 by a cushioning chamber 50 supplied with air under pressure. A bail 52 on the body 28 is connected with the lower end of the line 26. The shell structure of the body 28 may comprise sheet metal.

To each of the bodies 28 are fixedly secured two tubes 54 having rods 56 slidable therein and provided with wheels 58 rotatable about vertical axes and engaging the hull 60 of the ship. The rods 56 may be adjusted to different positions and fixedly secured to the respective tubes by setscrews 62.

Each carriage 20 is attached to one endless cable 64 passing around two groove wheels 66 located within the channel-like contour of the track 10. An electric motor 68 is provided for each carriage 20, the motor being connected with one wheel 66 to drive the cable 64 connected with that carriage. All the motors 22 and 68 are of reversible type. Each motor 68 is provided with a control switch 70. Each motor 22 is also provided with a control switch 74. These switches may be grouped for ready accessibility by an operator located at an advantageous position on the ship. Each motor 20 is provided with two contacts 76 respectively slidably engaging contacts 78 mounted on the track 10, there being two contacts 78 for each motor 20.

In operation, the booms 32 may be adjusted to various positions through manipulation of their respective cranks 42. For bomb guarding purposes, it is preferred that the booms 32 project substantially horizontally from the ship. The bodies 28 are individually controllable through manipulation of the switches 74. These switches are electrically connected with the contacts 78 so that the motors 22 may be controlled in the various positions of their respective carriages 20 along the track 10. Thus the bodies 28 may be raised and lowered to all necessary vertical positions and shifted longitudinally of the ship to bring the bodies into the path of approaching torpedoes for exploding the latter before contacting the ship.

While I have illustrated the perfected form of my invention, it is to be understood that the foregoing description is for illustrative purposes only, and I do not desire to be limited by any of the details shown or described, except as defined in the appended claims.

I claim:

1. In a ship, the combination of a track extending horizontally along the sides of the hull of the ship, carriages movably guided on said track, torpedo contacting bodies, boom means on the carriages supporting said bodies outwardly from the hull of the ship, cables running over the booms and connected with the torpedo contacting bodies, reversible motors with spools carrying the cables for raising and lowering said

bodies, cables connected with the carriages, reversible motors with pulleys over which said latter cables operate to move said carriages to various positions about the hull of the ship, and control switches for all of said reversible motors.

2. In a ship, the combination of a track extending horizontally along the sides of the hull of the ship, carriages movably guided on said track, torpedo contacting bodies, means for holding said bodies in spaced relation to the ship, boom means on the carriages supporting said bodies outwardly from the hull of the ship, cables running over the booms and connected with the torpedo contacting bodies, reversible motors with spools carrying the cables for raising and lowering said bodies, cables connected with the carriages, reversible motors with pulleys over which said latter cables operate to move said carriages to various positions about the hull of the ship, and control switches for all of said reversible motors.

3. In a ship, the combination of a track extending horizontally along the sides of the hull of the ship, carriages movably guided on said track, torpedo contacting bodies, adjustable rigid means for holding said bodies in spaced relation with the sides of the ship, boom means on the carriages supporting said bodies outwardly from the hull of the ship, cables running over the booms and connected with the torpedo contacting bodies, reversible motors with spools carrying the cables for raising and lowering said bodies, cables connected with the carriages, reversible motors with pulleys over which said latter cables operate to move said carriages to various positions about the hull of the ship, and control switches for all of said reversible motors.

ROBERT W. McCARTER.