Jan. 31, 1967 M. I. GLASS ETAL 3,300,894

SELF-PROPELLED TOY BOAT

Filed Feb. 14, 1964 5 Sheets-Sheet 1

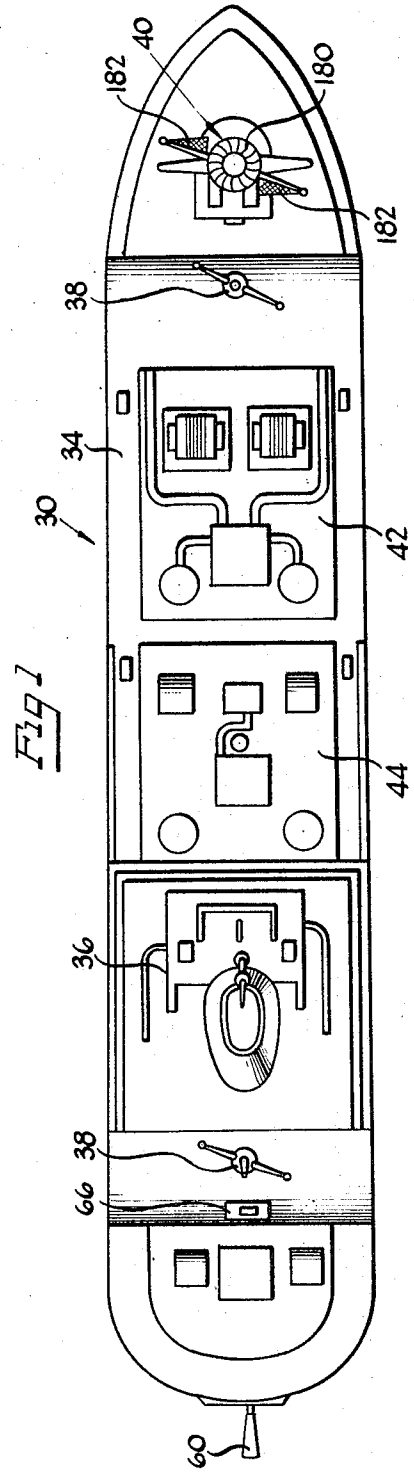

Fig 1

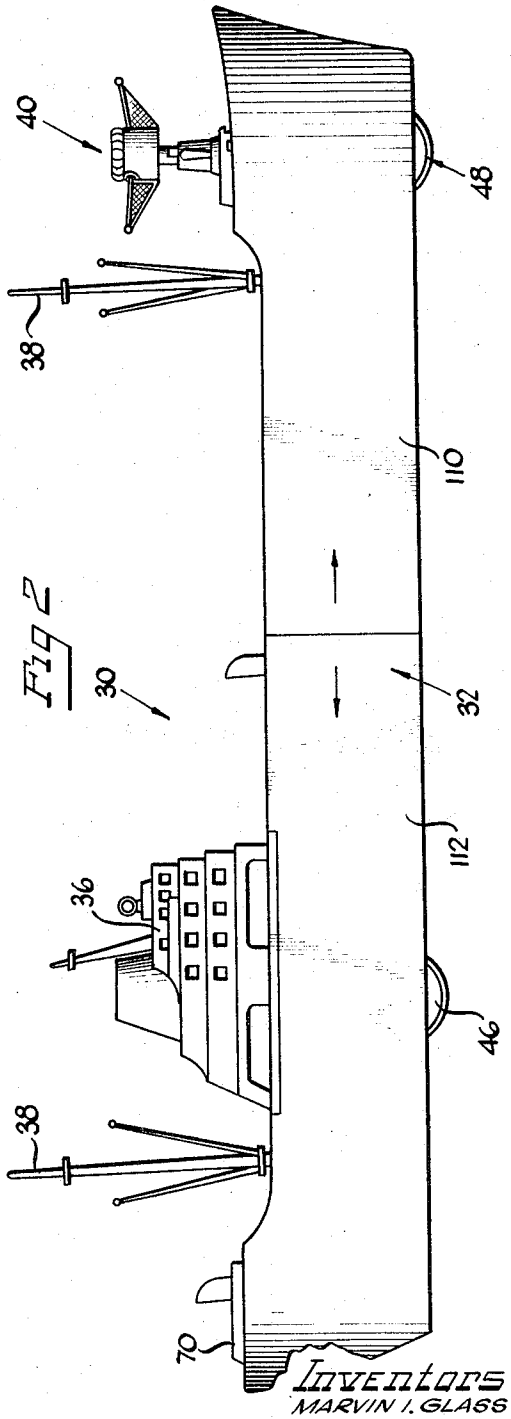

Fig 2

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Attys

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SELF-PROPELLED TOY BOAT

Filed Feb. 14, 1964 5 Sheets-Sheet 2

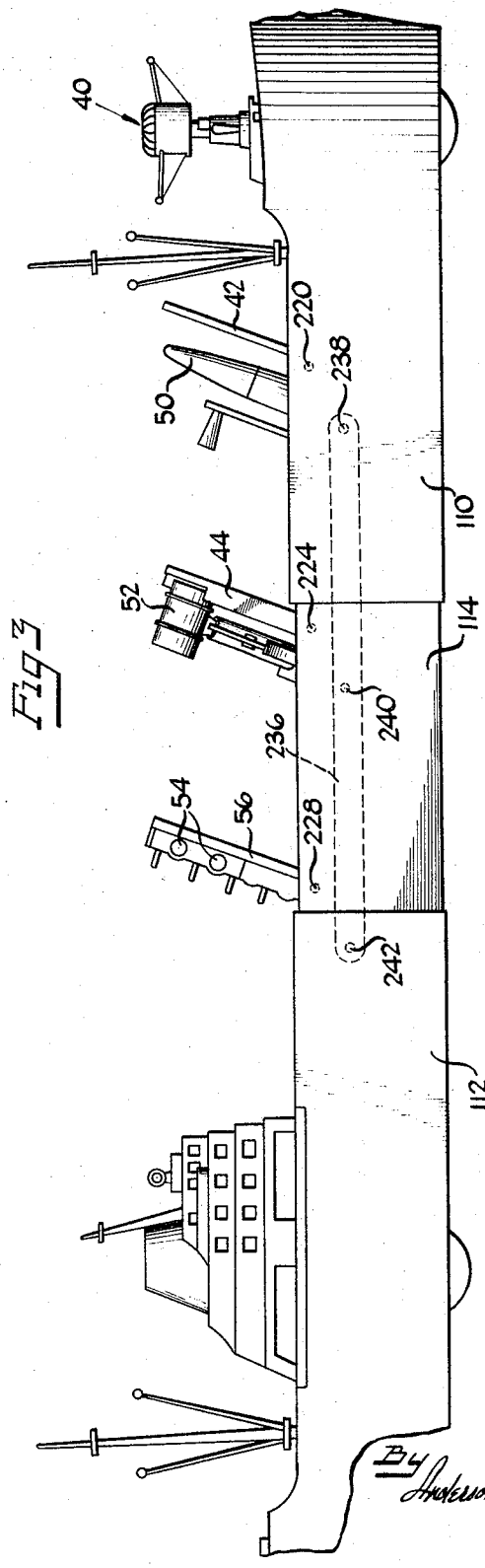

Fig 3

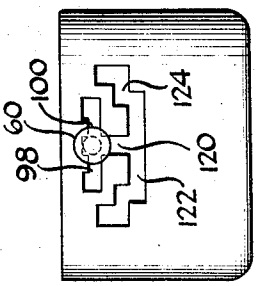

Fig 4

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SELF-PROPELLED TOY BOAT

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Fig 5

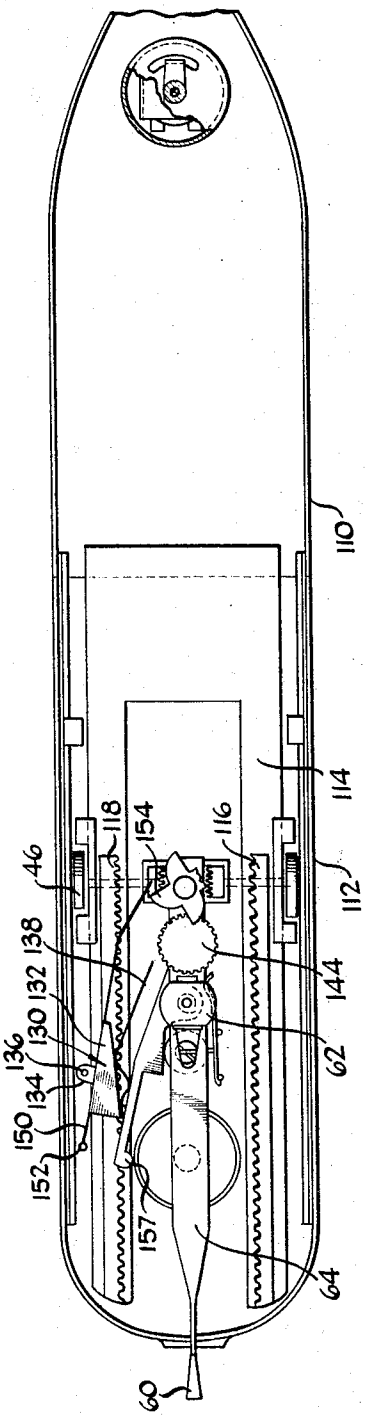
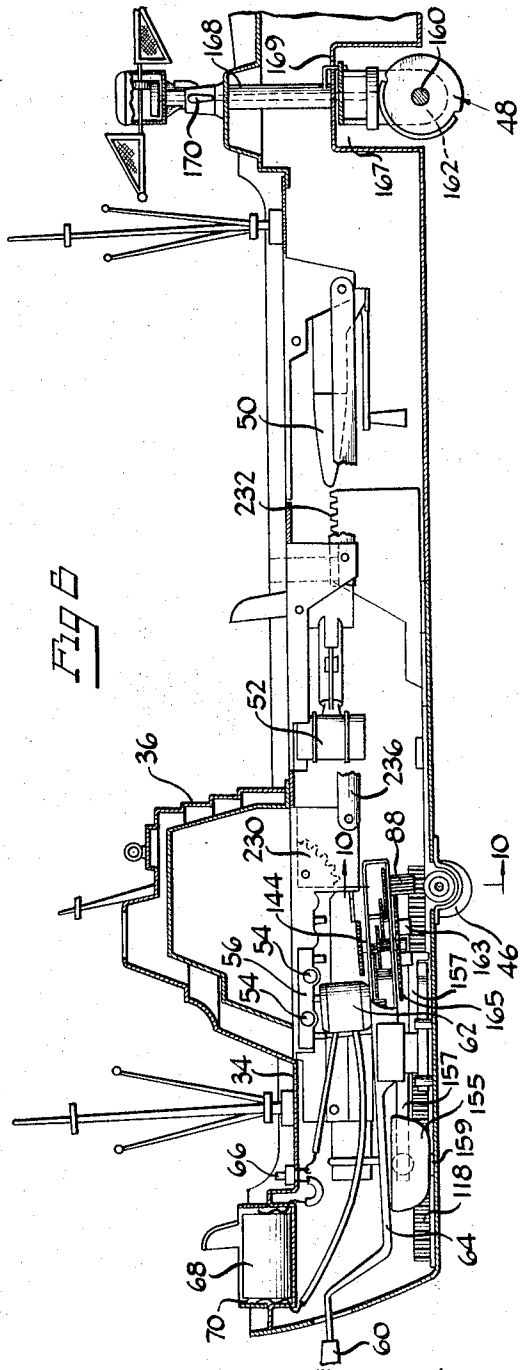


Fig 6



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SELF-PROPELLED TOY BOAT

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Fig 7

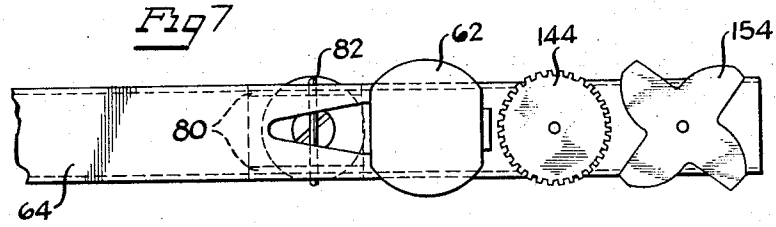


Fig 8

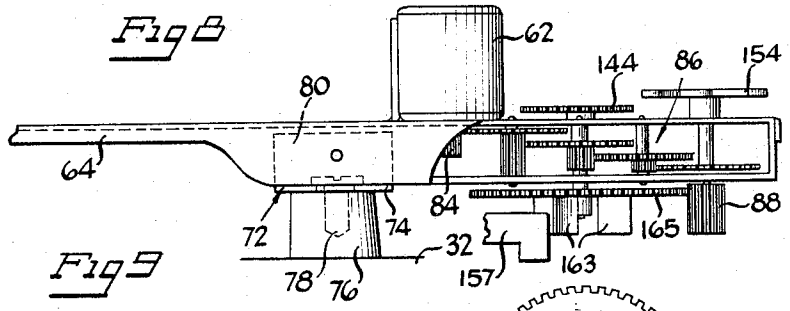


Fig 9

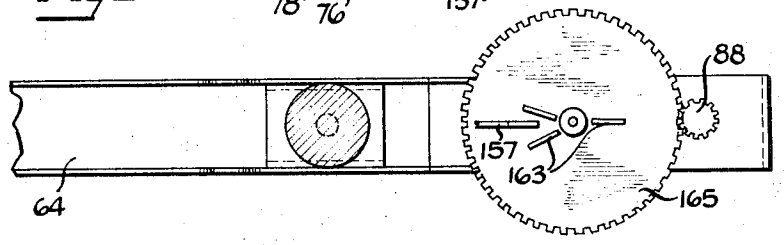


Fig 11

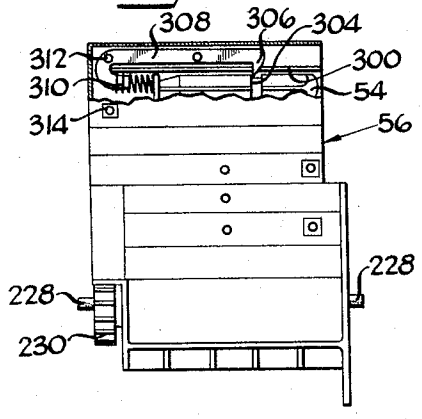
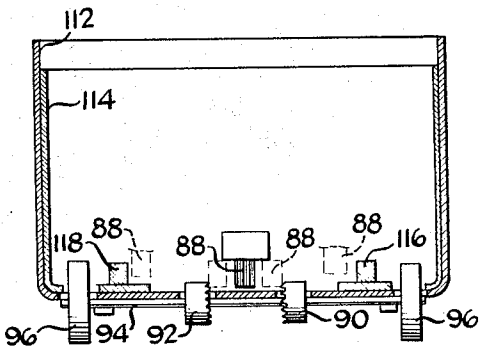


Fig 10



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SELF-PROPELLED TOY BOAT

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Fig 17

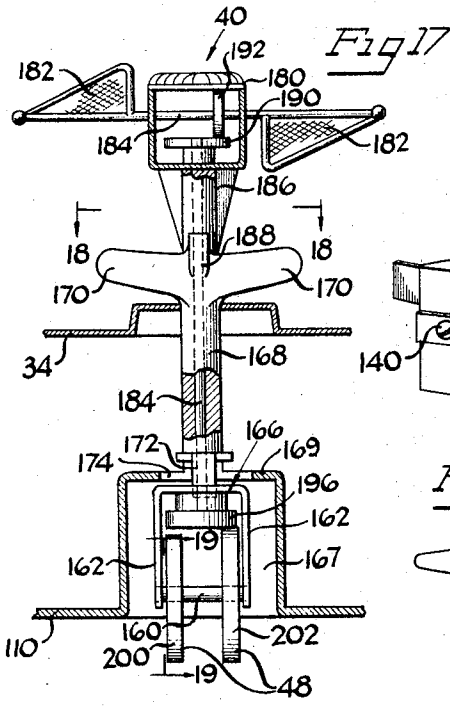
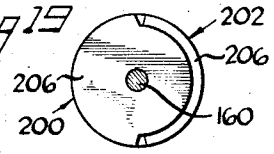


Fig 19



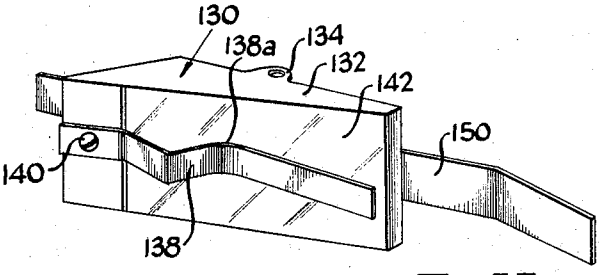


Fig 18

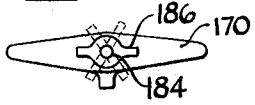


Fig 20

Fig 13

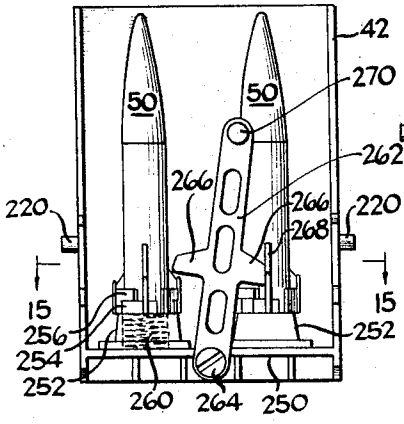


Fig 14

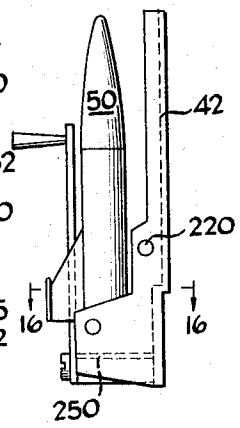


Fig 12

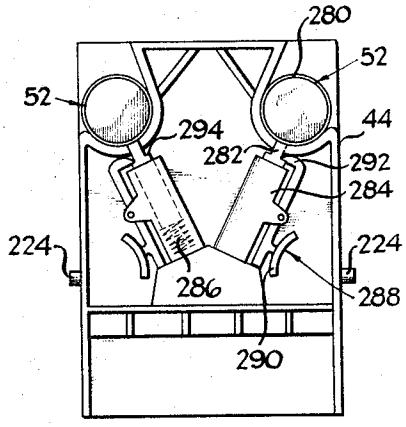


Fig 15

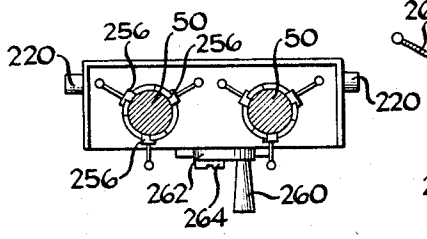
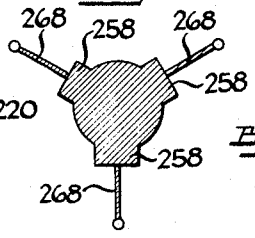


Fig 16



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3,300,894

SELF-PROPELLED TOY BOAT

Marvin I. Glass, Chicago, Harry Disko, Park Ridge, and Henry Stan, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Feb. 14, 1964, Ser. No. 344,936
7 Claims. (Cl. 46—244)

This invention relates to a toy and, more particularly, to a self-propelled toy boat.

The primary object of this invention is to provide a new and amusing toy. Another object is to provide a new and amusing self-propelled toy which is adapted to change its shape and appearance.

A still further object is provision of a new and amusing toy boat which is operable to increase and decrease its length along with opening and closing of hatches so as to be selectively changed in appearance. A related object is provision of such a toy boat wherein opening of the hatches exposes toy armament which rises above the deck in position for operation and firing. Another object is provision of a new and amusing toy boat of the type just described, having a toy radar antenna operable in a scanning manner.

A more specific object is provision of a new and amusing toy boat which is operable to propel itself across a supporting surface along with scanning movement of a toy antenna and may be operated to increase or decrease its length along with operation of normally closed hatches which open to expose toy armament.

Another object is provision of a new and amusing articulated toy radar antenna operable in a scanning manner.

These and other objects of the invention are more particularly set forth in the following detailed description and in the accompanying drawings of which:

FIGURE 1 is a plan view of a preferred embodiment of the invention in the form of a toy boat in a compact position;

FIGURE 2 is a fragmentary right side view of the toy boat in the compact position;

FIGURE 3 is a fragmentary right side view of the toy boat, similar to FIGURE 2, but with the boat in an expanded position and hatches open to expose toy armament;

FIGURE 4 is a stern view of the boat illustrating a control lever assembly;

FIGURE 5 is a fragmentary plan view of the boat in the compact position, with parts broken away and in section to illustrate a noisemaker and drive mechanism for operating the boat;

FIGURE 6 is a fragmentary side view of the boat in the compact position, with parts broken away and in section to further illustrate the drive mechanism and the armament;

FIGURE 7 is an enlarged, fragmentary plan view of a portion of the drive mechanism removed from the boat;

FIGURE 8 is a right side view of the drive mechanism shown in FIGURE 7;

FIGURE 9 is a bottom view of the drive mechanism shown in FIGURE 7;

FIGURE 10 is a vertical sectional view taken generally along the line **10**—**10** in FIGURE 6;

FIGURE 11 is an enlarged view of a torpedo armament mount, with parts broken away for clearer illustration;

FIGURE 12 is an enlarged view of a rear hatch incorporating a depth charge armament mount;

FIGURE 13 is an enlarged view of a forward hatch incorporating a rocket armament mount;

FIGURE 14 is a side view of the structure shown in FIGURE 13;

FIGURE 15 is a sectional view taken generally along the line **15**—**15** in FIGURE 13;

FIGURE 16 is a traverse sectional view of a toy rocket taken generally along the line **16**—**16** in FIGURE 14;

FIGURE 17 is an enlarged, fragmentary view of a bow portion of the boat, with parts broken away and removed for illustrating an antenna and guiding assembly;

FIGURE 18 is a sectional view taken generally along the line **18**—**18** in FIGURE 17;

FIGURE 19 is a vertical sectional view taken generally along the line **19**—**19** in FIGURE 17; and

FIGURE 20 is an enlarged, perspective view of the noisemaker removed from the boat.

The invention is, in brief, directed to a toy boat having the general appearance of a freighter. The boat is self-propelled for running across a suitable supporting surface such as a floor, and is provided with a toy radar antenna articulated for movement in a scanning manner as the boat moves across the surface. The length of the boat may be increased or decreased between compact and expanded positions along with operation of hatches which open to expose toy articles and more particularly, various types of armament in operative position for firing. Means is provided for individually firing the armament. The boat may be operated to propel itself forwardly or rearwardly and to move between compact and expanded positions of the hull upon manual operation of a control lever on the boat.

As shown in FIGURES 1 and 2 of the drawings, a boat **30** is illustrated in the form of a freighter having a hull **32** enclosed by a deck **34** which carries appropriate superstructure **36** such as a cabin and stack, and fore and aft hoist masts **38**, as well as a radar antenna assembly **40** at the bow of the boat. A forward hatch **42** and an aft hatch **44** are provided in the deck **34** for operation between closed positions, as shown best in FIGURES 1 and 6, and open positions, as shown in FIGURE 3. The hull **32** carries a pair of rear driving wheels **46** and a front guiding wheel assembly **48** (FIGURES 6 and 17), so that the boat may be self-propelled and guided across a suitable supporting surface such as a floor. As shown in FIGURE 1, suitable ornamentation such as cargo may be provided on the top of the closed hatches, and the hull, deck and all superstructure is preferably a suitable plastic material so that any desired degree of detail may be provided in the outward appearance of the toy boat.

As shown in FIGURES 1, 2, 5 and 6, the hull **32** is in a compact position from which it may be operated to an expanded position for increasing the overall length of the hull, as shown in FIGURE 3. As the hull moves to its expanded position, the hatches **42** and **44** moves from their closed position to their open position to expose toy articles, herein various toy armament (FIGURE 3) such as rockets **50** (FIGURES 13–16) normally concealed below the closed forward hatch **42**, depth charges **52** (FIGURE 12) normally concealed below the closed aft hatch **44**, and torpedoes **54** in a torpedo rack or mount **56** normally concealed below the superstructure **36** in compact position of the hull **32**. In the illustrated embodiment, each of the rockets **50**, depth charges **52** and torpedoes **54** may be fired independently of each other.

Drive means for moving the boat **30** forwardly and rearwardly, and for operating the hull **32** between its compact and expanded positions includes a manually operable control knob **60** (FIGURES 1, 4 and 6) extending rearwardly from the stern of the boat, as will be more fully described, so that by manipulating the control knob **60** a child may operate the boat.

More particularly, with reference to FIGURES 5–10, the drive means for moving the boat either forwardly or rearwardly is provided herein in the form of an electric motor **62** mounted on a base in the form of a lever **64**

terminating at its rear end in the control knob **60**. The motor is connected through a suitable on-off switch **66**, easily accessible on the deck **34**, with battery means **68** concealed within a suitable housing **70** on the deck. The lever **64** is mounted on the hull **32** by means of a universal connection **72**. Herein the connection **72** includes a U-shaped bracket **74** having its bight pivoted to an upwardly extending boss **76** of the hull by means of a vertical bolt **78** extending downwardly through a hole in the bight and threadedly received in the boss. Opposed legs **80** of the bracket extend upwardly from its bight and are pivoted between depending side walls of the lever **64** by means of a horizontal pivot pin **82** so that the lever may be pivoted up and down about the pivot pin **82** and swung from side to side about the pivot bolt **78**.

With particular reference to FIGURES 8 and 10, the motor **62** has a motor shaft which carries a depending motor pinion **84** drivingly engaged with a gear train **86** carried by the forward part of a lever **64** ahead of its coupling **72**. The gear train drives a driving pinion **88** depending from the front end of the lever **64** in position to engage either of a pair of opposed radial gears **90** or **92** (FIGURE 10) fixedly mounted on an axle shaft **94**. The axle shaft is journaled on the hull **32** and carries a pair of small driving wheels **96**, one depending from either side of the hull in position to rest on the supporting surface.

When the boat **30** is stationary on the supporting surface, the control knob **60** is in a neutral position (FIGURE 4) so that the driving pinion **88** is in the position as shown in FIGURE 10. Upon moving the control knob **60** horizontally to the left so that the lever moves through a horizontal slot **98** in the stern of the boat (FIGURE 4), the driving pinion **88** is moved into engagement with the radial gear **90** (FIGURE 10) to rotate the driving wheels **96** for moving the boat in a forward direction. A small notch extends upwardly from the outer end of the slot **98** for holding the rear end of the lever **64** in forward position. Upon moving the control knob **60** to the right so that the lever **64** moves through a horizontal slot **100** in the stern of the boat the rear end of the lever **64** is held in an upwardly extending notch in the outer end of the slot **100** and the driving pinion **88** is moved into engagement with the radial gear **92** for reversing the direction of rotation of the driving wheels **96** and thus moving the boat in a rearward direction.

The hull **32** includes a front or bow section **110** and a rear or stern section **112** telescopically associated by means of an inner portion **114** of the front section **110** which telescopes rearwardly into the rear hull section **112**. The inner portion **114** is generally U-shaped when viewed in plan (FIGURE 5), so as to clear the lever **64** and associated drive mechanism within the rear hull section **112**. The inner portion **114** carries a pair of opposed racks, **116** and **118**, one on either side of the hull, as may best be seen in FIGURE 10. In order to lengthen the hull from its compact position (FIGURES 1, 2, 5 and 6) to the extended position (FIGURE 3), the control knob **60** is depressed from its neutral position (FIGURE 4), so that the rear end of the lever **64** passes through a vertical slot **120** in the stern of the hull **32** whereupon the knob **60** may be moved to the right through an upwardly stepped notch **124**, thereby moving the driving pinion **88** from the position shown by solid lines in FIGURE 10 through a path wherein the pinion **88** is first lifted and then moved to the right to clear the radial gear **90**, and then as the rear end of the lever **64** moves through the upwardly stepped portion of the notch **124** the driving pinion **88** is lowered and moved further to the right and into engagement with the teeth on the rack **116**, thus driving this rack forwardly to move the forward section **110** of the hull forwardly and away from the rear hull section **112**. To close the hull, the control knob **60** is moved through a left hand stepped notch **122**, generally similar to the notch **124**, so that the driving pinion **88** moves from its neutral position over the radial gear **92** and into engagement with the rack **118**, thus driving the rack **118** rearwardly to move the front section **110** of the hull rearwardly against the rear hull section **112**, with the hull **32** in its compact position.

Noisemaker means for providing a cyclic fluctuating or intermittent sound of heavy machinery laboring is also provided and herein includes a noisemaker device **130** (FIGURES 5 and 20). The noisemaker **130** includes a hollow sounding box body **132** having a pair of upper and lower opposed ears **134** receiving a vertical pivot pin **136** extending upwardly from the rear hull section **112** and pivotally mounting the noisemaker sounding box on the hull. A resilient reed **138** is fixedly secured, as by a screw **140**, to a rear end of the sounding box **132** and extends forwardly therefrom to provide a bent portion **138***a* for engagement with a piece of fish paper **142** stretched across an opening in a vertical face of the sounding box. A front end of the reed **138** is positioned to be resiliently urged into engagement with serrations on the peripheral edge of a wheel **144** (FIGURES 5–8) when the boat hull is opening and lever **60** has been moved into slot **124** (FIGURE 4) to move gear or wheel **144** to the left and toward the end of reed **138**. Gear **144** is drivingly connected with the gear train **86** for rotation in a horizontal plane and its rotation when engaging the end of reed **138** causes the latter to vibrate against the fish paper **142**. In order to provide an intermittent sound, a leaf spring **150** is secured to a vertical face of the sounding box **132** opposite the fish paper **142**. The leaf spring **150** extends rearwardly from the sounding box **132** into engagement with an anchor pin **152** extending upwardly from the rear hull section **112**. A forward end of the leaf spring **150** is positioned to be engaged and flipped by a four prong cam **154** (FIGURES 5, 7 and 8) drivingly connected with the gear train **86** so that the sounding box **132** is intermittently pivoted about the axis of vertical pivot pin **136** whereupon the sounding reed **138** moves into and out of engagement with gear **144** and, therefore, intermittently vibrates against the fish paper **142** to provide a cyclic surging sound of heavy machinery.

Additional sounding mechanism is provided in the form of a bell **155** (FIGURES 5–6) which is engageable by a clapper **157** to simulate a ship's bell during periods of the ship's operation, other than during the operation of noisemaker **130**. The bell is supported on a post **159** extending upwardly from the bottom of the hull, and the clapper **157** is pivotally mounted intermediate its ends on a second post **161** also fixed to the bottom of the ship. One enlarged end of the clapper is positioned to strike the bell, and the other free end is positioned for engagement by any of the three pins or paddles **163** fixed on the underside of a gear **165** which is rotatably supported in meshing engagement with the driving pinion **88** (FIGURES 8–9). When the lever **64** is positioned to drive the boat, or is in the neutral position **120** (FIGURE 4), the motor driven pinion **88** will rotate gear **165** and cause fins **163** to operate clapper **157** and ring the bell. When the lever **64** is moved to the left or to the right (positions **122** or **124** in FIGURE 4), the fins **163** are out of position to strike the end of the clapper.

Means for guiding the boat is provided as may best be seen in FIGURES 5, 6, 17 and 18, and herein includes the wheel means **48** at the bow of the boat. This wheel means is fixedly mounted on a horizontal shaft **160** journalled at opposite ends in depending legs **162** of a fork **166** received in a cavity **167** of the forward hull section **110**. The fork has an upwardly extending stem **168** journalled in an upper wall **169** of the cavity and the deck **34**. The upper end of the stem **168** has arms **170** extending outwardly therefrom in opposite directions for turning the fork and thereby guiding the boat in a desired path. Herein the stem **168** is provided with an outwardly extending finger **172** received in a short arcuate slot **174** in the cavity upper wall **169** for limiting the amount the

fork can be turned so that the wheel means 48 will always be headed in a generally forwardly direction.

In order to increase interest in the toy, the bow of the boat is provided with the articulated toy radar antenna assembly 40 which moves in a manner of scanning the sky. Herein, the antenna assembly includes a head 180 surmounted on a base, and more particularly, mounted on the upper end of the fork stem 168 for free pivotal movement about a vertical axis. A pair of antennas 182 are mounted on a common horizontal shaft 184 journaled in the head 180 and extending outwardly from the head in opposite directions. Scanning movement of the antenna assembly is herein provided by oscillating both the head 180 and the antennas 182 about their respective axes. More particularly, a drive shaft 184 extends freely upwardly through the fork stem 168 and snugly through a depending stem 186 of the head 180 so that as the drive shaft 184 rotates, the head 180 rotates with it. Means for limiting rotation of the head is provided by a finger 188 depending from a lower end of the head stem 186 in position to engage either of the arms 170 extending outwardly from the upper end of the fork stem 168. Upon the head finger 188 engaging either of the fork arms 170, rotation of the head 180 is stopped while the drive shaft 184 may continue to rotate. Such continued rotation of the drive shaft 184 causes a disk 190 concentric with and fixed to the upper end of the drive shaft 184 to rotate a second disk 192 concentric with and fixed to the antenna shaft 184 so that the antenna shaft and its antennas 182 are rotated. Oscillation of the head 180 and the antennas 182 is provided through oscillation of the drive shaft 184 resulting in the head 180 being rotated between stopped positions with its depending fingers 188 engaging one or the other of the fork arms 170 whereupon the antennas 182 are rotated until rotation of the drive shaft 184 is reversed. Upon reversing rotation of the drive shaft, rotation of the antennas 182 stops and the antenna head 180 is rotated in an opposite direction until its finger 188 engages the other fork arm 170 whereupon the antennas 182 are rotated in an opposite direction again until the direction of rotation of the drive shaft 184 is reversed.

Means for oscillating the drive shaft 184 is herein provided in the form of a driven plate or disk 196 fixedly secured in a plane generally normal to the lower end of the drive shaft 184 and concentric therewith. Herein the wheel means 48 which supports the bow of the boat is defined by a pair of disks 200 and 202 (FIGURE 19) These disks are each fixedly mounted on a common shaft defined by the axle shaft 160 which is journaled in the fork arms 162. In the illustrated embodiment each of the disks 200 and 202 has a generally semicircular peripheral edge drive portion 204 and 206, respectively, and these drive portions are of the same radius and extend outwardly from the remainder of the peripheral edge of their respective disk. The peripheral portions 204 and 206 are diametrically opposed to each other. Thus, as the boat moves across the supporting surface, an effectively consistent diameter peripheral surface engages the supporting surface so that the boat moves smoothly. However, the disks 200 and 202 are positioned on opposite sides of the axis of the drive shaft 184 so that their peripheral portions 202 and 204 alternately drivingly engage the lower face of the driven disk 196 thus alternating the direction of rotation of the drive shaft 184.

As previously described, the various armament units are concealed from view when the boat is in its compact hull position, as shown in FIGURES 1, 2, 5 and 6, and are moved to visible operable firing position as the boat is operated to its extended hull position as shown in FIGURE 3. Herein, the hatches 42 and 44 and the torpedo mount 56 are each mounted on the forward section 110 of the hull. The forward hatch 42 has a pair of opposite sidewardly extending lugs 220 (FIGURES 13–15) received in suitably inwardly opening opposed sockets in opposite side walls of the forward hull section 110. The aft hatch 44 has similar outwardly extending lugs 224 (FIGURE 12) received in inwardly opening opposed sockets in side walls of the inner portion 114 of the forward hull section 110. The torpedo mount 56 again has similar outwardly extending lugs 228 (FIGURE 11) received in inwardly opening opposed sockets in the inner portion 114 of the forward hull section 110. Thus the hatches and the torpedo mount are each mounted for pivotal movement about generally horizontal axes. As may best be seen in FIGURES 6 and 11, opening and closing of the hatches and operation of the mount 56 is provided by a gear segment 230 concentric with the axis of the lugs 228 on the torpedo mount 56 and is integral with the torpedo mount. The forward end of the rear hull section 112 carries an upwardly facing rack 232 (FIGURE 6) spaced well forward of the gear segment 230 when the hull is in its compact position, and this rack drivingly meshes with the gear segment as the front hull section 110 and the rear hull section 112 move to almost their fully extended positions whereupon the torpedo mount 56 has moved forwardly ahead of the superstructure 36. Meshing of the gear segment and rack causes the torpedo mount 56 to pivot clockwise from the position shown in FIGURE 6 to the operative position shown in FIGURE 3. A link 236 (FIGURES 3 and 6) extends longitudinally of the hull and is pivotally connected at its front end to the forward hatch 42 by means of a pivot pin 238, to the aft hatch 44 by means of a pivot pin 240 and to the torpedo mount 56 by means of a pivot pin 242. These pivot pins are each equally spaced in the same direction from the associated pivotal mountings defined by the lugs 220, 224 and 228, so that as the gear segment 230 is rotated by the rack 232 to swing the torpedo mount 56 into operative position, the link swings the forward hatch 42 and the aft hatch 44 to their operative positions as shown in FIGURE 3. Similarly, as the hull sections 110 and 112 move toward each other into compact position of the hull 32, the rack 232 drives the gear segment 230 counter-clockwise to pivot the torpedo mount 56 counter-clockwise into inoperative position and the hatches 42 and 44 are simultaneously swung to their closed position by means of the link 236.

With particular reference to FIGURES 13–15, two rockets 50 are mounted on a rocket launching pad formed integrally with the underside of the closed hatch 42 so that the rockets are concealed when the hatch is closed. Herein, the hatch 42 is provided at its lower end with a flange 250 having a pair of upstanding pedestals 252, one for receiving each of the rockets 50. Means releasably holding each rocket on its respective pedestal 252 in position to be released and fired is provided by a suitable bayonet connection 254 between the rocket and its pedestal. As may best be seen in FIGURES 13 and 15, each connection 254 includes a plurality of inverted L-shaped lugs 256 circumferentially spaced on the respective pedestal 252, each with a horizontal leg positioned to overlie a co-operating one of a plurality of lugs 258 on the respective rocket 50. The rocket is inserted by pressing it downwardly onto its pedestal 252 and against the propelling face of a spiral compression spring 260 suitably retained in an upwardly opening socket in the pedestal, and then rotating the rocket to interlock the L-shaped lugs 256 with the rocket lugs 258.

Means for firing either rocket 50 independently of the other rocket is provided by a triggering mechanism including an upstanding trigger arm 262 pivoted at its lower end to the flange 250 as by pivot bolt 264 extending through the trigger lever 262 and threadedly received in a boss of the flange so that the trigger 262 may be pivoted either to the right or to the left. The trigger 262 has a pair of oppositely directed fingers 266 each positioned to engage a flight fin 268 on an adjacent rocket and rotate the rocket to release the connection 254 so that the spring 260 fires the rocket off of its mount and through

the air. By pivoting the lever 262 in the opposite direction the other rocket may be fired as desired, and a handle 270 is provided on the upper end of the lever 262 to facilitate its movement in firing the rockets.

The depth charges 52 (FIGURES 3 and 12) are mounted on the underside of the closed aft hatch 44 so that they are concealed when the hatch is closed. Each depth charge 52 includes a simulated canister or drum 280 with a stem 282 which is received in a tube 284, which opens upwardly when the hatch is open, and the stem compresses a spiral compression spring 286 retained at the base of the tube for propelling the depth charge 52 from its mount upon releasing a depth charge trigger 288. The trigger is in the form of a lever pivoted intermediate its ends and having a thumb grip 290 at its lower end and a detent 292 at its upper end overlying a shoulder 294 on the stem 282 just below the canister 280. By depressing the thumb grip 290 the detent 292 is pivoted out of engagement with the shoulder 294, thereby releasing the respective depth charge 52 so that it may be propelled through the air by the spring 286.

The torpedoes 54 are operatively received in a torpedo mount 56 which is moved from a concealed position below the superstructure 36 (FIGURE 6) to an operative position (FIGURE 3) as previously described. With particular reference to FIGURES 3 and 11, the torpedo mount 56 includes a plurality of generally horizontal torpedo tubes 300. Herein two upper torpedo tubes 300 open to the right of the boat and two lower torpedo tubes open to the left of the boat. Each torpedo tube 300 receives a top torpedo 54 which has a groove providing a shoulder 304 receiving a detent 306 of a trigger lever 308 for releasably holding the respective torpedo 54 in its tube against the force of a spiral compression spring 310 at the base of the respective tube 300. Herein the spring is suitably retained within the tube 300 and its inner end is received on a seat provided by a return portion on the inner end of the lever 308 for urging trigger detent 306 into a latched position holding the torpedo 54 in its tube. Each trigger 308 is provided with a releasing pin 312 which extends through a rearwardly facing opening 314 in the launcher 56. Thus by actuating any pin 312 their respective torpedo 54 and may be fired generally horizontally from the side of the boat.

To summarize the operation of the toy, the switch 66 (FIGURE 6) on the rear portion of the deck 34 may be moved to on position thus operating the motor 62 (FIGURES 5–8) thereby actuating the gear train 86 and causing the noisemaker 130 to emit a surging sound similar to the operation of heavy machinery. The control knob 60 (FIGURE 4) may be moved from its neutral position for moving the boat forwardly or rearwardly, or for expanding or contracting the length of the hull 32. Expanding the hull 32 opens the hatches 42 and 44 to place the armament, as rockets 50, depth charges 52 and torpedoes 54 in exposed operative position ready to be fired upon actuation of their respective triggering means which permits each rocket, depth charge and torpedo to be fired individually. More particularly, by operating the control knob to move the attached lever 64 through the slot 98 (FIGURE 4) the boat is driven forwardly, by moving the lever through the slot 100 the boat is driven rearwardly, by depressing the lever through the vertical slot 120 and then moving it to the left through the stepped slot 122, the hull 32 is operated to its expanded position with the armament operatively positioned, and by moving the lever through the stepped slot 124 the hull 32 moves back to its compact position and the armament moves back to its concealed position with the hatches 42 and 44 closed. The boat may be caused to move in any desired direction by adjustment of the steering arms 170 on the steering fork which carries the guiding wheel means 48 here in the form of the pair of driving disks 200 and 202 (FIGURES 17 and 19. Upon forward or rearward movement of the boat these driving disks are rotated with their common shaft 160 to cause the antenna assembly 40 to oscillate in a scanning manner.

While this invention has been described with particular reference to certain structure, materials, and operation in a particular environment, various changes may be apparent to one skilled in the art, and the invention is not to be limited to such structure, materials, operation or environment. It should be particularly noted that the armament herein disclosed may take various other forms such as, for example, airplanes, helicopters, flares or the like. Various of the features of the invention are set forth in the appended claims.

What is claimed is:

1. A toy vehicle comprising, a body having two complementary, telescoping sections which are adapted to be moved relative to each other between a first position and a second position so as to vary the appearance of said body, toy articles disposed normally within said body in one of said positions and mounted for movement relative to said body so as to be exposed above said body in the other of said positions, and drive means operatively connected with said body and said movable toy articles to move said sections relative to each other and cause said toy articles to appear and disappear.

2. A toy comprising, a toy boat having a hull with bow and stern portions, means mounting said portions for relative movement for varying the length of the boat between compact and extended positions, toy armament concealed within said boat in one of said positions and movable relative to said hull to be exposed in the other of said positions, and drive means connected with said hull portions and said toy armament and operable for moving said hull between said compact and extended positions and for causing said toy armament to appear and disappear.

3. A toy comprising, a boat having a hull with bow and stern portions, means mounting said portions for relative movement for varying the length of the boat between compact and extended positions, said boat having hatches movable between closed and open position, and means for moving said hatches between said closed and open positions responsive to movement of said hull between said compact and extended positions.

4. A self-propelled vehicular toy comprising, a boat having a hull with bow and stern portions, means mounting said portions for relative movement for varying the length of the boat between compact and extended positions, said boat having hatches movable between closed and open position, means for moving said hatches between said closed and open positions responsive to said hull moving between said compact and extended positions, toy armament concealed within said boat when said hatches are closed and exposed when said hatches are open, and drive means for moving said boat between said compact and extended positions.

5. A self-propelled vehicular toy comprising, a boat having a decked hull with bow and stern portions telescopically associated for varying the length of the boat between compact and extended positions, hatches movable on the deck between closed and open position, means for moving said hatches between said closed and open positions responsive to said hull moving between said compact and extended positions, respectively, toy armament units concealed within said hull when said hatches are closed and operatively positioned for firing when said hatches are open, means for firing said armament units independently of each other, and drive means having a control handle manually operable on said boat for propelling said boat forwardly and rearwardly and for moving said hull between said compact and extended positions.

6. A self-propelled vehicular toy comprising, a boat having a decked hull with bow and stern portions telescopically associated for varying the length of the boat between compact and extended positions, hatches movable on the deck between closed and open position, means

for moving said hatches between said closed and open positions as said hull moves between said compact and extended positions, respectively, toy articles concealed within said hull when said hatches are closed and exposed when said hatches are open, drive means having a control handle selectively operable on said boat for retaining said boat stationary and for propelling said boat forwardly and rearwardly across a surface and moving said hull between said compact and extended positions, a radar antenna movable on said hull in a scanning manner, and means for guiding said boat and driving said antenna in said scanning manner as said boat is propelled across said surface and including guiding wheel means for supporting said boat on a surface and guiding the boat across said surface, and said wheel means being coupled with said antenna for driving the antenna.

7. A self-propelled vehicular toy comprising, a boat having a decked hull with bow and stern portions telescopically associated for varying the length of the boat between compact and extended positions, hatches movable on the deck between closed and open position, means for moving said hatches between said closed and open positions responsive to said hull moving between said compact and extended positions, respectively, toy armament concealed within said hull when said hatches are closed and operatively positioned for firing when said hatches are open, drive means having a control handle manually adjustable on said boat for propelling said boat forwardly and rearwardly across a surface and for operating said hull between said compact and extended positions, a toy radar antenna assembly including an antenna head surmounted on said deck for rotation about a generally vertical axis, an antenna mounted on said head for rotation about a generally horizontal axis, drive means for oscillating said head and said antenna about their respective axes and including a rotary drive shaft extending generally vertically through said head and frictionally engaging said head for rotating the head about its axis, means connecting said drive shaft and said antenna for rotating said antenna about its axis and including a pair of drivingly engaged disks, one concentrically secured to said drive shaft and the other concentric with the antenna axis and secured to said antenna, means for oscillating said drive shaft about its axis and including a plate generally normal to and secured to said drive shaft, and a pair of disks on opposite sides of said drive shaft and secured to a common shaft rotatable about a generally horizontal axis, said disks having limited circumferential edge drive portions of equal radius greater than the remainder of the circumferential edge portions, the drive portion of each disk being circumferentially displaced from the drive portion of the other disk and said drive portions together providing an effectively continuous circumference about said common shaft and alternately drivingly engaging a face of said plate as said disks are rotated, whereby said drive shaft is alternately rotated in opposite directions, means for limiting rotation of said head in either of opposite directions about its axis to an amount less than the oscillation of said drive shaft, whereby said head is oscillated about its vertical axis between two stopped positions and when said head is in one of said stopped positions said antenna is rotated about its axis in one direction and when said head is in the other of said stopped positions said antenna is rotated opposite said one direction, and guide means for supporting said boat on said surface and guiding the boat across said surface and including a mount pivoted to said hull concentrically of said drive shaft and said mount carrying said common shaft with said disks positioned to rest on said surface and support the boat, whereby the boat may be steered upon pivoting the mount.

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