Dec. 2, 1952 H. H. HOKE, JR 2,619,929

HIGH-SPEED PROPELLER TRAIN SHIP ATTACHMENT

Filed June 9, 1950 2 SHEETS—SHEET 1

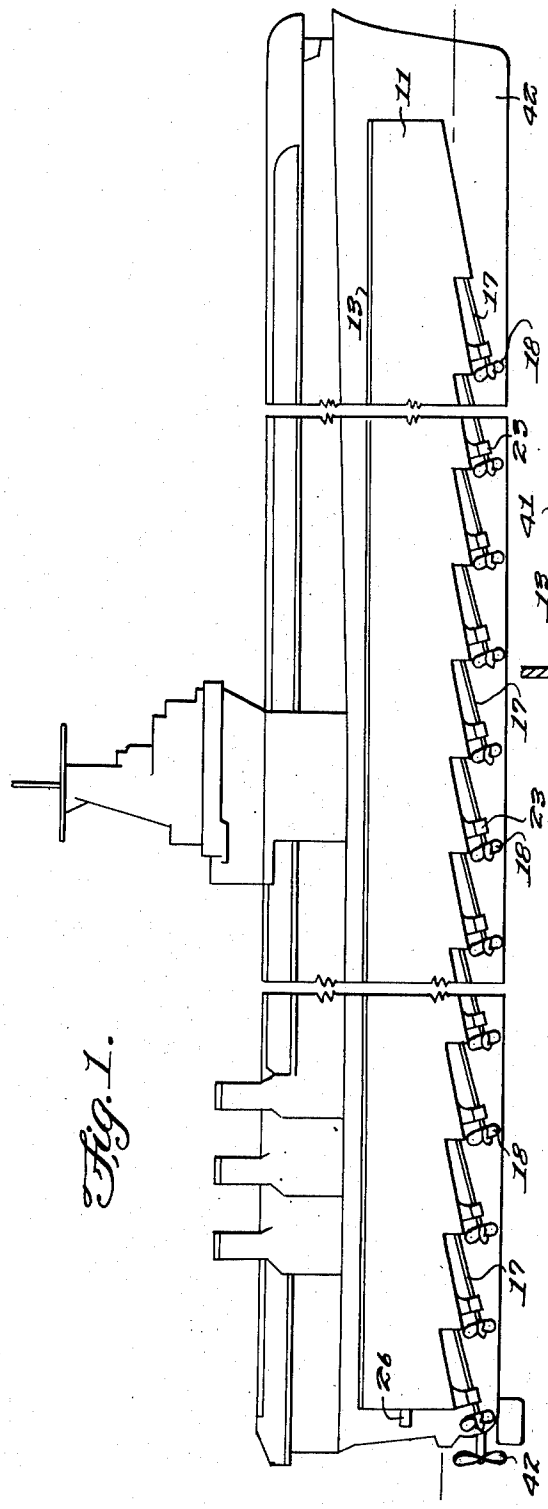


Fig. 1.

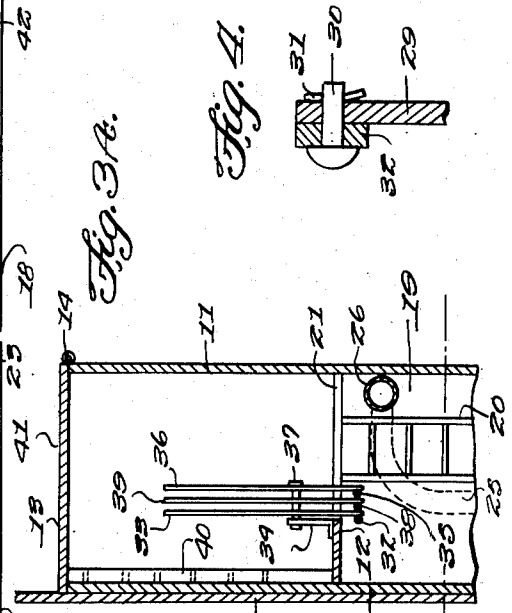


Fig. 3A.

Fig. 4.

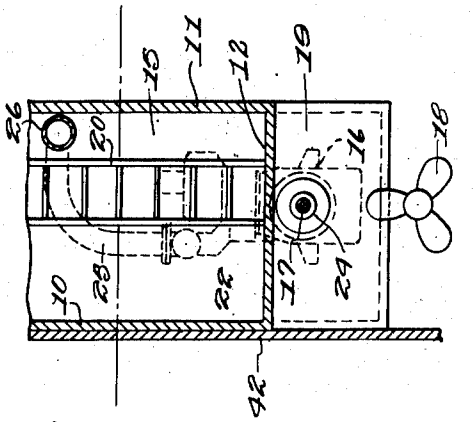


Fig. 3.

INVENTOR.
Harry H. Hoke, Jr.,
BY Victor J. Evans & Co.
ATTORNEYS

Dec. 2, 1952 H. H. HOKE, JR 2,619,929

HIGH-SPEED PROPELLER TRAIN SHIP ATTACHMENT

Filed June 9, 1950 2 SHEETS—SHEET 2

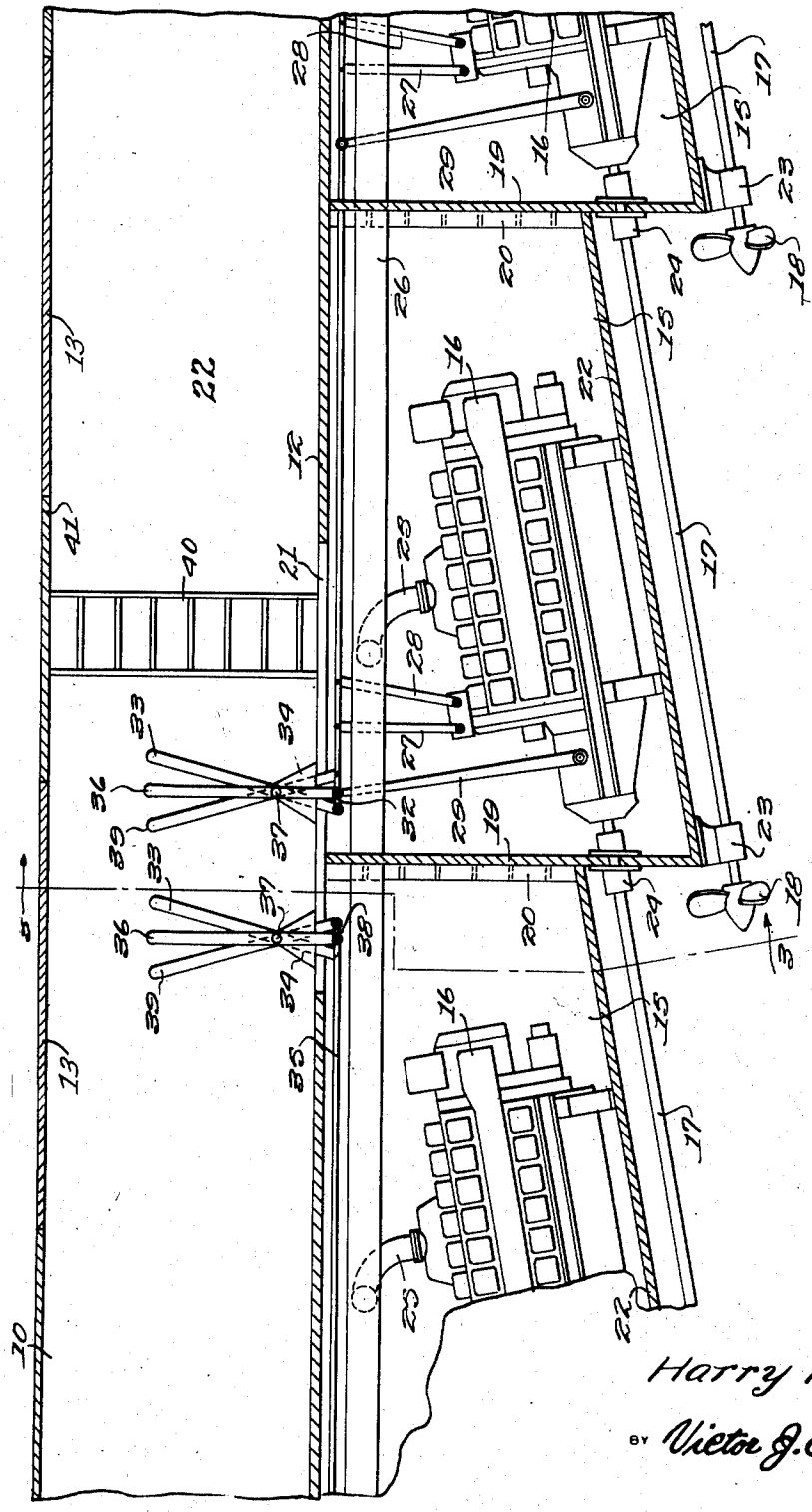


Fig. 2.

INVENTOR.
Harry H. Hoke, Jr.
BY Victor J. Evans & Co.
ATTORNEYS

Patented Dec. 2, 1952

2,619,929

UNITED STATES PATENT OFFICE

2,619,929

HIGH-SPEED PROPELLER TRAIN SHIP ATTACHMENT

Harry H. Hoke, Jr., Washington, D. C.

Application June 9, 1950, Serial No. 167,059

2 Claims. (Cl. 115—37)

1

This invention relates to propeller mountings for marine vessels and particularly aircraft carriers, and in particular an attachment including a train of propellers each having an individual motor positioned on the sides of a ship to provide additional speed in an emergency whereby a ship under attack can get away from the danger zone or area.

The purpose of this invention is to provide additional propeller units that may be attached to the sides of a ship which multiply the driving force of the ship and thereby provide means for increasing the speed thereof.

Various attempts have been made to equip vessels, and particularly war ships with additional propellers for increasing speed in an emergency but it has been found difficult to mount the propellers so that each propeller is operated independently wherein each propeller contacts the water independently. With this thought in mind this invention contemplates a battery or train of propellers with each propeller driven by an independent motor and with the propellers and motors mounted in elongated casings mounted on the sides of a ship such as an airplane carrier.

The object of this invention is, therefore, to provide mounting means whereby a plurality of propellers may be attached to the sides of a ship with each propeller acting upon a different body of water and with the propellers inclined whereby the turbulent streams therefrom bypass the following propellers.

Another object of the invention is to provide an independent propeller unit that may be mounted on the side of a ship without changing the structure of the ship.

A further object of the invention is to provide independent propeller units positioned on the sides of a ship which also provide cushioning means protecting the ship against torpedoes and the like.

A further object of the invention is to provide an improved propeller mounting wherein propellers actuated by independent motors are positioned continuously along the sides of a ship in which the mounting is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies an elongated comparatively thin casing positioned against each side of a ship with propellers mounted in stepped relation extended downwardly from sections of the casing and with each unit of the casing including a motor or engine for driving a propeller positioned at the end of the following casing.

2

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a side elevational view of a ship showing a train of propellers mounted in inclined positions on the under surface of a casing with the casing mounted on the side of the ship.

Figure 2 is a detail showing a longitudinal section on an enlarged scale of the propeller mounting casing illustrating a control room, preferably positioned in the center of the casing and with the ends broken away.

Figure 3 is a typical cross section through the casing taken on line 3—3 of Figure 2.

Figure 3a is a similar view showing the control area in the upper part of the casing.

Figure 4 is a detail illustrating a separable connection for connecting the control levers of the engine to a continuous control bar extended through the casing.

Referring now to the drawings wherein like reference characters denote corresponding parts the improved propeller mounting of this invention includes an enlongated casing having side walls 10 and 11 with a continuous intermediate partition or platform 12, a cover 13 hinged to the outer wall 11 by hinges 14, and a plurality of compartments 15 in which engines 16 are positioned, the engines being directly connected to driving shafts 17 on the outer ends of which propellers 18 are provided.

The compartments 15 are separated by individual partitions 19 with vertically positioned ladders 20 positioned in each compartment. The floor 12 is provided with openings 21 through which operators pass from the upper control compartment 22 to the engine compartments 15 in the sections below.

The compartments 15 are provided with inclined lower surfaces 22 and the driving shafts 17 are journaled in outer bearings 23 on the under surfaces of the lower panels 22 forming the lower surfaces of the compartments and also in bearings 24 mounted in the partition 19 dividing the compartments.

Each of the engines 16 is provided with an exhaust connection 25 that opens into an exhaust header 26 and each engine is also provided with a starting lever 27, a throttle lever 28 and a control lever 29.

The control levers 29 of the engines are connected by pins 30, the outer ends of which are provided with cotter pins 31, to longitudinally disposed bars 32 which extend from the center to the opposite ends of the ship, and the bars 32

are controlled by hand levers **33** pivotally mounted on a bracket **34**. The starting levers **27** are pivotally connected to a bar **35** in each end and the bars **35** are controlled by hand levers **36** which are also pivotally mounted on the bracket **34** by a pin **37**. The levers **28** are also pivotally connected to bars **38** which are actuated by hand levers **39** that are also pivotally mounted on the pin **37** of the bracket **34**.

The starting and control levers in the opposite ends of the units are similar and the same reference numerals are applied to both.

The upper compartment **22** is provided with a ladder **40** and the cover **13** is formed in sections with a section **41** providing an outlet door or cover positioned above the ladder **40**.

The ends of the casing are closed so that the casings are substantially sealed and with the casing secured, preferably by welding to the sides of a ship, as indicated by the numeral **42** the propellers and the mounting means therefor extend continuously throughout the length of the ship providing continuous sources of power and also protecting the sides of the ship against torpedoes and the like.

It will be understood that the motive power may be provided by diesel or gasoline engines or by electric motors, as may be desired.

With the parts arranged in this manner the engines may be controlled from a control tower or directly by the hand lever, as shown in Figure 2, and, in starting the engines toward the bow of the ship first be started and then the section of engines toward the stern may be started, or either section may be started first, or both sections may be started together as may be desired.

With the propellers mounted and rotating in this manner the driving force is obviously multiplied and a ship with trains or batteries of propellers mounted on the sides may get away from an attack, such as by airplanes, submarines or other war ships and when the ship has arrived in a safe position the operation of these units may be stopped whereby the ship may be driven by the usual propeller **43** at the stern.

Should the steering instrumentalities or main propeller of the ship be damaged or become inoperative the auxiliary propellers may be used for steering and also as the propelling means of the ship.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a ship of the character described the improvement comprising elongated casings positioned against the sides of a ship, said casings having stepped lower edges, a plurality of shafts extended downwardly and rearwardly from said casings, propellers carried by the outer ends of the shafts, means independently rotating the said propellers through the shafts, a longitudinally extending horizontally disposed partition in said casings providing control compartments in the upper parts thereof, and control means positioned in said control compartments pivotally supported on said partition for actuating the propeller driving means.

2. In a ship, the combination which comprises elongated casings, rectangular shaped in cross section secured to the sides of a ship, horizontally disposed platforms in said casings dividing the casings into upper control compartments and lower engine compartments, transversely disposed partitions in the lower parts of the casings dividing the engine compartments, said engine compartments having sloping lower surfaces, engines positioned in said engine compartments, shafts extended from the engines rearwardly, control means extended from the engines upwardly to connecting rods extended through the said compartments, control levers extended from the rods into the control compartments, ladders in the said engine compartments, ladders in the said control compartments, doors hingedly mounted on the upper ends of the casings, and propellers carried by the ends of the shafts.

HARRY H. HOKE, JR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
888,586	Carroll	May 26, 1908
1,944,242	Johnson	Jan. 23, 1934
2,474,855	Mimopoulos	July 5, 1949

FOREIGN PATENTS

Number	Country	Date
314,095	Germany	Aug. 27, 1919
586,640	Great Britain	Mar. 26, 1947