July 16, 1929. A. E. DURHAM 1,721,437

COMBINATION AEROPLANE AND BOAT

Filed May 10, 1928 3 Sheets-Sheet 1

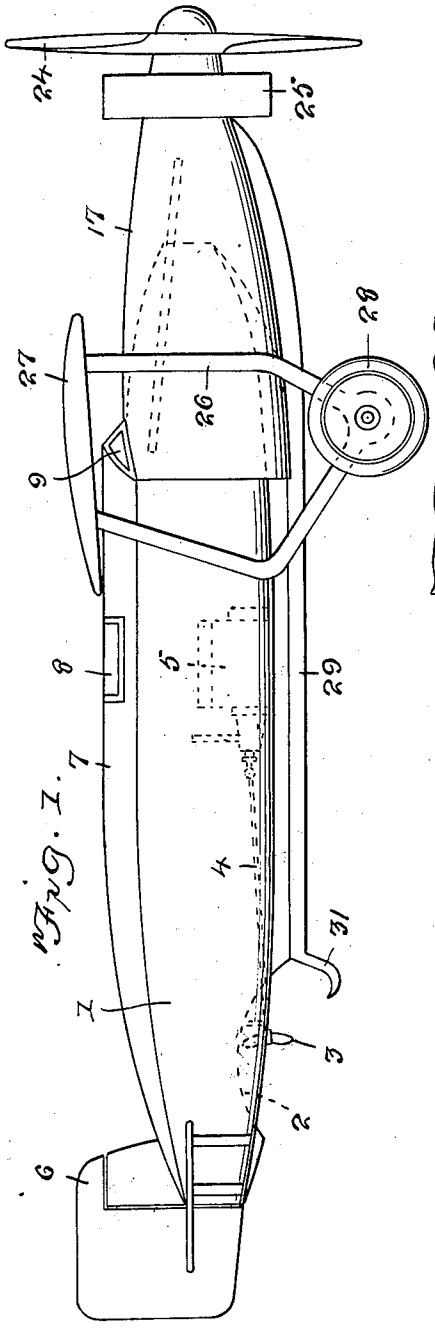


Fig. 1.

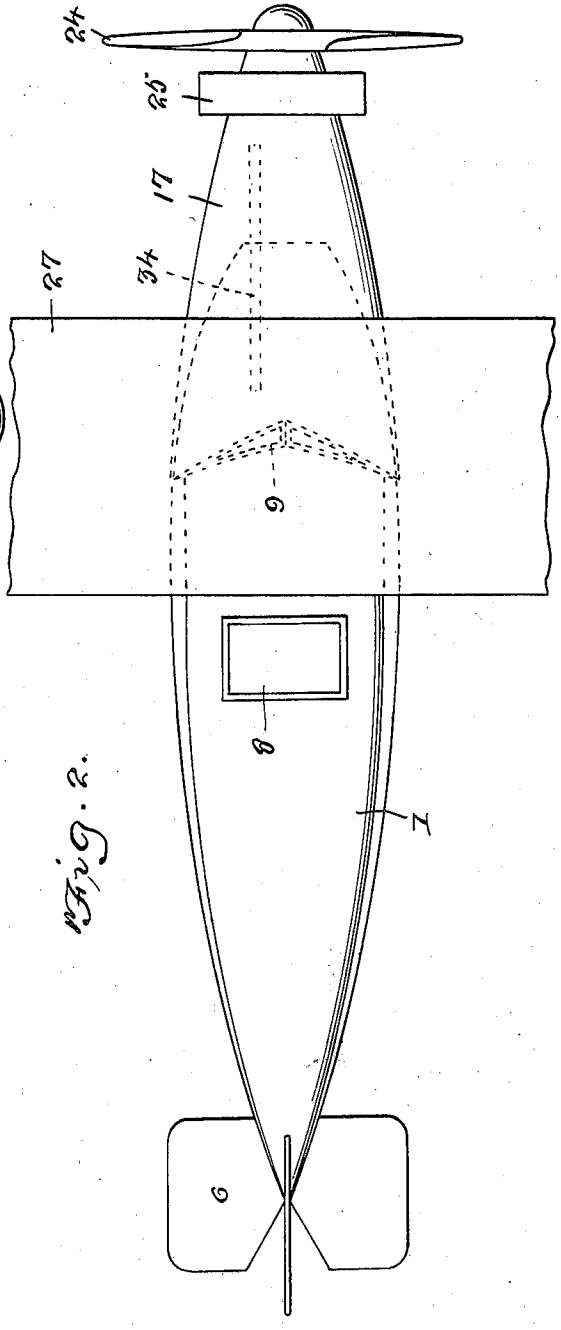


Fig. 2.

A. E. Durham
INVENTOR

BY Victor J. Evans
ATTORNEY

July 16, 1929. A. E. DURHAM 1,721,437

COMBINATION AEROPLANE AND BOAT

Filed May 10, 1928 3 Sheets-Sheet 2

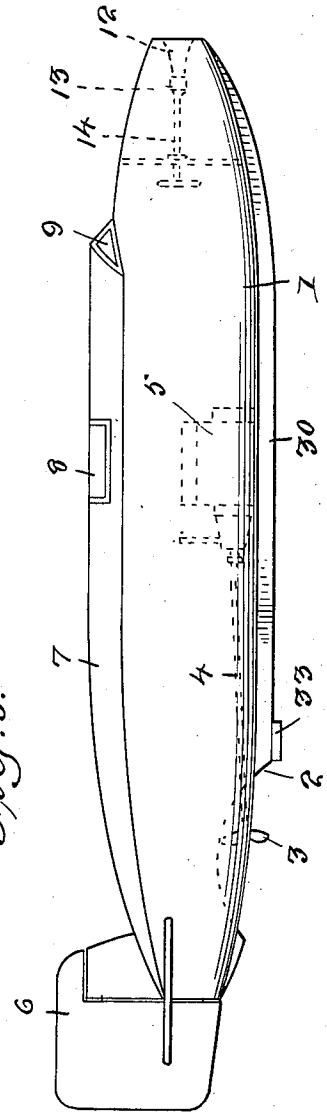


Fig. 3.

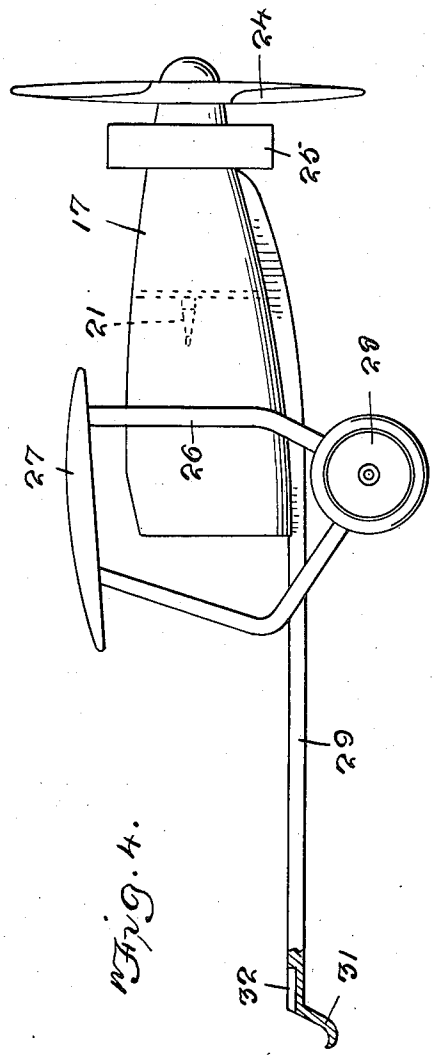


Fig. 4.

A. E. Durham
INVENTOR

BY Victor J. Evans
ATTORNEY

July 16, 1929. A. E. DURHAM 1,721,437

COMBINATION AEROPLANE AND BOAT

Filed May 10, 1928 3 Sheets-Sheet 3

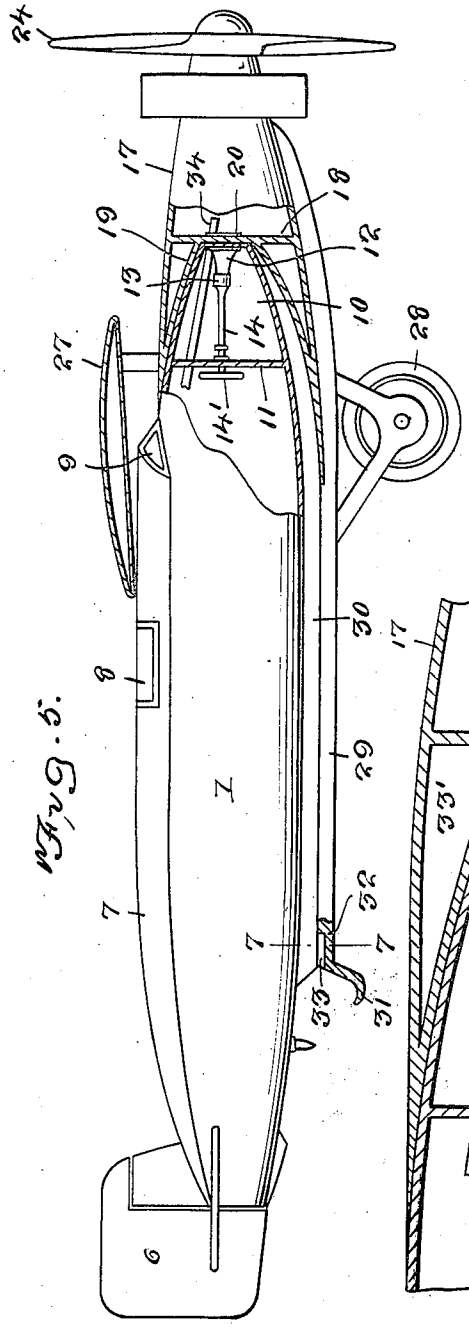


Fig. 5.

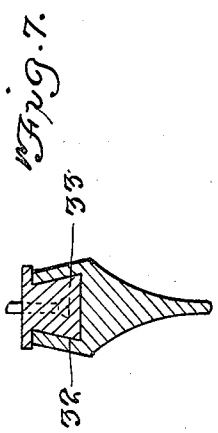


Fig. 7.

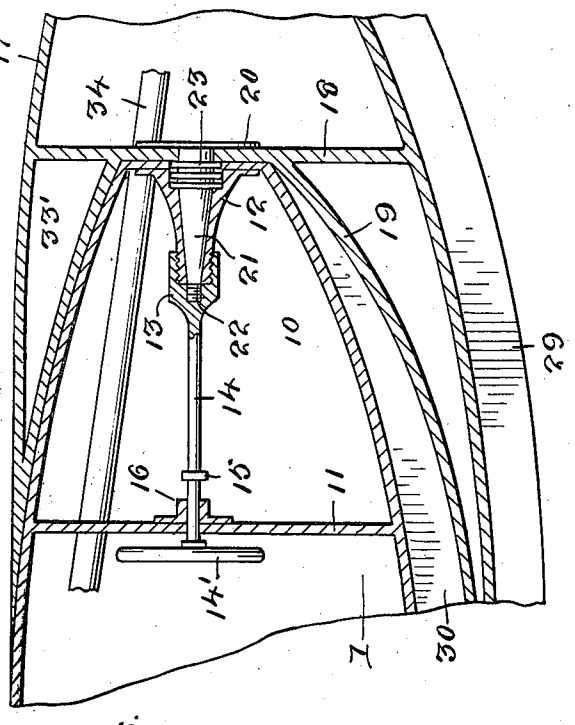


Fig. 6.

A. E. Durham
INVENTOR

BY Victor J. Evans
ATTORNEY

Patented July 16, 1929. 1,721,437

UNITED STATES PATENT OFFICE.

ARCHIE E. DURHAM, OF CLARENDON, VIRGINIA.

COMBINATION AEROPLANE AND BOAT.

Application filed May 10, 1928. Serial No. 276,758.

This invention relates to a combination aeroplane and boat, the general object of the invention being to provide means for releasing the aeroplane part from the boat part when necessary or desirable so that if the aviator finds he must alight on water, he can discard the aeroplane part and use the boat part in the ordinary manner.

Another object of the invention is to provide means whereby the aeroplane part can be easily and quickly detached from the boat part by the turning of a wheel in the boat part, with spring means for projecting the aeroplane part away from the boat part when the wheel is turned.

A further object of the invention is to entirely enclose the boat part and to provide it with a motor and propeller which is independent of the propelling means for the aeroplane part so that the boat part may drop into a body of water, after the aeroplane part has been released from the boat part a distance above the surface of the water without danger of the boat sinking.

Another object of the invention is to form the boat part with a window which is so arranged that the pilot may have clear vision while the device is used as an aeroplane or as a boat.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of the complete device.

Figure 2 is a plan view thereof.

Figure 3 is an elevation of the boat part.

Figure 4 is an elevation of the aeroplane part.

Figure 5 is a view similar to Figure 1, but having parts broken away to show the interior construction.

Figure 6 is an enlarged sectional view showing the means for attaching the aeroplane part to the boat part.

Figure 7 is a section on line 7—7 of Figure 5.

In these views, the numeral 1 indicates the body of the boat, which is preferably formed of substantially torpedo shape, with a tunnel 2 in the rear part of its bottom for the propeller 3, the shaft 4 of which is connected with the shaft of a motor 5 in the body. The rear end of the body is provided with the usual vertical and horizontal rudders 6 for controlling the movements of the aeroplane, the vertical rudder also acting as means for controlling the movement of the boat when the same is in the water. The top of the boat is formed with a raised portion 7 having a hatch 8 therein which is flush with the outer wall of said raised part and the front end of this raised part has a window 9 therein so that the pilot may have clear vision when the device is used as an aeroplane or as a boat.

A chamber 10 is formed in the bow or front part of the body 1 by the bulkhead 11 and the front extremity of the body 1 is flat and a tapered tubular member 12 is connected with the inner wall of this flat extremity so that this member 12 is located in the chamber 10. The inner end of this member 12 is threaded to engage the internally threaded socket 13 formed on one end of a shaft 14 which passes through the bulkhead 11 and has a hand wheel 14′ secured to its rear end so that this wheel is located in that part of the boat or body 1 designed to receive the passengers and pilot. A collar 15 on the shaft is adapted to engage a part 16 on the bulkhead to limit the rearward movement of the shaft, these parts being so arranged that the shaft cannot be moved to a position where the socket 13 will entirely disengage a threaded end of the member 12.

The aeroplane part comprises a body 17 having a partition 18 therein and the tapered inner walls 19 which extend rearwardly from the partition and form a space for receiving the front end of the body 1 of the boat part, with the blunt nose or flat extremity of the boat part fitting against the central part of the partition 18. A plate 20 is connected

with the front face of the partition and carries a stem 21 which passes through the partition and the blunt nose of the boat part into the tubular part 12, with its rear extremity threaded, as at 22, to engage a threaded hole formed in the bottom of the socket 13 so that the body 17 is attached to the front end of the body 1 by the shaft 14 and the stem 21. By turning the shaft in an anti-clockwise direction, the shaft will be disengaged from the stem 21 so that the aeroplane part will be released from the boat part, though the socket 13 will still be in engagement with the tubular member 12 and thus prevent water from entering the chamber 10 through the hole left by the stem 21, when the two bodies are disengaged. A coil spring 23 is placed on the stem 21 and is located in an enlarged portion of the opening in the tubular member 12 and this spring acts to project the aeroplane part away from the boat part when the stem is released from the shaft.

The body 17 of the aeroplane part carries the usual propeller 24 and its motors 25 and a frame 26 is connected with the rear part of the body 17 and carries the wing 27 and the landing wheels 28. An elongated member 29 has its front part attached to the bottom part of the body 17 and the rear portion of this member 29 extends along the keel 30 of the boat body 1 and has a depending tail part 31 which is designed to engage the ground when the wheels 28 are resting thereon. The rear extremity of the member 29 is formed with a dovetail slot 32 which receives a dovetail projection 33 on the rear end of the keel 30 when the two bodies are connected together so that the rear end of the member 29 is detachably connected with the rear end of the keel. The space 33 formed between the inner walls 19 and the outer walls of the body 17 may be used for fuel and the like and a conduit 34 extends through the front part of the body 1 into the body 17, this conduit being designed to receive the controls of the motors 25 of the aeroplane.

From the foregoing it will be seen that the aeroplane part, including its motors, propeller, wings and landing gear, can be easily and quickly detached from the boat part by simply turning the wheel 14′ to release the shaft 14 from the stem 21 so that the spring can project the aeroplane part away from the boat part and thus separate the two parts. During this action, the member 29 will move forwardly and thus release itself from the projection 33 on the keel. This invention will enable an aviator to readily alight on a body of water without danger of sinking and after alighting, he can start up his motor and propel the boat part to a landing or ship.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

It is to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A combined aeroplane and boat comprising a boat body, an aeroplane body including a motor driven propeller, a wing and landing gear, the body of the aeroplane fitting over the front end of the body of the boat, means for detachably connecting the two bodies together, spring means for separating the two bodies when the detachable means are in inoperative position, horizontal and vertical rudders on the body of the boat, a motor driven propeller carried by said boat body, said boat body being entirely enclosed, with a raised upper part having a hatch therein and a window in the front end of the raised part.

2. A combined aeroplane and boat comprising a boat body of substantially torpedo shape with its front extremity blunt, a closed chamber formed in said front end, a shaft passing into the chamber and having a handle on its rear end and a threaded socket on its front end formed with a threaded hole in its bottom, a tubular member connected with the front wall of the chamber and having a threaded rear end for engaging the socket, an aeroplane body having its rear part shaped to receive the front end of the boat body, a stem carried by the aeroplane body and entering the tubular member with its rear end threaded to engage the threaded hole in the socket of the shaft whereby the two bodies are detachably connected together, a spring on the stem for separating the two bodies when the shaft is turned to disengage it from the stem, a motor driven propeller carried by the boat body, vertical and horizontal rudders at the end of the boat body, a motor driven propeller carried by the aeroplane body and a wing and landing gear carried by said aeroplane body.

3. A combined aeroplane and boat comprising a boat body of substantially torpedo shape with its front extremity blunt, a closed chamber formed in said front end, a shaft passing into the chamber and having a handle on its rear end and a threaded socket on its front end formed with a threaded hole in its bottom, a tubular member connected with the front wall of the chamber and having a threaded rear end for engaging the socket, an aeroplane body having its rear part shaped to receive the front end of the boat body, a stem carried by the aeroplane body and entering the tubular member with its rear end threaded to engage the threaded hole in the socket of the shaft whereby the two bodies are detachably connected together, a spring on the stem for separating the two bodies when the shaft is turned to disengage it from the stem, a motor driven propeller carried

by the boat body, vertical and horizontal rudders at the end of the boat body, a motor driven propeller carried by the aeroplane body, a wing and landing gear carried by said aeroplane body, an elongated member having its front end connected with the bottom of the aeroplane body with its rear portion engaging the keel of the boat body, means for detachably connecting the rear end of the elongated member with the rear end of the keel and a runner connected with the rear end of the elongated member.

In testimony whereof I affix my signature.

ARCHIE E. DURHAM.