March 5, 1946. A. SBRILLI 2,396,130

AIR JET PROPELLED HELICOPTER

Filed Jan. 6, 1944

Fig. 1.

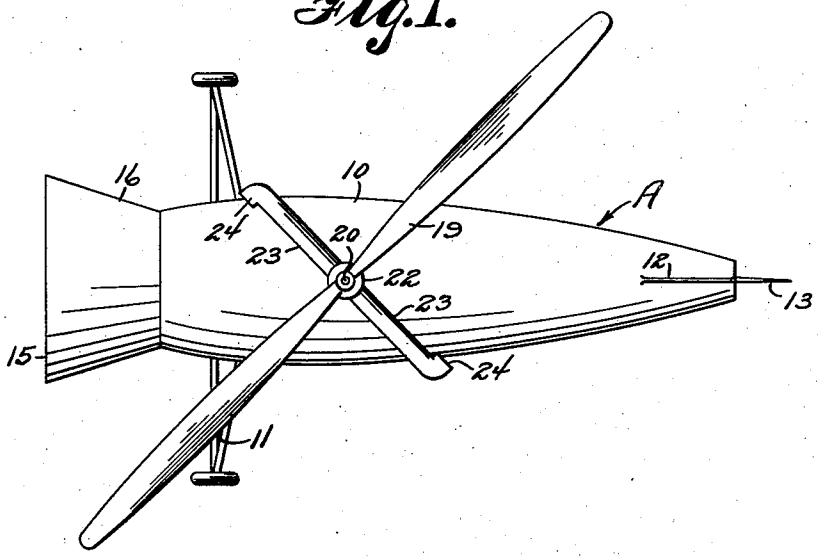
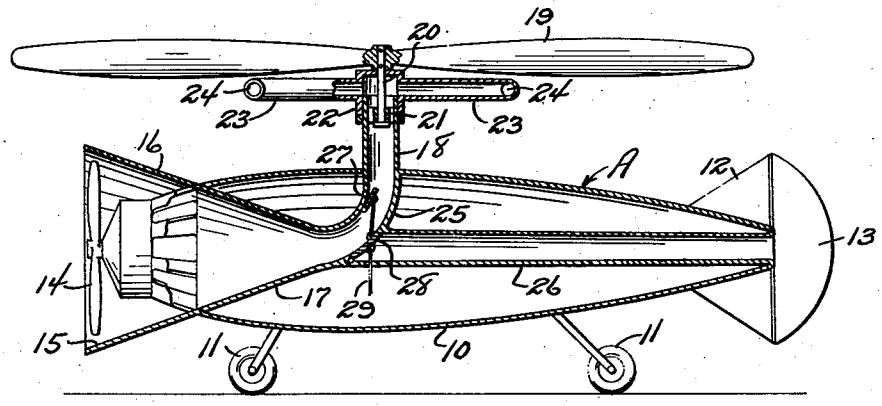


Fig. 2.



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AIR JET PROPELLED HELICOPTER

Anthony Sbrilli, Atlanta, Ga.

Application January 6, 1944, Serial No. 517,237

1 Claim. (Cl. 244—17)

The invention relates to aircraft, and more especially to air jet propelled helicopters.

The primary object of the invention is the provision of a craft of this character, wherein its construction permits of vertical ascent and descent for taking-off and landing of such craft with speed and accuracy or along a flight path, the craft being under perfect control of the operator.

Another object of the invention is the provision of craft of this character, wherein the construction of the fuselage is novel and unique in design, the power propeller being located in a draft funnel having several courses, one being for permitting the ascent and descent of the craft, and the other for flight travel.

A further object of the invention is the provision of a craft of this character, wherein air jets control the movements of the said craft, while valves which are manually regulated determine the directional course of such craft.

A still further object of the invention is the provision of a craft of this character, which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, readily and easily handled, it being under perfect control of an operator, and inexpensive to manufacture.

With these and other objects in view the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, which shows the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is a top plan view of an aircraft constructed in accordance with the invention.

Figure 2 is a vertical longitudinal sectional view of the same.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail A designates generally an aircraft constructed in accordance with the invention, and comprises a streamlined or cigar shaped body 10 which is the fuselage, having any standard landing gearing 11 at its bottom, while at the rear end of this body are the elevators and rudder equipments 12 and 13, respectively, these being also of any selected construction.

At the nose end of the body 10 is an arranged rotary bladed propeller 14, which is driven in the usual manner from energy within the body 10. The propeller 14 is located in the outer flared mouth 15 of a cone-shaped funnel 16, which is built with the body 10, its inner end 17 being within the latter, and this funnel 16 is aligned with the longitudinal central axis of the fuselage. Extending vertically from the inner end 17 of the funnel 16 is an elbowed pipe 18 which is carried through the crown of the fuselage 10 to a determined point above the same and beneath a lifter and descent bladed propeller 19, its axle 20 being vertically journaled in a bearing 21 arranged within the upper end of the pipe 18 for the rotation of this propeller 19.

The upper end of the pipe 18 has rotatably fitted thereon the hub 22 of diametrically opposed air jet nozzles 23, which are unitary with the hub and having at their outer ends reversely turned air emitting tips 24, which are laterally directed at substantially right angles to the nozzles 23 and are immediately below the path of travel of the propeller 19. The propeller 19 is formed unitary with the hub 22 and the forced air discharged from the nozzles 23 creates a reactive force which is caused by the air flowing out of the emitting tips 24. This reactive force will cause the propeller 19 to revolve and gain speed in proportion to the speed of the rotary bladed propeller 14. The rotation of the propeller 19 in proportion to the rotation of the rotary propeller 14 will effect the vertical ascent and descent of the craft.

Intersecting the elbow connection 25 of the pipe 18 is a rearwardly extending air discharge conduit 26, which opens directly through the rear end of the fuselage A. The pipe 18 and the conduit 26 are shut-off and opened to the funnel 16 by means of hand regulated valves 27 and 28, respectively, which at 29 are controlled from within the fuselage A.

When it is desired to lift the craft or at take-off thereof the valve 27 is fully opened and the valve 28 closed. With the blower 14 operating at full power the entire fluid supply in jet form will issue from the nozzles 23 and be directed to the lift rotor drive or propeller 19, and the craft would rise. The forced air being effected from the propeller 14 and the latter is the power medium for the flight of the craft. On reaching the desired altitude valve 28 would be opened and valve 27 would be partially closed, for forward movement of the craft.

From the foregoing it is believed that the construction and manner of operation of the craft will be clearly understood, and therefore a more extended explanation has been omitted for the sake of brevity.

What is claimed is:

An aircraft comprising a fuselage, a forwardly facing funnel formed in the nose of said fuselage and arranged to direct air rearwardly into the fuselage, means in said funnel for forcing air therethrough, a vertical conduit extending upwardly from the rear end of said funnel, a horizontal conduit extending rearwardly from the rear end of said funnel and terminating in an outlet opening at the tail of said fuselage, valve means at the junction of said conduits with said funnel, said valve means being arranged for displacement between one terminal position, wherein communication is fully open between the funnel and the vertical conduit and fully closed between the funnel and the horizontal conduit, and another terminal position, wherein communication is partially closed between the funnel and the vertical conduit and open between the funnel and the horizontal conduit, a rotary wing mounted above the fuselage and co-axial with the vertical conduit, and a hollow reaction jet rotor fixed to said rotary wing for driving the latter, the interior of said jet rotor being in communication with the upper end of said vertical conduit, whereby air forced through said vertical conduit will pass into and through said jet rotor to energize said jet rotor.

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