March 30, 1937. A. BRATSCHIE 2,075,423

AIR TURBINE

Filed Aug. 13, 1936 2 Sheets-Sheet 1

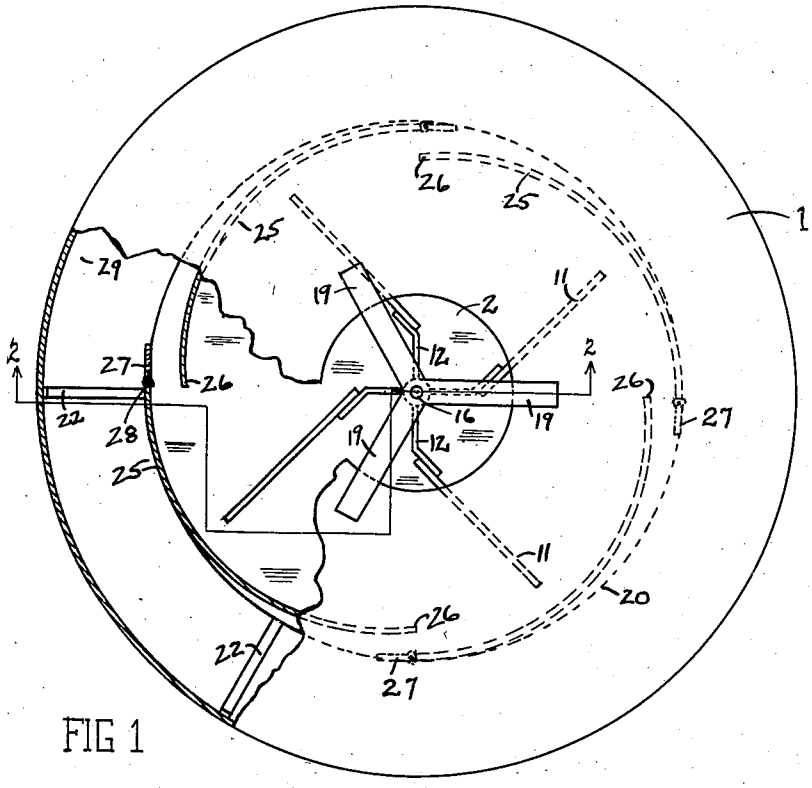


FIG 1

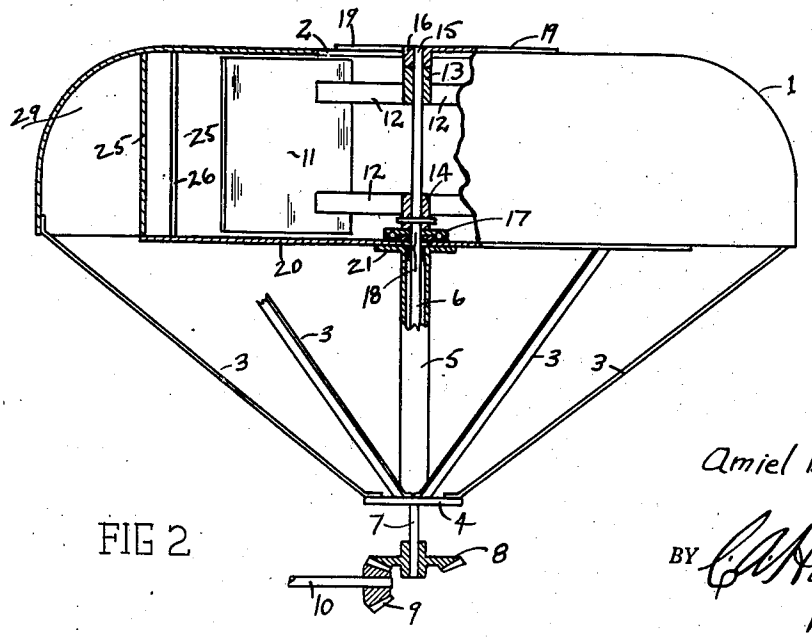


FIG 2

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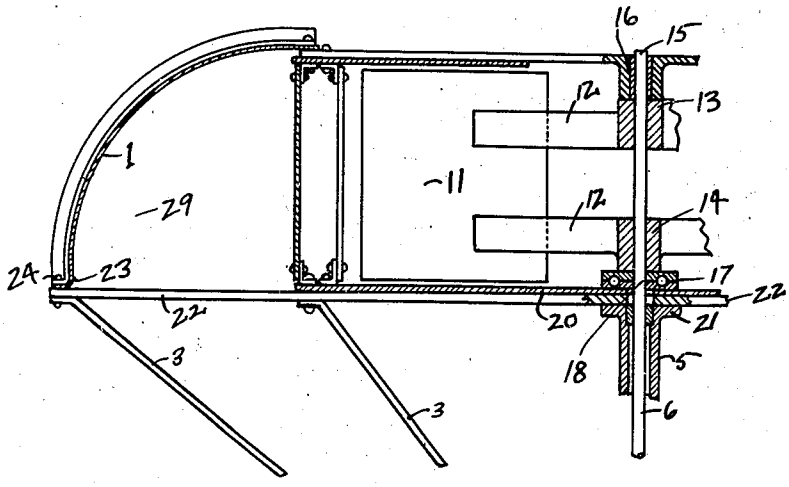


FIG. 3

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UNITED STATES PATENT OFFICE

2,075,423

AIR TURBINE

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Application August 13, 1936, Serial No. 95,814

6 Claims. (Cl. 170—159)

This invention relates to air turbines.

The principal object of this invention is to provide a device of a turbine type for the purpose of exerting lifting force so that the device will move upwardly into the atmosphere.

A further object is to provide a device having a function similar to that of a balloon in respect to overcoming gravity sufficient to go upwardly into the atmosphere.

A further object is to provide means for converting the device into a parachute.

A still further object is to provide means by which the atmospheric pressure together with gravity will be overcome sufficiently to cause the device to elevate itself into the atmosphere.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a top plan view of the device with parts broken away.

Figure 2 is a side elevation of the device with parts broken away.

Figure 3 is a cross section taken on line 2—2 of Figure 1.

It is my contention that an air turbine will be a marked development in the utilization of various aircrafts and will for many practical purposes supplant the use of the balloon and other aircrafts now in common use. It is also believed that with my device aircrafts may ascend into the atmosphere in a vertical manner, thereby doing away with the necessity of large areas for airports. It is also my contention that my device will make it possible to set up a lifting power overcoming the resistance of the atmosphere coming in contact with the upper surface of the device when moving in air. In order to do this I have utilized as a basis, natural laws of physics including gravity, atmospheric pressure, and momentum.

In order to comprehend the structure and working of the device I take up the description of the construction and movement of parts involved. By referring to Figures 1 and 2 it will be seen that the device consists of a dome shaped member 1 provided with an upper central opening 2. This dome shaped member 1 is provided with a plurality of support members 3 secured at their lower ends to a horizontal disk 4. This horizontal disk 4 supports a tubular member 5 provided with a shaft 6. The lower end 7 of the shaft 6 has keyed thereon a beveled gear 8 which functions with a beveled pinion 9 which is keyed to a power shaft 10. This power shaft 10 may be energized by any suitable power of relatively light weight such as is now used in motors for aircrafts. When the power shaft 10 is revolved the shaft 6 is caused to rotate, setting in motion a plurality of vanes 11 which are attached to arms 12. These arms 12 are secured to keyed fittings 13 and 14 positioned on the shaft 6. It will also be seen that the upper end 15 of the shaft 6 is supported by a boxing 16 and by a ball bearing support 17 at a point 18 on the shaft 6. It will also be seen that the boxing 16 is supported by means of radial bars 19 which in turn are secured at their outer ends to the top of the dome shaped member 1. By referring to the drawings it will be seen that there is a central horizontal circular plate 20 centrally attached to a flange 21 formed on the upper end of the tubular member 5.

By referring to Figure 3 it will be seen that this circular horizontal plate is secured to a plurality of radial arms 22, the outer ends of which are secured to the outer lower periphery 23 of the dome shaped member 1 by means of rivets 24.

By referring to Figures 1 and 3 it will be seen that vertically positioned near the outer edge of this central horizontal circular plate 20 there are a plurality of curved plates 25 so arranged that their inner ends 26 are each spaced apart from a companion curved plate 25, thereby leaving a passageway through which air is forced when the vanes 11 are rotated clockwise. It will also be seen that at a point 28 there is a hinged closure member 27 which stands open when the vanes 11 are forcing air through the passageway between the ends 26 and the point 28. When the vanes 11 are stationary the air flow reverses through these openings thus closing the hinged closure member 27. When closed, the hinged closure member 27 in effect, converts the entire device into a parachute providing that the entire structure is of sufficient size to act efficiently in this manner.

In the drawings it will be noticed that the vanes 11 have a receding position of about 45° from the arms 12 in order to expel the air eccentrically. It will also be noticed that four vanes 11 are shown and it is pointed out that should the vanes 11 extend out in a radial direction from the center they would have a tendency to carry the air around with them but with a limited number of vanes the

air is exploded out through the air passages without being carried around with the vanes.

In the operation of the device it is believed that when the air is forced out through the air passages above described, the air is forced into an outer concentric chamber **29** and finally flows out underneath the dome shaped member **1**. The inlet consists of the upper central opening **2**. One of the important principles upon which the device operates is the relative difference in the inlet of air and the outlet of air. It is believed that this action is set up by reducing the space of outlet to nearly one-half of the space of inlet and by using the difference as momentum back of the vanes **11** there will be a reduced downward pressure on the dome shaped member **1** and an upward lifting pressure under the dome shaped member **1** and outer concentric chamber **29**, thereby exerting an upward movement of the device and parts attached to the same.

What I claim is:—

1. In a device of the class described, a dome shaped member, a central opening in top of said dome shaped member, a plurality of vanes rotating centrally underneath said dome-shaped member, a plurality of curved plates surrounding said vanes, the inner ends of said plates spaced apart from the companion plates in order to leave a passageway for outlet of air, together with means for propelling said vanes.

2. In a device of the class described, a dome shaped member, a central opening in top of said dome shaped member, a plurality of vanes rotating centrally underneath said dome-shaped member, a plurality of curved plates surrounding said vanes, the inner ends of said plates spaced apart from the companion plates in order to leave a passageway for outlet of air, said opening in top of dome providing a relatively larger inlet for air than said passageway provides for outlet of air, together with means for propelling said vanes.

3. In a device of the class described, a dome shaped member, a central opening in top of said dome shaped member, a plurality of vanes rotating centrally underneath said dome-shaped member, a plurality of curved plates surrounding said vanes, a horizontal circular disk supported underneath the plurality of curved plates and rotating vanes, the inner ends of said plates spaced apart from the companion plates in order to leave a passageway for outlet of air, said opening in top of dome providing a relatively larger inlet for air than said passageway provides for outlet of air, together with means for propelling said vanes, substantially as described for the purpose set forth.

4. In a device of the class described, in combination a dome shaped member, a central opening in top of said dome shaped member, a plurality of vanes rotating centrally underneath said dome-shaped member, a plurality of curved plates surrounding said vanes, a horizontal circular disk supported underneath the plurality of curved plates and rotating vanes, a passageway between the ends of curved plates for the outlet of air, a hinged closure member in said passageway to be opened and closed by the pressure of air as described.

5. In a device of the class described, in combination a dome shaped member, a central opening in top of dome shaped member, a plurality of vanes having a receding position rotating centrally underneath said dome-shaped member, a plurality of curved plates surrounding said vanes, a horizontal circular disk supported underneath said curved plates and rotating vanes, a passageway between the ends of curved plates for the outlet of air, a hinged closure member to ends of curved plates to be opened and closed by the pressure of air as described.

6. In a device of the class described, in combination a dome shaped member, a central opening in top of dome shaped member, a plurality of vanes having a receding position rotating centrally underneath said dome shaped member, a plurality of curved plates radially spaced from said dome and surrounding said vanes, a horizontal circular disk supported underneath said curved plates and rotating vanes, a passageway between the adjacent ends of said curved plates and secured in a relative radial position in order to provide for the outlet of air, a hinged closure member secured to ends of curved plates to be opened and closed by the pressure of air as described.

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