

W. H. CAMPKIN.
AIRSHIP.

APPLICATION FILED MAY 20, 1911.

Patented Aug. 15, 1911.

3 SHEETS—SHEET 1.

1,000,714.

Fig. 1.

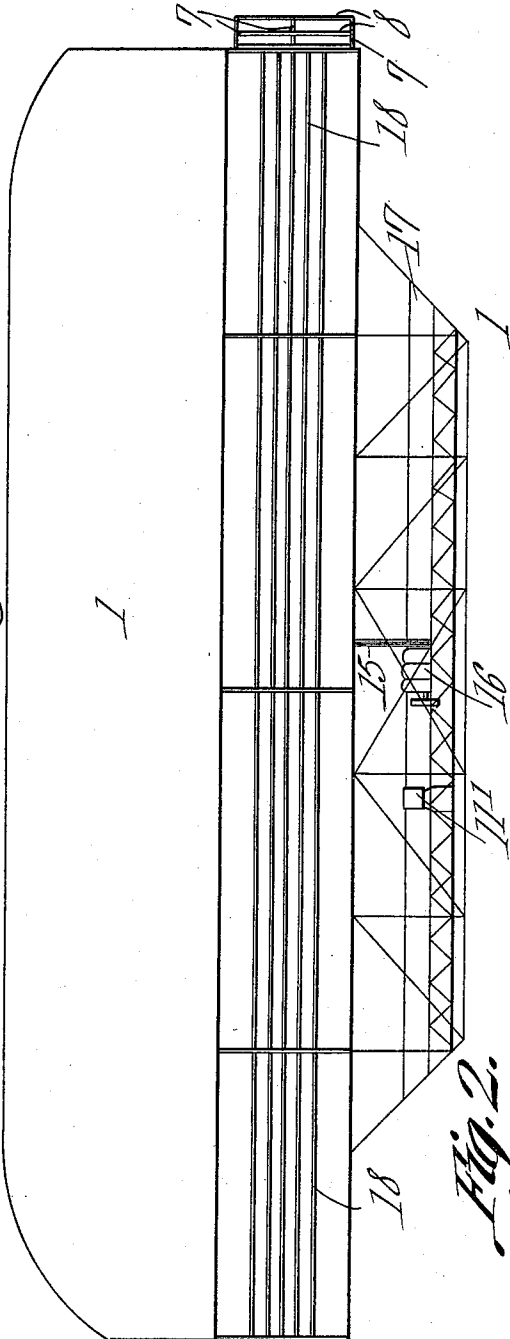
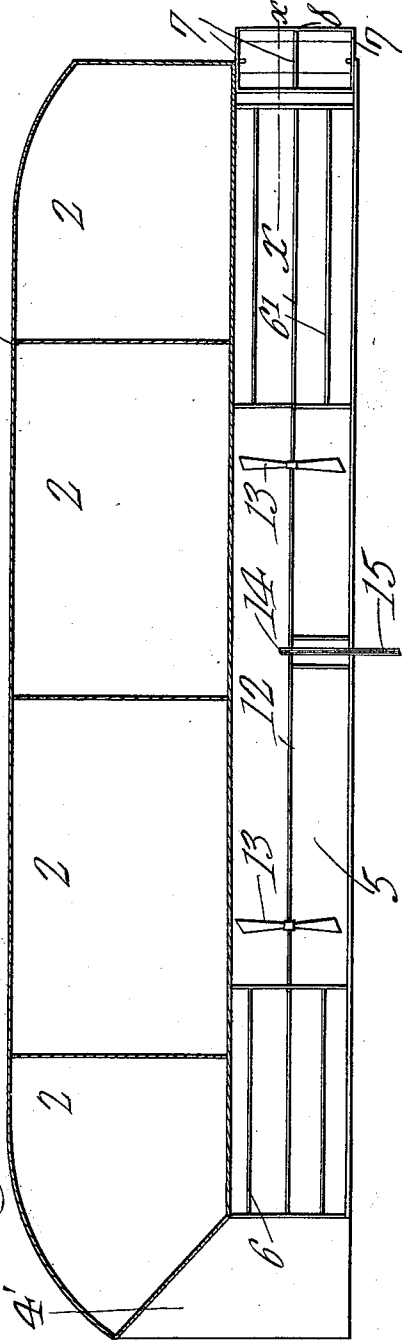


Fig. 2.



Witnesses

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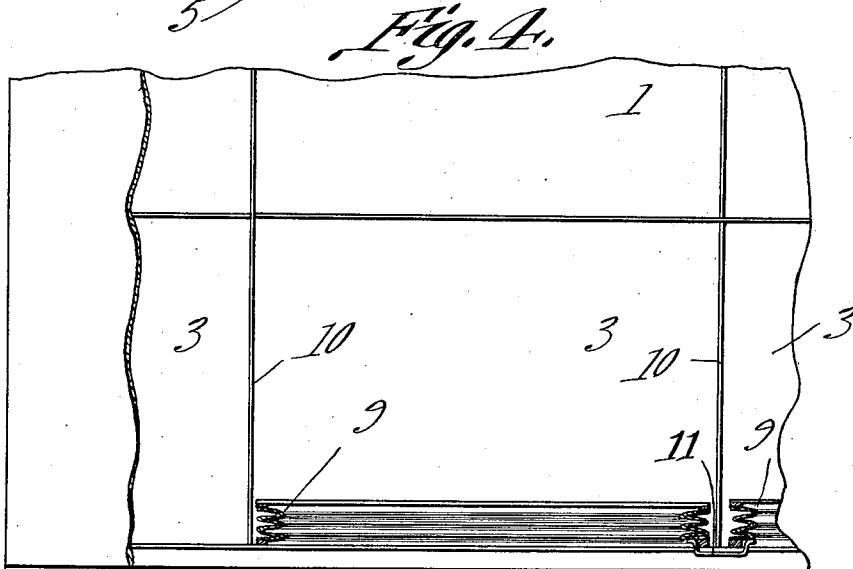
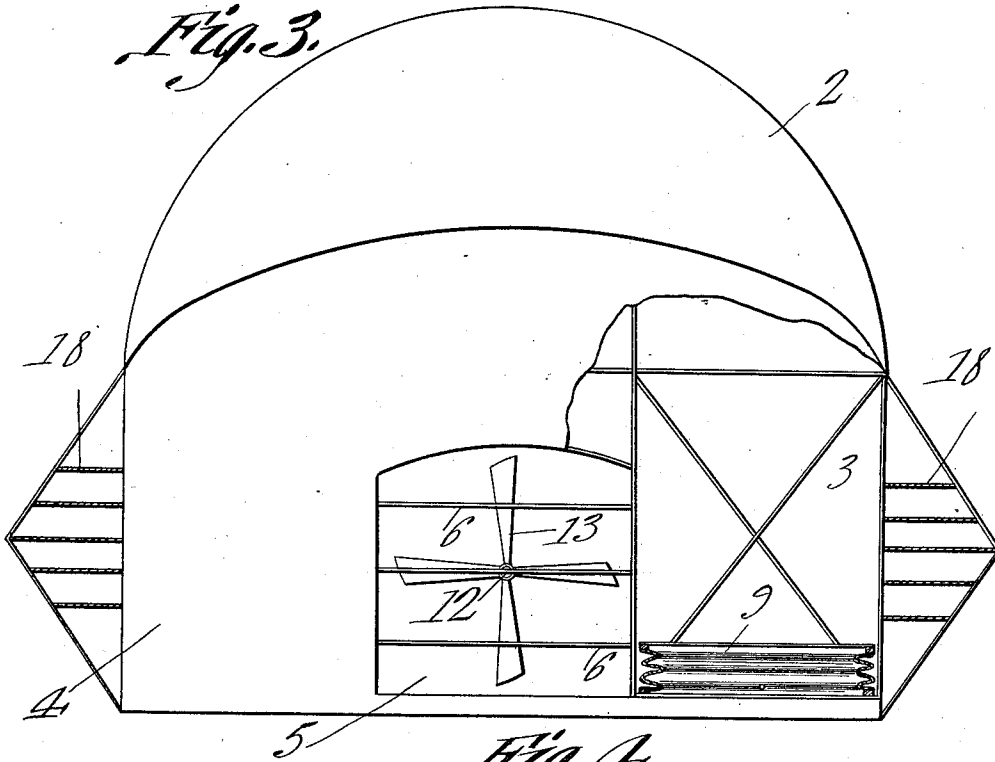
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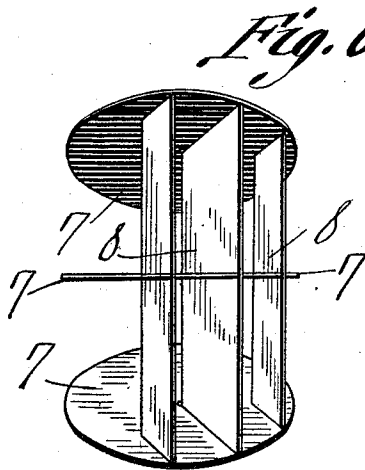
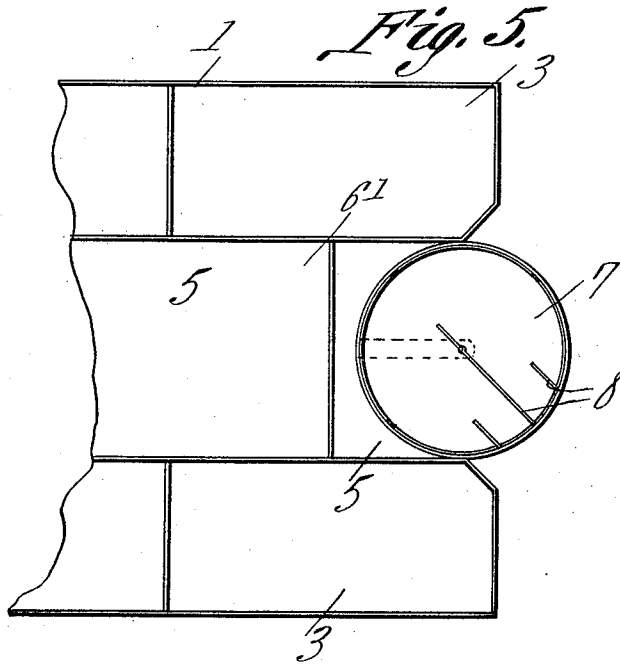
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UNITED STATES PATENT OFFICE.

WALTER HENRY CAMPKIN, OF FORT GAINES, GEORGIA.

AIRSHIP.

1,000,714.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed May 20, 1911. Serial No. 628,551.

To all whom it may concern:

Be it known that I, WALTER H. CAMPKIN, a citizen of the United States, residing at Fort Gaines, in the county of Clay and State of Georgia, have invented a new and useful Airship, of which the following is a specification.

This invention relates to an improvement in airships, the primary object of the invention being the provision of a dirigible, or lighter-than-air, airship, which is provided with gas-filled lifting compartments surrounding a longitudinally disposed air directing tunnel, in which is disposed the propelling propellers and the steering means, thus producing a combination which insures stability to the aircraft, and at the same time densifies the air conducted into and through the tunnel, so that a better and more powerful grip upon the air in tunnel may be secured by the propellers.

A further object of the invention, is the provision of a series of air-compressing devices, arranged and disposed to act as balancing or ballast devices, to compensate for the expansion and contraction of the gas, due to changes in temperature, said devices being so disposed with relation to the gas chamber, as to either add to or reduce the lifting power of the gas within the chamber.

A further object of the invention, is the provision of an air-ship provided with a longitudinal tunnel open at both ends, and provided with a flaring mouthed portion, which will conduct air gathered thereby into the tunnel, where, by reason of the area of such mouth portion, the air is densified within the tunnel, permitting a greater power grip upon the air by the propellers rotatably mounted in the tunnel; while combined with this mouth portion, a series of stabilizing and air-strata forming horizontally parallel planes are arranged within the tunnel.

A still further object of the invention is the provision of an air-ship having a longitudinal air-conducting tunnel, provided at its stern with a series of vertically arranged rudders, so disposed as to act in unison, to give to the air-ship rapid and steady steering means.

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 de-

scribed 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.

In the drawings:—Figure 1 is a side elevation of the complete airship. Fig. 2 is a longitudinal section thereof. Fig. 3 is a front elevation of the gas chamber portion of the air ship, with one of the gas-compressing and air-ballasting devices in section, the forward end of the body being cut-away to clearly show this feature. Fig. 4 is a longitudinal sectional view of one of the gas-compressing and air-ballasting devices in operable position, and depressed or deflated. Fig. 5 is a section taken on line X—X, of Fig. 2 looking downwardly. Fig. 6 is a perspective view of the rudder.

Referring to the drawings, the numeral 1 designates the main gas chamber or lifting body of the air-ship, the same being made either in a single gas chamber or a series of chambers, and having the upper portion 2, and the two parallel longitudinally disposed portions 3 and 4, which as shown provide the centrally and longitudinally disposed air-conducting and densifying, rectangular in cross-section, tunnel 5, the full length of the body of the air-ship, the bottom thereof comprising a flat portion or flooring beginning at the end of the flaring mouth 4' and terminating at the extreme end of the air-ship. The forward end 4', is in reality a flaring mouth, which gathers the air, and conducts it into the forward end of the tunnel, in which is mounted the stabilizing vertically parallel horizontally disposed planes 6, which thus divide the air into parallel layers or strata, so that when acted upon by the propellers 13 within the tunnel, no cross currents are produced, but a steady flow is insured, thus presenting to said propellers a densified air, which permits the propellers to secure a better propelling grip thereon. To the rear of the propellers are mounted the planes 6', which act in a similar manner to the planes 6, and conduct the air in layers after being acted upon by the propellers, to the vertically disposed rudder planes 8, mounted in parallel, between, the circular disks 7, which are pivotally mounted at the stern of the airship in the end of the tunnel. By this construction and effect, the rudder planes act upon, and are in turn acted upon by, the currents

of air passed through the tunnel, to produce a quick and steady acting steering device for the airship.

Mounted within the portions 3 and 4, and
 5 between the frames 10, are the series of bellows 9, which are connected together by means of the pipe 11, whereby air may be forced into said bellows to increase the weight of the gas chamber, and compress
 10 the gas therein, or the air may be released therefrom to increase the buoyancy of the gas chamber and permit the expansion of the gas therein. By this means, an air compensator or equilibrator is provided, which
 15 by reason of its parts being connected to an air-compressor 11', operated by the motor 16, carried in the passenger carrying frame 17, may be operated at will. It will thus be seen that the infusion of compressed
 20 air into these bellows, will cause them to expand or extend vertically and thus displace the gas in the gas chamber, reducing the lifting power of the gas, and simultaneously adding weight in compressed air.
 25 The release of the air in the bellows, it is obvious will have the opposite effect.

The propellers 13 are mounted upon the longitudinally journaled shaft 12, carrying a pulley or sprocket 14, which receives motion through the flexible connection or chain
 30 15, from the motor 16.

To lend stability to the gas chamber, and in fact the entire airship, the longitudinally and superimposed parallel planes 18, are
 35 employed, these being arranged upon each side of the portions 3 and 4, respectively, in sets. By means of these planes 18, the airship may soar and any tendency to sidewise pitching will be lessened by their action
 40 upon the air.

From the foregoing description, it is evident that a lighter-than-air dirigible aircraft is provided, which by means of the arrangement of the air conducting tunnel,
 45 it being open from end to end, and of the same area in cross-section throughout its length, will confine and densify the air, permitting the propellers, as well as the rudder, to secure a better grip upon the air, and
 50 thereby prove more efficient under any and all weather or air conditions, the current of air being so conducted that when in the tunnel, the same direction is assured, thus preventing any cross or impeding currents to
 55 the propelling and guiding power of the airship.

What is claimed, is:—

1. An airship having a gas chamber provided with a longitudinally disposed air-conducting tunnel open at both ends and
 60 providing two auxiliary gas chambers parallel to the gas chamber proper, and a series of air-actuated ballasting devices mounted in the auxiliary gas chambers.

65 2. An airship having a main gas chamber

in the dome thereof and having two longitudinally disposed auxiliary gas chamber portions, the main gas chamber and auxiliary gas chambers providing an open ended
 70 longitudinally disposed air-conducting tunnel, and a flaring portion to the forward end of the gas chambers leading to the front end of the tunnel.

3. An airship having a main gas chamber in the dome thereof and having two longitudinally disposed auxiliary gas chamber portions, the said gas chambers providing an open ended air-conducting tunnel longitudinally of the airship, and means mounted in the tunnel for dividing the air conducted
 80 therethrough into parallel strata.

4. An airship having a main gas chamber in the dome thereof and having two longitudinally disposed auxiliary gas chamber portions separated longitudinally by an
 85 open ended air-conducting tunnel, means mounted in the tunnel for dividing the air conducted therethrough into parallel strata, means mounted in the tunnel for propelling the airship, and means mounted at the end of and in the tunnel for guiding or steering the airship.

5. An airship having a main gas chamber and two communicating auxiliary gas chambers, providing an open ended longitudinally disposed air-conducting tunnel for the airship, and a series of horizontally disposed and vertically parallel strata producing planes disposed in said tunnel.

6. An airship having a main gas chamber and two communicating auxiliary gas chambers, providing an open ended longitudinally disposed air-conducting tunnel for the airship, propelling means mounted in the tunnel, steering means also mounted in the
 105 tunnel, and air-actuated compensating means mounted in the auxiliary gas chambers.

7. An airship having a main gas chamber and two communicating auxiliary gas chambers, providing an open ended longitudinally disposed air-conducting tunnel for the airship, propelling means mounted in the tunnel, steering means also mounted in the
 110 tunnel, and air-actuated ballasting means mounted in the auxiliary gas chambers.

8. An airship having a main gas chamber and two auxiliary gas chambers in communication therewith, said gas chambers providing a longitudinally disposed tunnel
 120 open at both ends and of the same area in cross-section throughout its length, propelling means mounted in the tunnel, steering means also mounted in the tunnel, and air strata forming means also mounted in the
 125 tunnel.

9. An airship having a main gas chamber and two auxiliary gas chambers in communication therewith, said gas chambers providing a longitudinally disposed tunnel of
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the same area in cross-section throughout its length, and air ballasting means mounted in the auxiliary gas chambers for compressing the gas in the chambers to increase the ballast and for permitting the gas to expand to lessen the ballast.

10. An airship having a main gas chamber and two auxiliary gas chambers, and a series of bellows mounted in the auxiliary gas chambers adapted to be extended to compress the gas in the chambers to add ballast to the airship, and to collapse to permit the gas in the chambers to expand and decrease the ballast.

11. An airship having a main gas chamber and two auxiliary gas chambers in communication, said gas chambers providing an air-conducting tunnel throughout the length of the airship, air strata forming planes mounted in the tunnel, propelling means mounted in the tunnel and acting upon the strata of air in the tunnel, a rudder mounted at the end of the tunnel, and a series of longitudinally disposed stability planes mounted upon each side and the full length of the airship.

12. An airship having a main gas chamber and two auxiliary gas chambers in com-

munication, said gas chambers providing an air-conducting tunnel throughout the length of the airship and open at both ends, air strata forming planes mounted in the tunnel, propelling means mounted in the tunnel, steering means also mounted in the tunnel at the stern of the airship, means for compressing the gas in the chambers and permitting the gas therein to expand to form ballasting means for the airship, and stability and soaring planes mounted upon each side of the airship and disposed the full length thereof.

13. An airship having an air-conducting tunnel open at both ends and extending the full length of the airship, and a rudder disposed in the stern of the airship and in the tunnel, comprising a series of circular disks pivotally mounted in the tunnel, and a series of vertically disposed parallel planes or blades connecting said disks.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WALTER HENRY CAMPKIN

Witnesses:

BEN M. TURNIPSEED,
J. H. HASKINS.