J. W. BATDORF.

AIRSHIP.

APPLICATION FILED MAR. 10, 1911.

1,031,230.

Patented July 2, 1912.

2 SHEETS—SHEET 1.

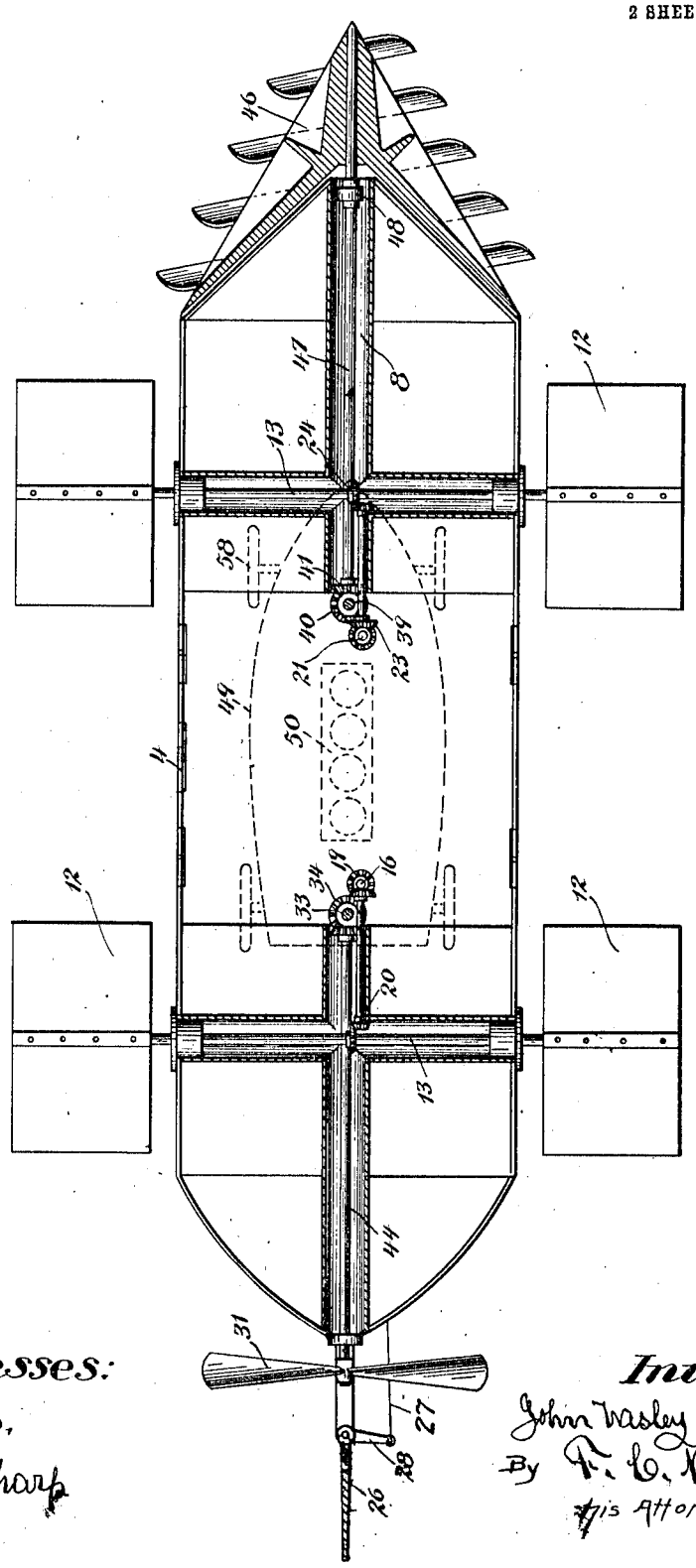

Fig. 1.

Witnesses:
E. Lozzens.
M. W. Sharp

Inventor:
John Wesley Batdorf
By F. C. Bates
His Attorney.

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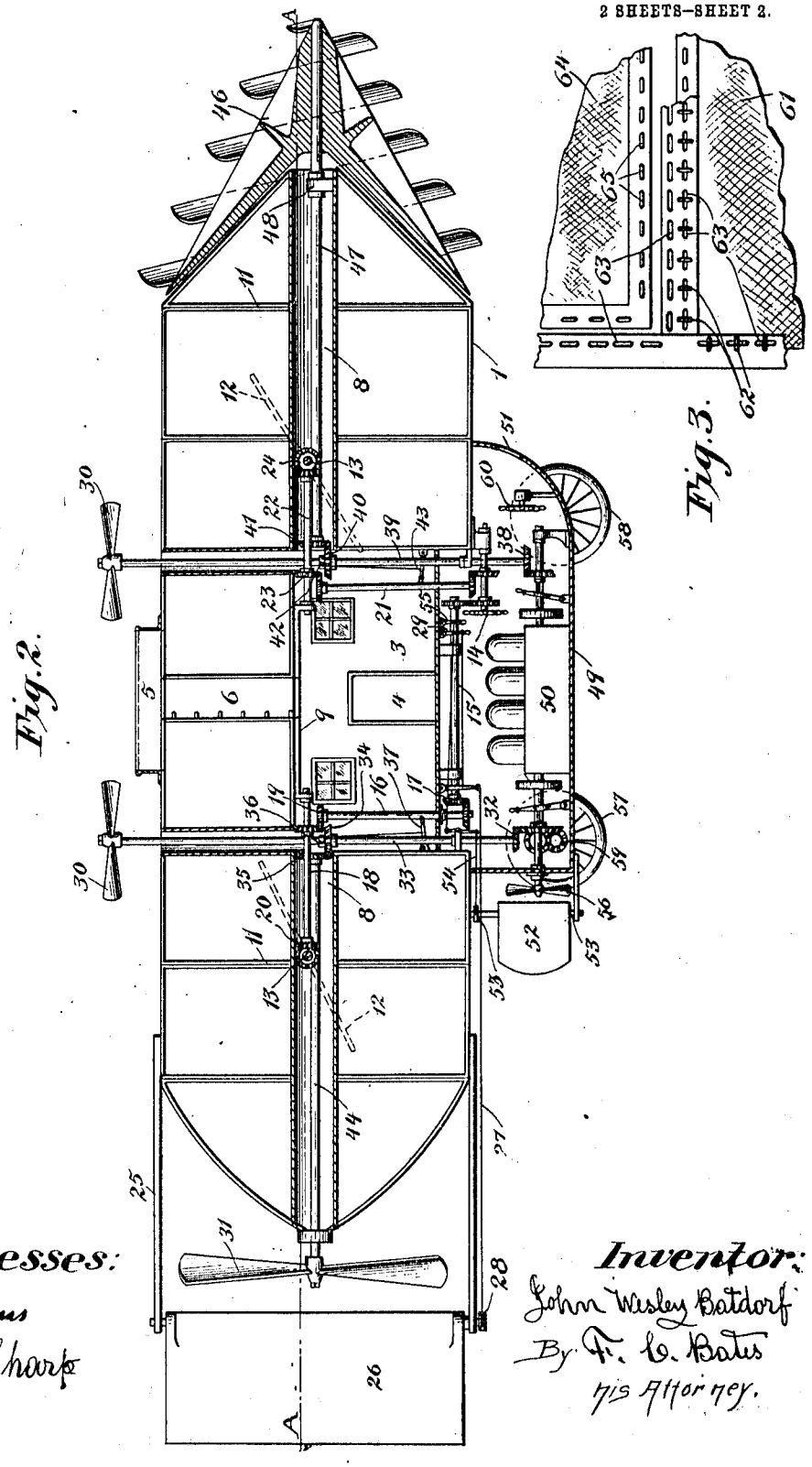

Fig. 2.

Fig. 3.

Witnesses:

E. Cozzens

M. W. Sharp

Inventor:

John Wesley Batdorf

By F. C. Bates

His Attorney.

UNITED STATES PATENT OFFICE.

JOHN WESLEY BATDORF, OF SAN JOSE, CALIFORNIA.

AIRSHIP.

1,031,230. Specification of Letters Patent. Patented July 2, 1912.

Application filed March 10, 1911. Serial No. 613,665.

To all whom it may concern:

Be it known that I, JOHN WESLEY BATDORF, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented a new and useful Improvement in Airships, of which the following is a specification.

My invention relates to improvements in airships, and the objects of my invention are—1st—to so construct a mechanically driven airship which will not only navigate in the air, but also on land or on water as the occasion requires. 2nd—to construct an airship that will divert the air pressure in the path of travel, thereby bringing the head resistance of the air to a minimum. I attain these objects by the means of the appliances illustrated in the accompanying drawings, in which—

Figure 1 is a cross section view on the line of A—A, Fig. 2. Fig. 2 is a vertical axial section, and Fig. 3 is a detail view showing the method of buttoning the sections of the covering.

In the drawings similar numerals refer to similar parts.

My invention consists of an elongated bag or frame 1 running to a point at both prow and stern, and is constructed of suitable material. The covering thereof is made in sections buttoned together, as shown at Fig. 3, so that any section can be easily removed. There is a cabin, 3 Fig. 2, at the lower central part of said bag or frame, and the door leading into the cabin is shown at 4; the sides of the cabin follow the contour of the bag, and the ends of the cabin are inclosed within the bag. On the top of the frame, half way between the prow and the stern, I have located an observation bridge 5, Fig. 2, with a passage-way 6 running thereto from the cabin. The floor of the bridge is attached to the top of the bag, and the floor of the cabin is laid within the bag, each having a level surface. Running from both the prow and the stern through said bag centrally, and terminating in the end walls of the cabin, near the ceiling thereof, are hollow cores 8. Attached to these cores and extending outward with the opposite ends thereof attached to the inner side of the bag or frame, as shown at 10 are arms 11, Fig. 2, arranged equi-distant from each other within the circumference of the bag. These arms are to hold the bag in shape and to give it the proper rigidity. I prefer to arrange these arms in groups of four with a sufficient number of these groups to accomplish the purpose desired.

My airship is here presented with four planes, shown at 12 at the sides of the bag, working in pairs, two toward the stern and two toward the prow of the bag. There is a rod 13 connecting each of said pairs at their centers. This rod runs through the center of the bag and through core 8 and bears upon the upper surface of arms 11. These planes can be turned at any angle by means of shafts provided with bevel gears operated by wheels shown at 14 Fig. 2. The pair of planes toward the stern are operated by shafts 15 and 16 connected by bevel gears 17, and by bevel gears 19 connecting shafts 16 and 18 and the bevel gear 20 at the opposite end of shaft 18 turns the planes on rod 13. The planes toward the prow are operated by means of shafts 21 and 22 connected by bevel gears 23, the planes being turned by bevel gears 24 connecting shaft 22 and rod 13. Yoke 9, Fig. 2, extends along the ceiling of the cabin, and shafts 18 and 22 have their bearings in opposite ends of said yoke.

Pivoted between rods 25—25, which are attached to and run backward from both the top and the bottom of the frame, is a rudder 26, controlled by a lever rod 27 attached at the bottom of pivot rod 28, as shown at Fig. 2. Rod 27 extends forward to the operators station at the prow of the boat, who operates the rudder by means of lever 29.

Extending over the bag are two altitude propellers 30, one at a distance from each end of the observation bridge 5, and between the rudder and the rear end of the bag is the rear propeller 31. These propellers are rotated by means of shafts and bevel gears, as follows:—The propeller 30 toward the stern is rotated by bevel gear 32, and shaft 33. Shaft 33 is broken and is thrown in and out by means of clutch 36 operated by lever 37. Propeller 30 toward the prow is rotated by bevel gear 38, and shaft 39. Shaft 39 is broken and is thrown in and out by means of clutch 42 operated by lever 43. Rear propeller 31 is rotated by bevel gears 32, shaft 33 and bevel gears 34 and 35, which last mentioned gear drives

shaft 44 running backward through core 8. The propeller 31 is rigidly attached to shaft 44.

Arranged at the front end of the bag or frame is an air diverter 46. It consists of a cone with spiral blades starting at the point of the cone and encircling the same from the point to the base, as shown at Figs. 1 and 2. The object of this diverter is to break up the currents of air in the path of the ship. It also forces the air backward and incloses the craft in a cylindrical envelop of air, making a stable atmosphere about the ship, with a decided rear pressure brought about by the diverted air closing in to form a normal atmosphere. Diverter 46 is rigidly attached to the end of shaft 47 running through core 8 with roller bearings in the nose of the bag, as shown at 48. Shaft 47 is driven by bevel gears 38, shaft 39 and bevel gears 40 and 41, Fig. 2.

Under the bag, located at the center thereof, is a boat, shown at 49, Fig. 2. This boat is mechanically driven, and is adapted to be used in case navigation in water is necessary or desirable. The engine is located in the boat, as shown at 50 Fig. 2. The operator is stationed at the prow of the boat, and there is an observation window located in the prow shown at 51. The engineer is located in the stern of the boat. The rudder of the boat is shown at 52 pivoted between rods 53—53, and operated by rod 54 and lever 55. The propeller of the boat is shown at 56 between the rudder and the stern of the boat and is rotated on a shaft running directly from the engine.

In case it is necessary or desirable to navigate on land I have provided my airship with wheels, shown at 57 and 58, Fig. 2, two at each end of the boat. These wheels are mounted on substantial running gear and are driven by gears 59 in the rear of the boat. The front wheels 58 are guided by wheel 60 in the front end of the boat. Covering, shown at 61, Fig. 3, is shown buttoned to frame by buttons 62 turned at an angle to button holes 63. The covering is shown at 64 Fig. 3 ready to be buttoned in place; buttons 65 being turned parallel to button holes 63.

Having thus described my invention what I claim and desire to secure by Letters Patent is—

An airship comprising an elongated rigid frame, tapering to a point at each end thereof, a cabin within said frame, hollow cores extending from said cabin in opposite directions through the center of said frame to the prow and stern thereof, a shaft in each of said cores, a propeller attached to the shaft at the stern and means for rotating the same, a rudder, a distance beyond said propeller, connected to said frame at the stern thereof, an air diverter, with spiral blades encircling the same, revoluble around the tapering point at the prow, said diverter being attached to the shaft in the core, means for rotating said diverter, and a boat member provided with wheels below said frame and rigidly and snugly attached thereto.

JOHN WESLEY BATDORF.

Witnesses:
B. H. CONKLING,
M. W. SHARP.