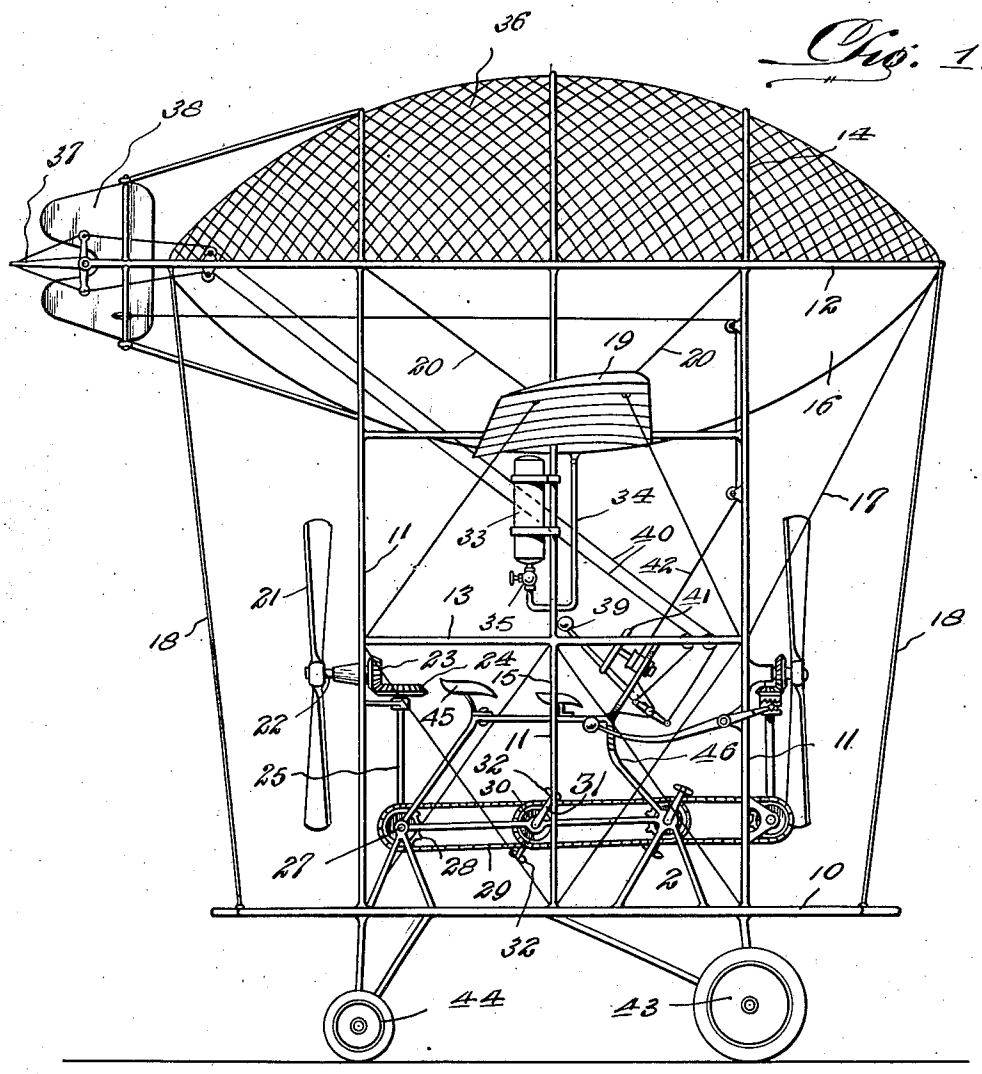
Aug. 19, 1924. 1,505,376

C. S. CLOSE

AIRSHIP

Filed Oct. 9, 1922 2 Sheets-Sheet 1

Fig. 1.



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WITNESS:

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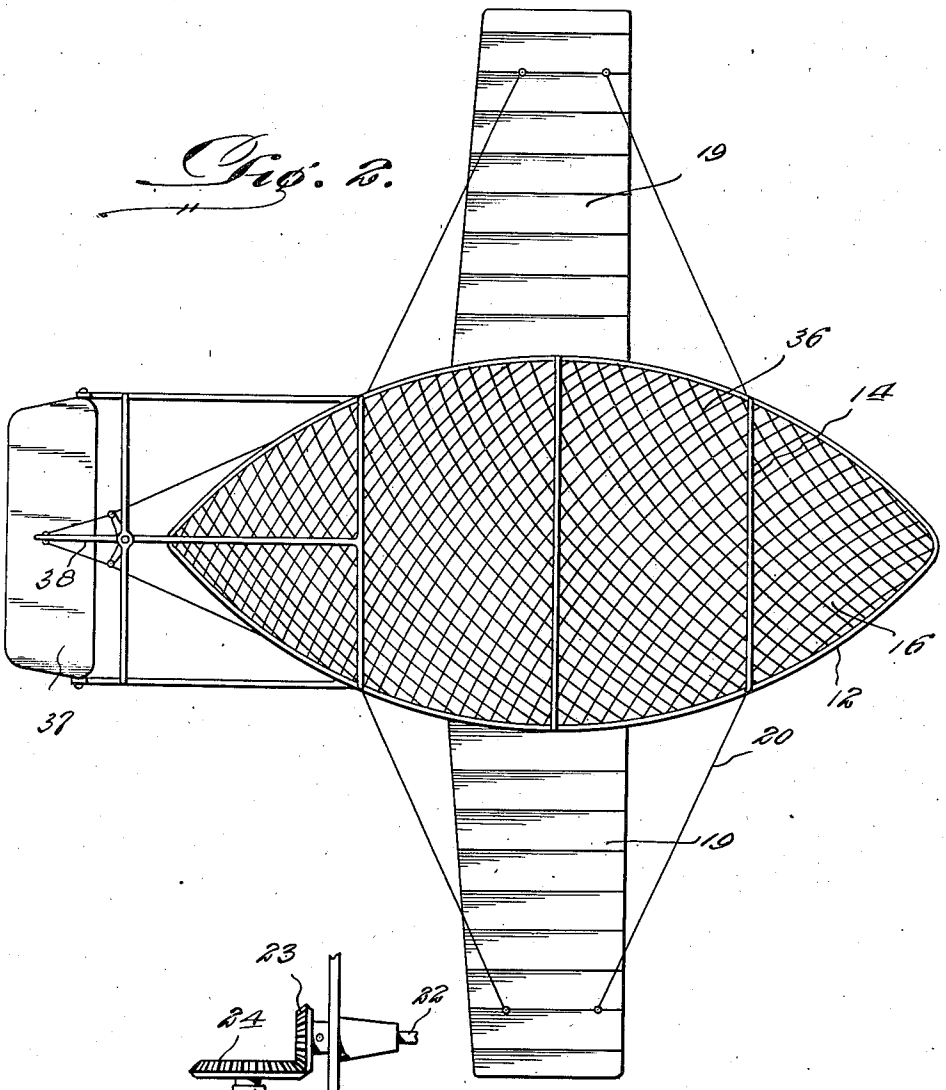
Fig. 2.



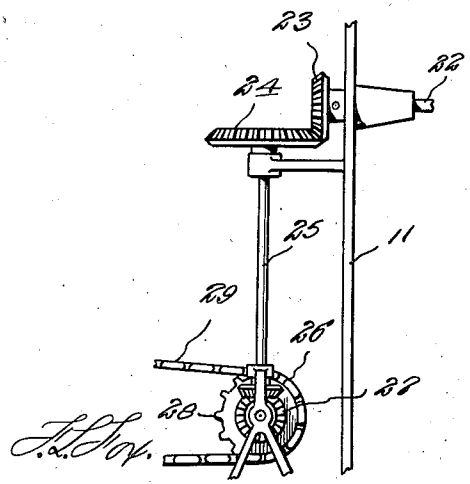


Fig. 3.

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Patented Aug. 19, 1924. 1,505,376

UNITED STATES PATENT OFFICE.

CHARLES S. CLOSE, OF BOLIVAR, PENNSYLVANIA.

AIRSHIP.

Application filed October 9, 1922. Serial No. 593,372.

To all whom it may concern:

Be it known that I, CHARLES S. CLOSE, a citizen of the United States, residing at Bolivar, in the county of Westmoreland and State of Pennsylvania, have invented new and useful Improvements in Airships, of which the following is a specification.

This invention relates to improvements in airships and has for an object the provision of a heavier than air machine which combines both a dirigible and airplane type and includes an inflated bag or envelope and sustaining means, together with a driving propeller, whereby the machine may be driven and sustained in the air at slow or fast speeds and with a relatively small amount of power.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is a side elevation of an airship constructed in accordance with the invention.

Figure 2 is a top plan view of the same.

Figure 3 is a fragmentary view showing a portion of the mechanism for driving the propeller.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the machine is shown as comprising a frame which includes a base portion 10 from which rises spaced vertical standards 11 which are connected at their top by means of a horizontal frame 12 and at their sides by means of bars 13, while rising from the top of this frame are spaced arches 14 within which is mounted a bag or envelope 16 which is adapted to be suitably inflated. The bag or envelope is thus housed within the top of what may be termed the main frame of the machine and the latter is braced with suitable guy wires 17 and braces 18.

This bag or envelope 16 is designed to add buoyancy to the machine and to assist in sustaining the latter in the air, but its capacity is not sufficient to sustain the machine without some auxiliary means, the purpose being to provide a machine which is partly self sustaining so as to add to its safety, reduce the amount of power necessary for driving and sustaining the machine and at the same time provide a minimum amount of air resistance. For this purpose there extends from opposite sides of the main frame wings 19 which are suitably braced as shown at 20 and a propeller 21, which is located preferably at the rear of the frame.

The propeller 21 is mounted upon a shaft 22 which carries a beveled pinion 23 and the latter is engaged by a beveled gear 24 which is mounted upon the upper end of a vertically disposed shaft 25. This shaft is driven by beveled gears 26 from a horizontal shaft 27 and the latter carries a sprocket 28 which is connected by means of a chain 29 with a relatively large sprocket 30. This last mentioned sprocket is mounted upon a crank shaft 31 and the latter has secured thereto foot pedals 32. By this means sufficient power may be imparted to the propeller to sustain and propel the machine in flight.

In order to supply additional inflating means to the bag or envelope 16, in the event of leakage or from other causes, there is provided a container 33 which is connected to the bag 16 by a pipe 34 and the latter has included therein a controlling valve 35. Thus when necessary or desired, additional inflating means may be provided for the bag 16. A net 36 preferably covers the top portion of the bag 16.

The machine is provided with a horizontal rudder 37 and a vertical rudder 38 and the former is controlled by a hand lever 39 through the medium of ropes or cables 40, while the latter is controlled by a wheel 41 by means of ropes or cables 42.

The machine is preferably provided with suitable landing gear herein shown as front and rear wheels 43 and 44 respectively, while a seat 45 is provided for the convenience of the operator.

The seat 45 and a portion of the propeller driving mechanism is preferably mounted upon a frame 46 and the hand lever 39 and wheel 41 are also carried by this frame, so that a supplemental frame is contained within the main frame to provide proper mounting for the shafts 27 and 31.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is here-

in reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

An airplane comprising a horizontal base, a plurality of inverted U-shaped members supported thereon, a horizontally arranged substantially elliptical rim secured thereto adjacent their upper ends, rearwardly extending arms carried by the latter, a rudder supported by the arms, wings extending laterally from opposite sides of the inverted U-shaped members and an inflatable bag positioned in the elliptical rim, a foraminous covering overlying the inflatable bag, braces secured to the rim and base and means for propelling the device.

In testimony whereof I affix my signature.

CHARLES S. CLOSE.