

F. BARMETTLER.

AIRSHIP.

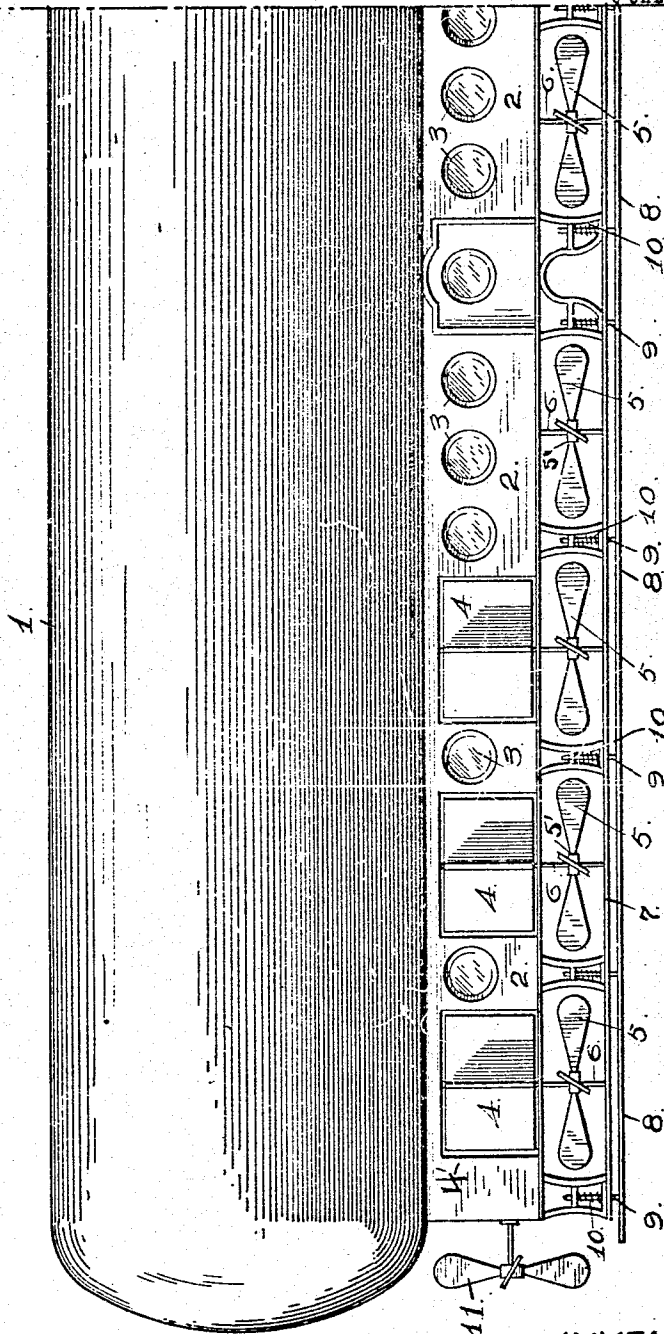
APPLICATION FILED MAR. 29, 1909. RENEWED SEPT. 6, 1910.

989,319.

Patented Apr. 11, 1911.

5 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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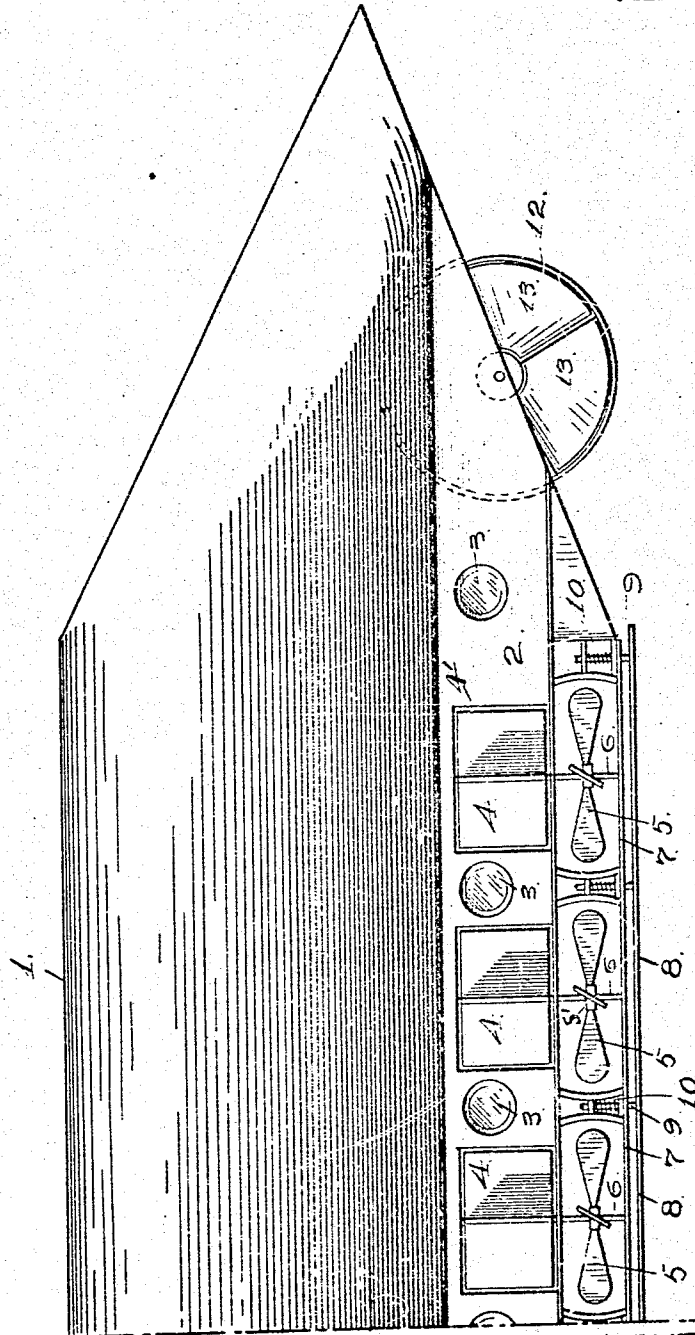
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989,319.

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5 SHEETS-SHEET 2.

Fig. 1 a.



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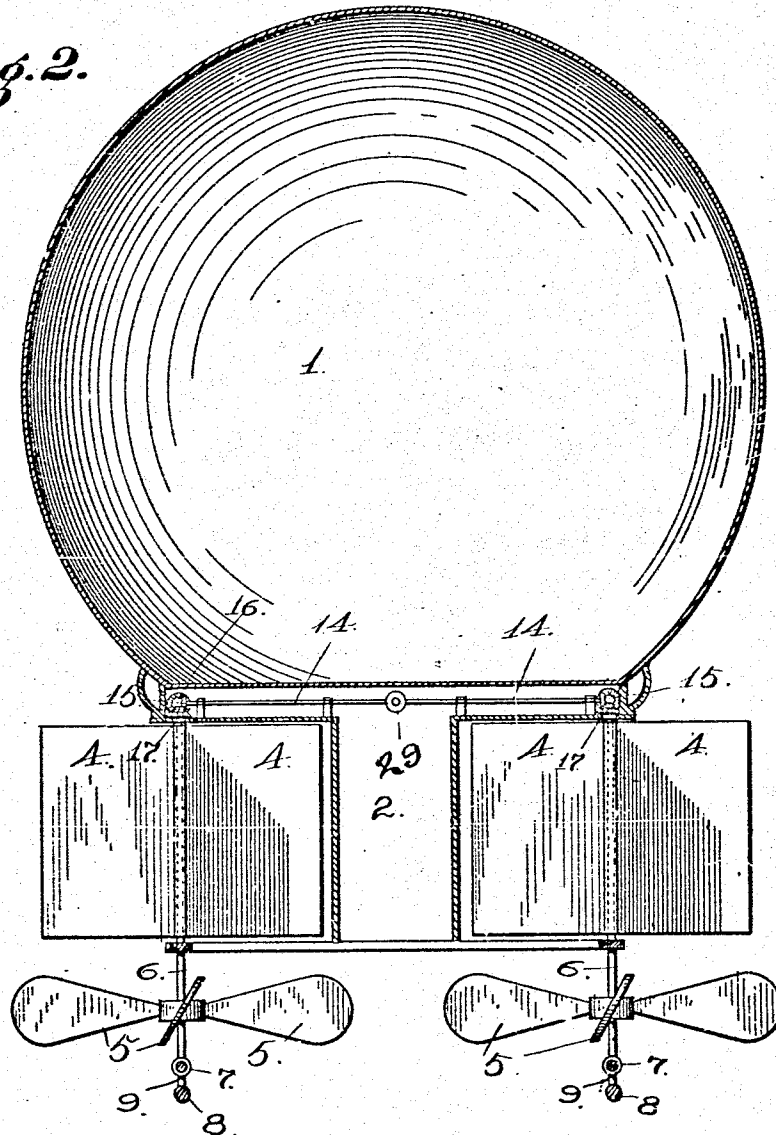
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5 SHEETS—SHEET 3.

Fig. 2.



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6 SHEETS-SHEET 4.

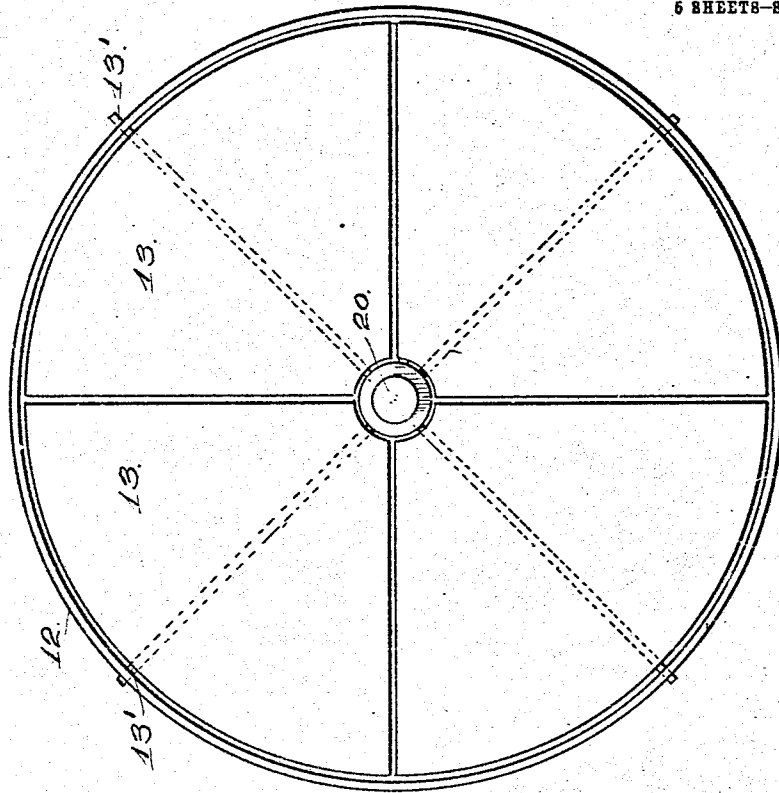


Fig. 4.

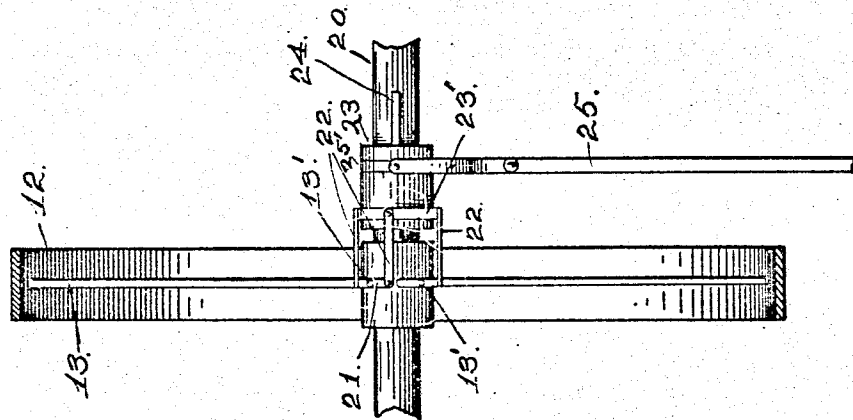


Fig. 3.

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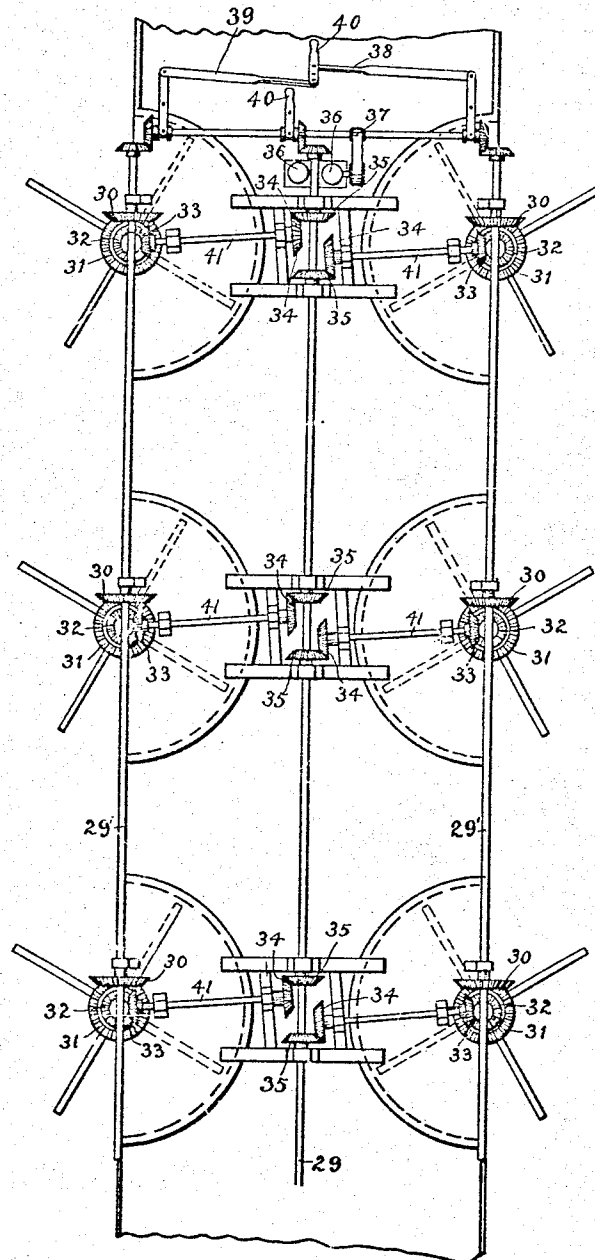
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5 SHEETS-SHEET 6.

Fig. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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AIRSHIP.

989,319.

Specification of Letters Patent.

Patented Apr. 11, 1911.

Application filed March 29, 1909, Serial No. 486,400. Renewed September 6, 1910. Serial No. 580,622.

To all whom it may concern:

Be it known that I, FLORENTIN BARMETTLER, a citizen of the Republic of Switzerland, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Airships, of which the following is a specification.

My invention relates to improvements in air-ships.

The object of my invention is to provide an air-ship which has great lifting power, and power of propulsion, as well as ease of dirigibility.

My invention consists in the novel arrangement and combination of parts shown in the accompanying drawings, described in the following specification and claimed in the appended claims.

Referring to said drawings, Figure 1 is a view of the rear portion of said air-ship, and Fig. 1^a is a view of the front portion of said ship, the said figures comprising a complete side elevation of the same. Fig. 3 is a broken detail view of the steering propeller. Fig. 2 is a transverse section of said air-ship on an enlarged scale, and Fig. 4 is a side elevation of said steering propeller. Fig. 5 is plan view of the interior driving mechanism of said air-ship.

In the figures 1 indicates a gas-holder of cylindrical form, pointed at its forward end, and supporting a structure or cabin 2, said cabin having the windows 3 for the illumination of the same. Vertical fans 4 and side propellers 5 are centrally secured to revoluble shafts 6, the side propellers being provided with hubs 5'. The shafts 6, to which fans 4 are attached are so placed that but half of the said fans, or a portion thereof, may be exposed without the structure 2 at one time while their revolution is taking place, the shafts 6 being preferably placed in proximity to the wall of said structure and in line therewith. The shafts 6 are supported at their lower ends by the sustaining rods 7 in which they are turnable. The openings in which fans 4 revolve are indicated by the numeral 4'. A landing base 8 has rods 9 secured in the lower structure or rods 7, but so as to permit the vertical movement of said rods 9, openings through the cross pieces intervening being provided, the lower ends of the springs inclosing said rods 9 being secured thereto, the springs being of greater diameter than

the rods 9 and being indicated by the numeral 10.

A steering propeller 12 with reversible blades 13 is situated at the forward end of the ship. The said blades 13 are pivoted at 13' the steering device being mounted on drive shaft 20. Arms 21 extend from the aforesaid pivots 13' and are pivotally connected by links 22 to the collar 23. The said collar 23 is slidable, being slidably keyed to shaft 20, the key on said shaft 20 being indicated by the numeral 24. Each side of lever 25 as shown in Fig. 3 is identical, being pivotally secured to the ring 25' loosely mounted in said collar in a suitable annular channel, the upper portion of said lever as secured to said ring 25' being preferably U-shaped, a handle depending therefrom as shown in said Fig. 3.

Each blade 13 is provided with a pivot 13', an arm 21, and a link 22 pivoted to the annular flange 23' on the collar 23. At the rear end of the vessel, shaft 14 is provided with gears 15 which engage gears 16 and 17 in the following manner: Gears 17 consist of two wheels mounted on the shaft 6, the upper wheel engaging the pinion 15, and the lower one the gear 16, whereby the rotation of the shafts 6 and the shafts connected to propellers 11 is accomplished, which latter shafts extend longitudinally through the interior of the said vessel.

29 indicates a central longitudinal shaft having a gear positioned on the forward end thereof as shown in Fig. 5. A belt 37 is driven by the engine 36 and operates a transverse shaft carrying a gear placed immediately thereon, said gear being controlled by a clutch operated by lower clutch lever 40 as shown. The ends of said transverse shaft carry gears controlled by clutches operated by upper clutch lever 40 pivoted to arms 38 and 39 as shown. When the gear placed immediately as mentioned engages the gear on the end of shaft 29 as mentioned said central shaft is driven. Said shaft 29 carries gears 35 which operate gears 34 secured to shafts 41 carrying gears 33, which operate gears 32 and thereby shafts 6. Additional power is provided by shafts 29' carrying gears 30 engaging gears 31 therefor and said shafts effect the movement of end propellers 11.

Any suitable belt or other connection may be provided for the movement of shaft 20 by the front transverse revoluble shaft. By

changing the direction of the blades 13 by the use of the operating mechanism shown and described a change in the direction of the flight of the vessel may be accomplished.

5 The gas-holder 1 to be filled with gas for raising the vessel is preferably constructed of aluminum, though other suitable material may be used, aluminum being preferable owing to its strength and comparative lightness. The gas-holder 1 to be filled with gas for raising the vessel as mentioned has preferably the cylindrical shape shown in the drawings, though its shape may be modified without departing from the spirit
15 of my invention. Vertical fans 4 are intended for the forward movement of the vessel and side propellers 5 to assist in its upward movement. By reducing the amount of gas in the gas-holder through a
25 suitable opening therein provided with a suitable valve, the further upward movement of the vessel may be retarded as well as its descent accomplished. The vessel is provided with a sharp prow, the front of the gas-holder being inclined downwardly and the front of the cabin being inclined upwardly, the inclined walls meeting centrally between the base of the vessel and its top. The lower structure 7 constitutes a stop for
30 the base 8. The construction of the vessel permits ample space for the passengers and their effects.

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

1. In an air-ship the combination of a gas-holder, a cabin, a plurality of fans centrally secured to revoluble shafts on each side of said cabin, a plurality of propellers
40 positioned below said fans, a front steering-wheel having centrally pivoted blades and rear propellers.

2. In an air-ship the combination of a gas-holder, a cabin, a plurality of fans centrally secured to revoluble shafts on each side of said cabin, a plurality of propellers positioned below said fans a front steering-wheel having centrally pivoted blades, slidable means connected to said blades for adjusting the same and rear propellers.
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3. In an air-ship the combination of a gas-holder, a cabin, a plurality of fans centrally secured to revoluble shafts on each side of said cabin, a plurality of propellers positioned below said fans a front adjustable steering wheel, rear propellers, a central longitudinal shaft, a shaft on each side of said central longitudinal shaft, gearing for the movement of said fans and propellers in operative connection with said shafts, a transverse shaft carrying gearing for the revolution of said shafts clutch mechanism for throwing said transverse shaft in and out of gear, and a landing base provided with vertical rods and springs for permitting its upward movement on contact with the ground.
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4. In an air-ship the combination of a gas-holder, a cabin, a plurality of fans centrally secured to revoluble shafts on each side of said cabin, a plurality of propellers positioned below said fans, a front steering-wheel having adjustable blades, rear propellers, a landing base provided with vertical rods and springs for permitting its upward movement on contact with the ground, and a lower structure secured above said landing base for intercepting such upward movement.
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5. In an air-ship the combination of a gas-holder, a cabin, said gas-holder and said cabin inclining at the front of said vessel so as to form a sharp prow for the same, a plurality of fans centrally secured to revoluble shafts on each side of said cabin, a plurality of propellers positioned below said fans, a front steering wheel having adjustable blades, rear propellers, a landing base provided with vertical rods and springs for permitting its upward movement on contact with the ground, and a lower structure secured above said landing base for intercepting such upward movement.
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In testimony whereof I affix my signature, in presence of two witnesses.

FLORENTIN BARMETTLER.

Witnesses:

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