

(No Model.)

G. T. L. GABRIELII.

BALLOON SHIP.

No. 500,326.

Patented June 27, 1893.

Fig. 1.

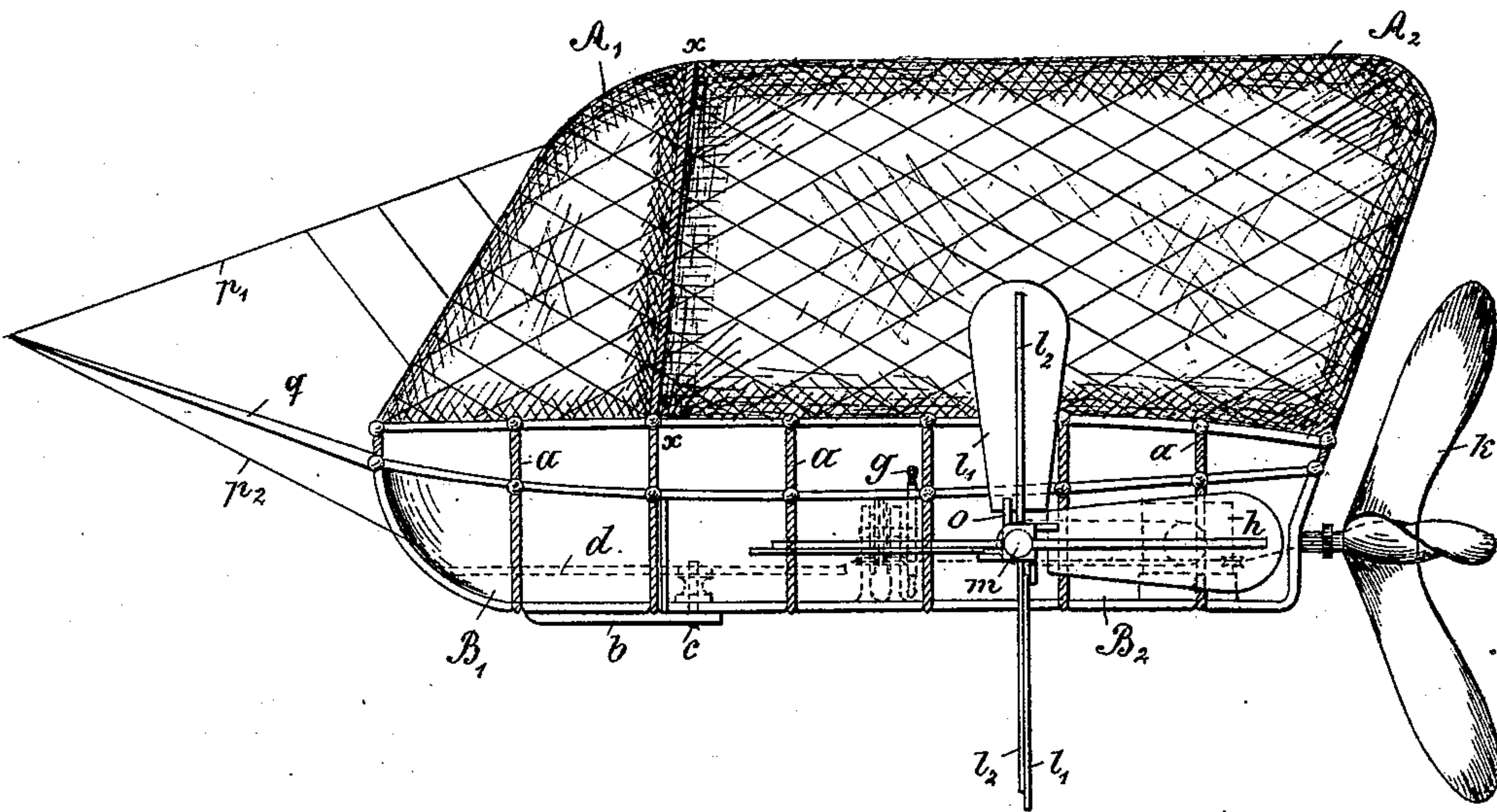
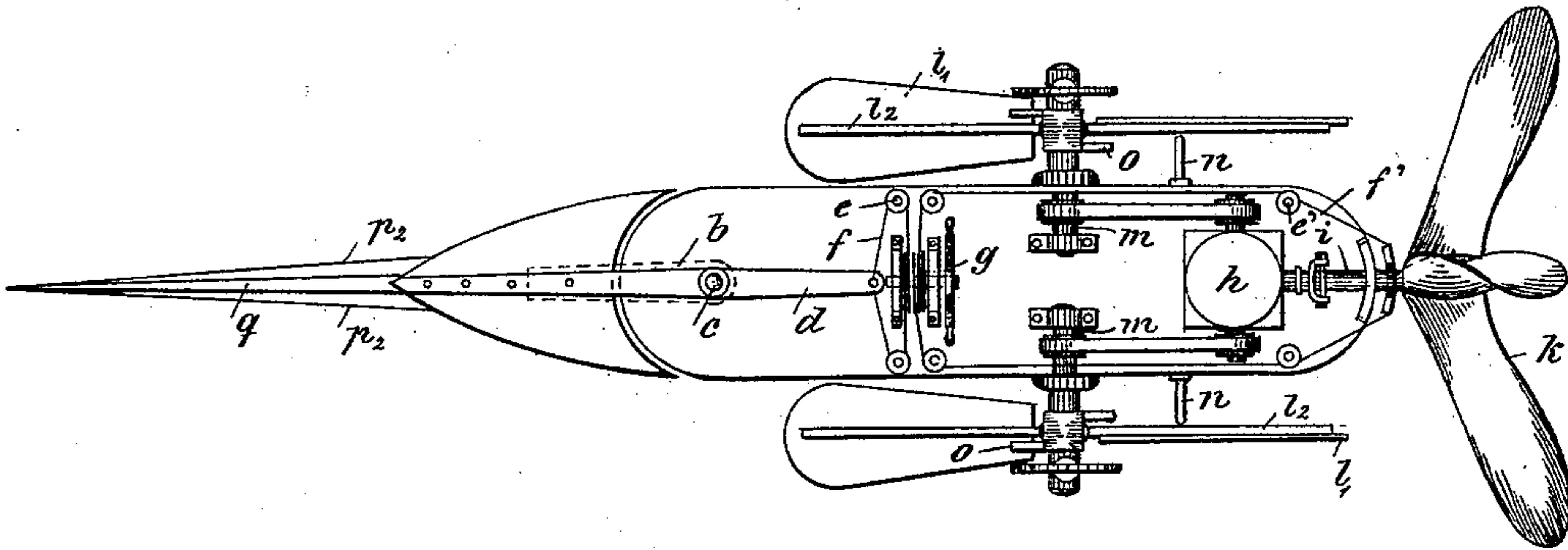


Fig. 2.



Witnesses:

E. H. Sturtevant

A. J. Underhill

Inventor:

G. T. L. Gabrielii.

per Richards & Co.

Attorneys



# UNITED STATES PATENT OFFICE.

GEORG THEODOR LAGUS GABRIELII, OF CHRISTIANIA, NORWAY.

## BALLOON-SHIP.

SPECIFICATION forming part of Letters Patent No. 500,326, dated June 27, 1893.

Application filed June 16, 1892. Serial No. 436,947. (No model.)

*To all whom it may concern:*

Be it known that I, GEORG THEODOR LAGUS GABRIELII, merchant, a subject of the King of Sweden and Norway, and a resident of Christiania, Norway, have invented certain new and useful Improvements in Balloon-Ships, of which the following is a specification.

The invention is presented on the inclosed drawing, wherein—

10 Figure 1 shows the balloon-ship in side-elevation, Fig. 2 the same in bottom plan view.

15 A' A<sup>2</sup> is the balloon, which is filled with hydrogen or another kind of gas, and to which the ship B' B<sup>2</sup> is fastened with straps *a*. This ship, which is built on frames and between the frames inside covered with bamboo or another light material, is likewise made of light material, as aluminium, and is divided into two parts, head-and after-body, which, by 20 a bar *b* fixed to the head and revolving about a tap *c* in the bottom of the after-body, are combined so that the head B' by the guide-rod *d* from the after-body B<sup>2</sup> can be turned toward star-board or port and thereby cause 25 the steering of the ship in the one or other direction. The movement of the guide-rod *d* is effected by pulley blocks and lines *e f* together with the drum and wheel *g*; gearing can also of course be used.

30 The motion of the ship is brought about by the paddles and screw, moved by one or other motor *h*, as shown. To the shaft *i* is the main screw *k* fastened preferably so that by means of blocks and lines *e' f'* and the drum and 35 wheel *g* it can be turned about a little segment from the right to the left, independent of the ship, and thereby lighten the steering. From the same motor *h* through the shafts *m* the paddles get their rotary motion. These paddles cut the air on half of their revolution but 40 catch the air on the other half of the revolution. This, which of course must be effected for the attainment of the proper working, is accomplished by having the opposite blades *l'* of the 45 paddles fastened in couples to the revolving bar *l*<sup>2</sup> in the shaft *m*, so that the one must cut the air, while the other catch the same. The turning of the blades at the proper time is effected by a tap *n* placed on the side of the 50 ship, and being so long, that the blade, which catches the air, strikes against the same and

is turned about one-fourth of the periphery of the circle till the feather in the blade *o* hinders further turning; at the same time the opposite blade, which cuts the air, makes a corresponding turning, the movement is limited. 55 The driving connection to the paddles ought to be arranged so that one paddle can be stopped while the other is working. The balloon after the line *x* is divided in two parts A' A<sup>2</sup>, 60 answering to the ship's head and after-body and is further secured to the ship B' B<sup>2</sup> by stays *p' p*<sup>2</sup> and bowsprit *g*.

It will be noticed from Fig. 1, that the steering portion B' forms practically a part of the 65 ship's body and thus not only acts as a rudder but also acts as a carrying space or part of the ship. For this purpose the front end of the main part B<sup>2</sup> is rounded and the adjacent end of the part B' is formed to correspond both 70 being struck from the point *c*, as a center.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is— 75

1. In combination, the balloon, the ship, the connections between the two, said ship being formed in two sections B', B<sup>2</sup> pivotally connected at *c*, the meeting ends of said sections being on a curve struck from said point *c*, as 80 a center, substantially as described.

2. In combination, the balloon, the ship connected thereto and formed in two sections B', B<sup>2</sup>, the section B' having an arm *b*, attached thereto and pivoted to the section B<sup>2</sup> at *c*, the 85 rod *d*, forming an extension of the arm *b*, and the means for operating the rod, consisting of the drum and wheel *g*, the lines *f*, extending laterally from each side of the rod and drum and the pulley blocks *e*, about which the lines 90 pass, substantially as described.

3. In combination in an air ship of the balloon the ship structure, the screw *k* with means for operating the same, the said screw being adjustable laterally, the means for ad- 95 justing the same, the segment upon which the screw is adjusted, the said ship structure being formed in two sections B', B<sup>2</sup> hinged together and the means for adjusting the relation of the same, simultaneously with the ad- 100 justment of the screw, substantially as described.

4. In combination, the ship formed in two sections pivotally connected with each other, the means for adjusting the said sections relative to each other, the balloon divided into
- 5 two parts connected with each other and corresponding to the two sections of the ship and the connections from the ship sections to the corresponding balloon sections, substantially as described.

In testimony that I claim the foregoing as to my invention I have signed my name, in presence of two witnesses, this 28th day of May, 1892.

GEORG THEODOR LAGUS GABRIELII.

Witnesses:

AXEL GOTTFRED GRÖNN LAHN,  
RICHARD EMANUEL STOKK.