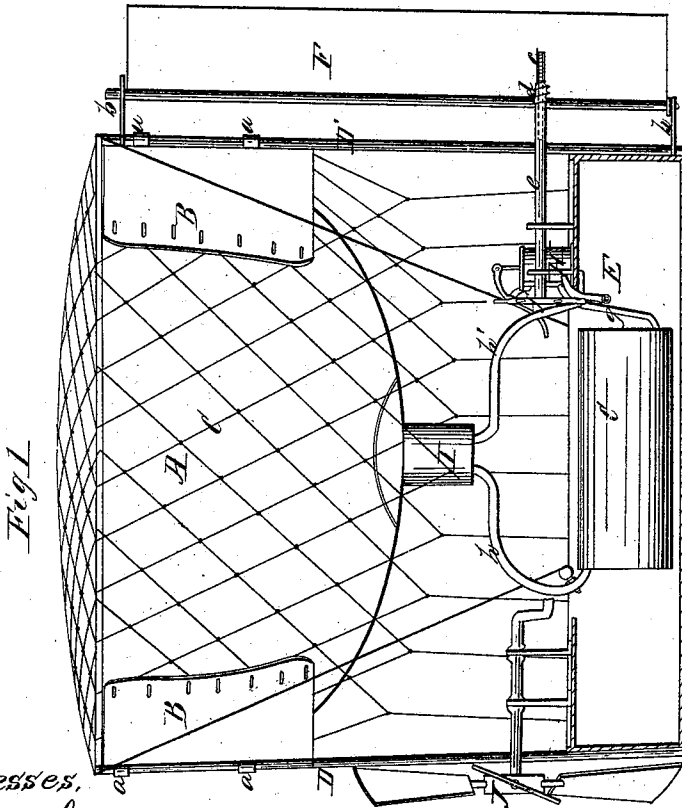
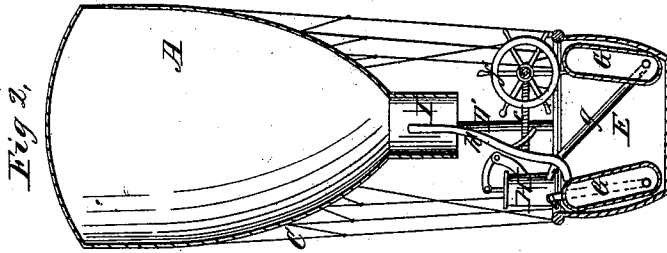


J. H. CONNELL.
AIR BALLOON.

No. 40,608.

Patented Nov. 17, 1863.



Witnesses,
J. W. Combs
Geo. W. Reed

Inventor
J. H. Connell
By Munn & Co
Attys

UNITED STATES PATENT OFFICE.

JAMES H. CONNELL, OF LEXINGTON, KENTUCKY.

IMPROVEMENT IN BALLOONS.

Specification forming part of Letters Patent No. 40,608, dated November 17, 1863.

To all whom it may concern :

Be it known that I, JAMES H. CONNELL, of Lexington, in the county of Fayette and State of Kentucky, have invented a new and useful Improvement in Air Balloons; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a transverse vertical section of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the arrangement of posts secured to the ends of the balloon, and also to the bow and stern of the boat or car, in such manner that the balloon and the car are firmly connected, and in passing through the air act as one body.

To enable those skilled in the art to make and use my invention, I will proceed to describe it.

A represents the balloon, the top and sides of which are cut out in such a manner that said balloon when it is inflated assumes the shape of a huge boat with a sharp bow and stern, capable of passing through the air with the least possible resistance.

The balloon is made of oil-silk, or any other suitable material impervious to gas, and its ends are strengthened by two pieces, B, of stout canvas or other suitable material. These pieces are secured to the balloon by means of the netting C, from which the car is suspended, and they are provided with straps or loops *a*, to secure the posts D D', one on the bow and the other at the stern of the balloon.

E is the car, which is of such a length that its ends reach the posts D D', and that it can be firmly fastened to the same. Said posts

are made of some kind of strong light wood, and their object is to hold the balloon in position above the car. The post D' also serves to attach the rudder F, the post of which turns in brackets *b*, extending from the post D'. The position of the rudder is governed by means of a worm-wheel, *c*, which is firmly secured to the rudder-post, and which gears into a worm screw, *d*, on the end of the shaft *e*, to the rear end of which the wheel *f* is firmly secured.

The car E is provided with one or more gas-chambers, G, which connect by pipes *g* with the pump H, and pipes *h h'* extend from the pump and from the gas-chambers to the neck I, through which gas is admitted to or withdrawn from the balloon. The chambers G are filled with gas compressed therein by means of the pump, and, if it is desired to inflate the balloon, suitable stop-cocks are opened and the gas is admitted through the pipes *h*. When it is desired to exhaust the balloon, the gas is drawn out by the pump through the pipes *h'* and returned to the chambers G. By these means the balloon can be made to ascend or descend at pleasure, or the balloon may be first inflated in the ordinary manner, and the gas from the same compressed in the chambers G. A propeller, J, which rotates on a shaft extending over the bow of the car, is intended to propel the balloon in the desired direction.

What I claim as new, and desire to secure by Letters Patent, is—

The posts D D', in combination with the balloon A and car E, constructed and applied in the manner and for the purpose substantially as herein shown and described.

J. H. CONNELL.

Witnesses:

M. G. THOMPSON,
GEO. W. CREIGHTON.