

No. 606,942.

Patented July 5, 1898.

J. T. RICE.
FLYING MACHINE.

(Application filed Aug. 9, 1897.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

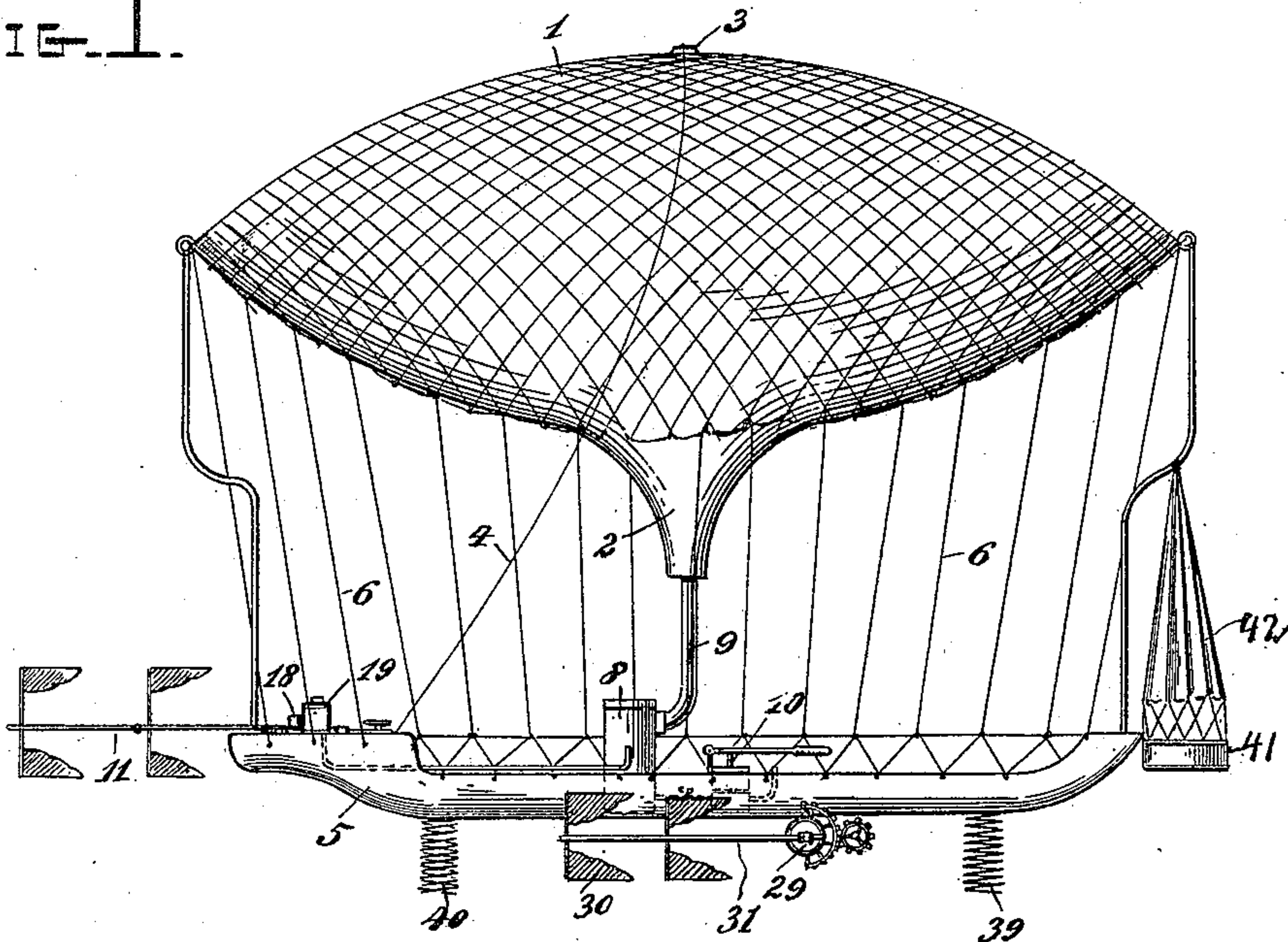
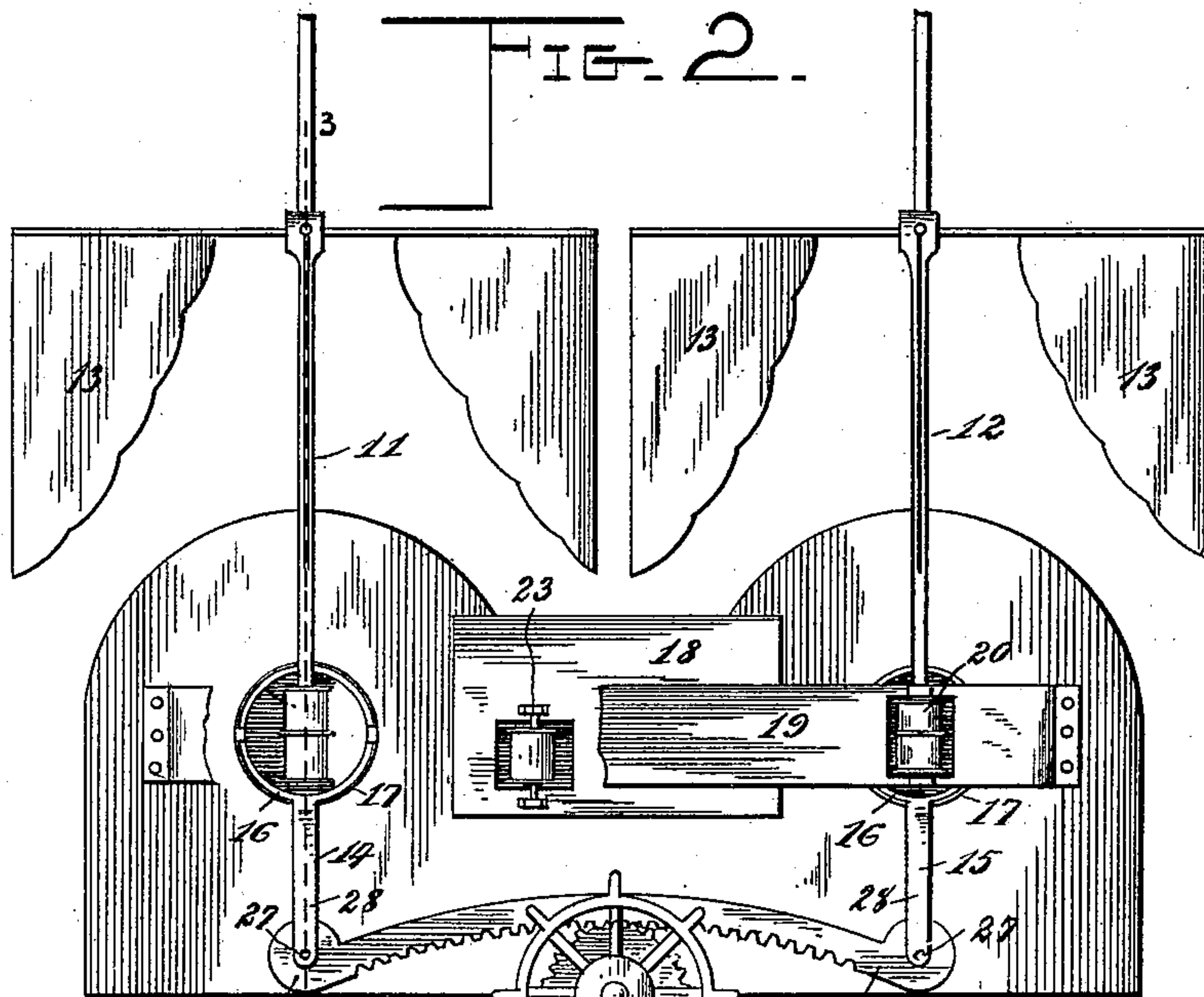


FIG. 2.



WITNESSES:

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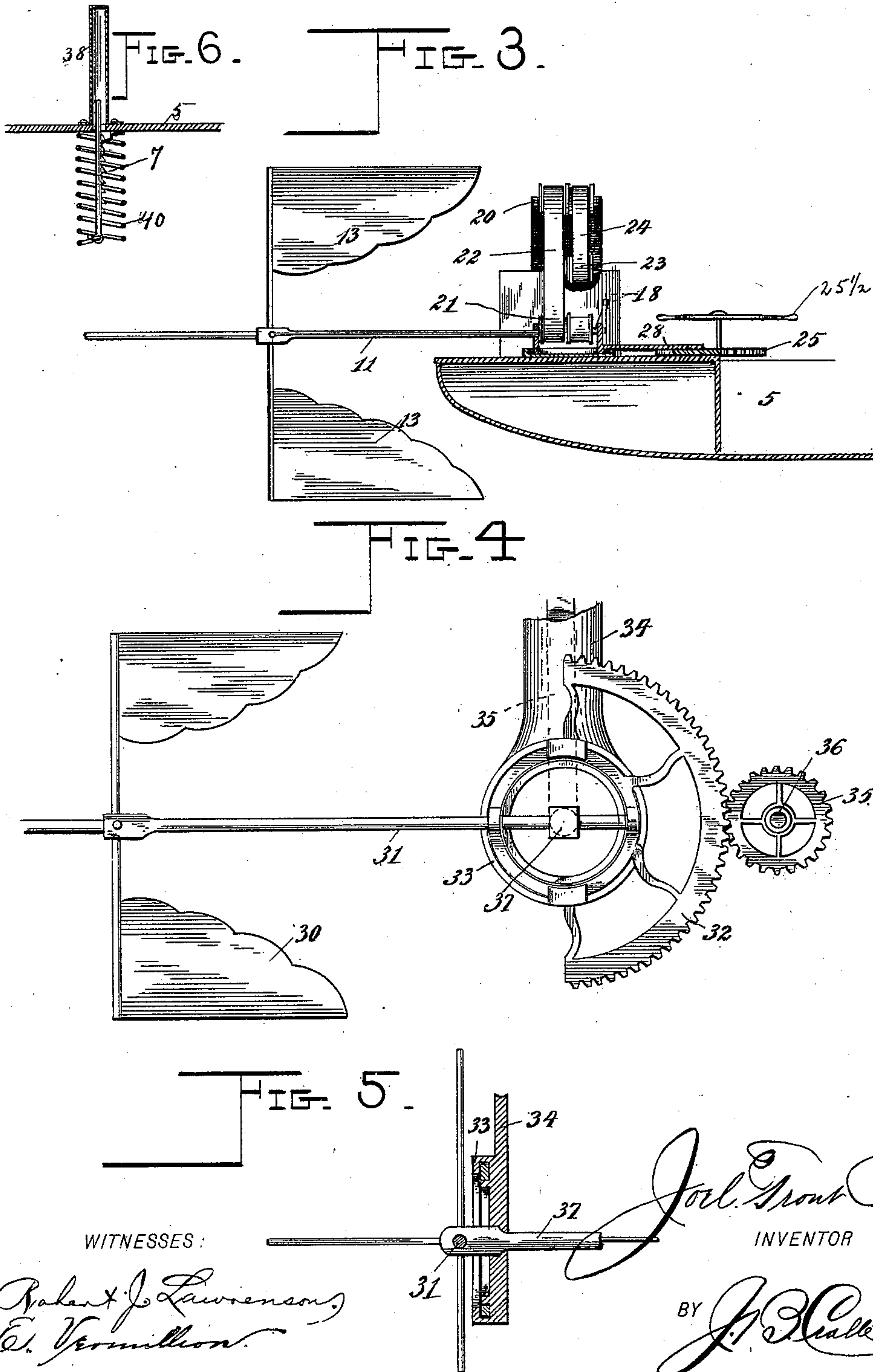
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UNITED STATES PATENT OFFICE.

JOEL TROUT RICE, OF HOT SPRINGS, ARKANSAS.

FLYING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 606,942, dated July 5, 1898.

Application filed August 9, 1897. Serial No. 647,565. (No model.)

To all whom it may concern:

Be it known that I, JOEL TROUT RICE, a citizen of the United States, residing at 227 Third street, Hot Springs, in the county of Garland and State of Arkansas, have invented certain new and useful Improvements in Flying-Machines for Aerial Navigation; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to apparatus for aerial navigation; and its objects are, first, to provide effective propulsive mechanism; second, to control its ascent and descent readily; third, to provide for the safety of the occupant under all possible conditions of danger, and, fourth, to accomplish these ends with structural simplicity and economy. I accomplish these objects by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation of a flying-machine embodying my improvements. Fig. 2 is a plan view of the front portion of the car. Fig. 3 is a sectional elevation on the line 3 3 of Fig. 2. Fig. 4 is a detail view of one of the propelling-wheels and its steering mechanism. Fig. 5 is a sectional elevation through one of the side wheels and its adjusting appliances. Fig. 6 is a detail view of a piston-casing to guide the pin on which the buffer-spring is concentrically coiled.

The same designations indicate corresponding parts in all the views.

A light framework, preferably of aluminum, holds the antipodal ends of an ordinary turtle-shaped balloon 1, which is provided centrally at its base with a nozzle 2, connected by a tube or hose 9 with the generator 8. The inflating medium is forced into the generator by the force-pump 10. An exhaust-valve 3, controlled by cord 4, is accessible to the occupant of the car from his seat. The same framework that holds the balloon 1 is also connected to the termini of the car 5, which is additionally braced by cables 6, attached to the balloon. Two counterpart shafts 11 12, having the wings 13, are supported by independent carriers 14 and 15, connected to the bow of the car, on opposite sides of the middle line thereof, and these carriers are ar-

ranged to swing in paths forming the arcs of circles in order to throw the propelling-wheels in the line of the car or at reverse angles to each other. These carriers are provided with rings 16 at points intermediate of their length, which rings turn on bases 17, attached to the car, the turning rings 16 being clamped loosely. The shafts are operated simultaneously by a common motor 18 through suitable gearing consisting of an arched frame 19, carrying the counter-shafts 20, disposed vertically to the wheel-shafts. These wheel-shafts have pulleys 21, operated by belts 22, also encircling the counter-shafts 20. The motor drives the power-shaft 23, also connected to the shafts 20 by belts 24. The adjustment of the carriers is effected by a steering-wheel 25, operated by the hand-wheel 25½, whose gearing meshes with a segmental rack-bar 26, terminally pivoted at 27 to the shanks 28 of the movable carriers for the wheel-shafts. Centrally in the car, at each side thereof, are wheels 29 30, constructed similarly to the wheels 11 12. The wheels 29 30 are attached to shafts 31, journaled in bearings on a toothed sector 32, having an annulus 33. The annulus is clamped to a base-plate 34, attached to the side of the car. A pinion 35 on shaft 36, accessible to the pilot, gears with the sector 32, so as to vary the relative positions of the car. The shafts 31 are preferably driven by pulleys 37, actuated from the motor by belts. Coiled springs 39 40 are suspended from the base of the car to operate as buffers and let the passenger down easy. The pins 7, on which the springs are coiled, are guided in sockets 38. A parachute 41, held to the framework by ropes 42, is also carried for safety.

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

The propellers 13 mounted on shafts 11, 12 in combination with the rings 16, turning loosely on bases 17, the curved segmental bar 26; the toothed wheel 25 meshing therewith; and the hand-wheel 25½ for operating wheel 25, the whole substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOEL TROUT RICE.

Witnesses:

R. W. JOHNSON,
H. A. McDONALD.