

A. KINSELLA.
AERIAL MACHINE.

No. 35,453

Patented June 3, 1862.

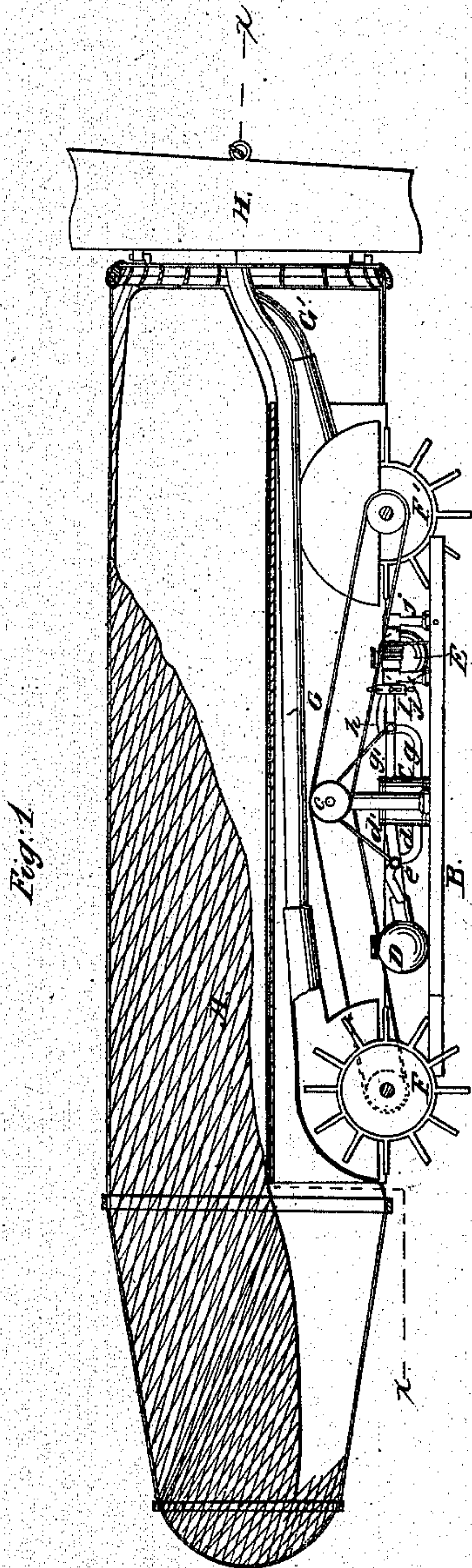


Fig. 1

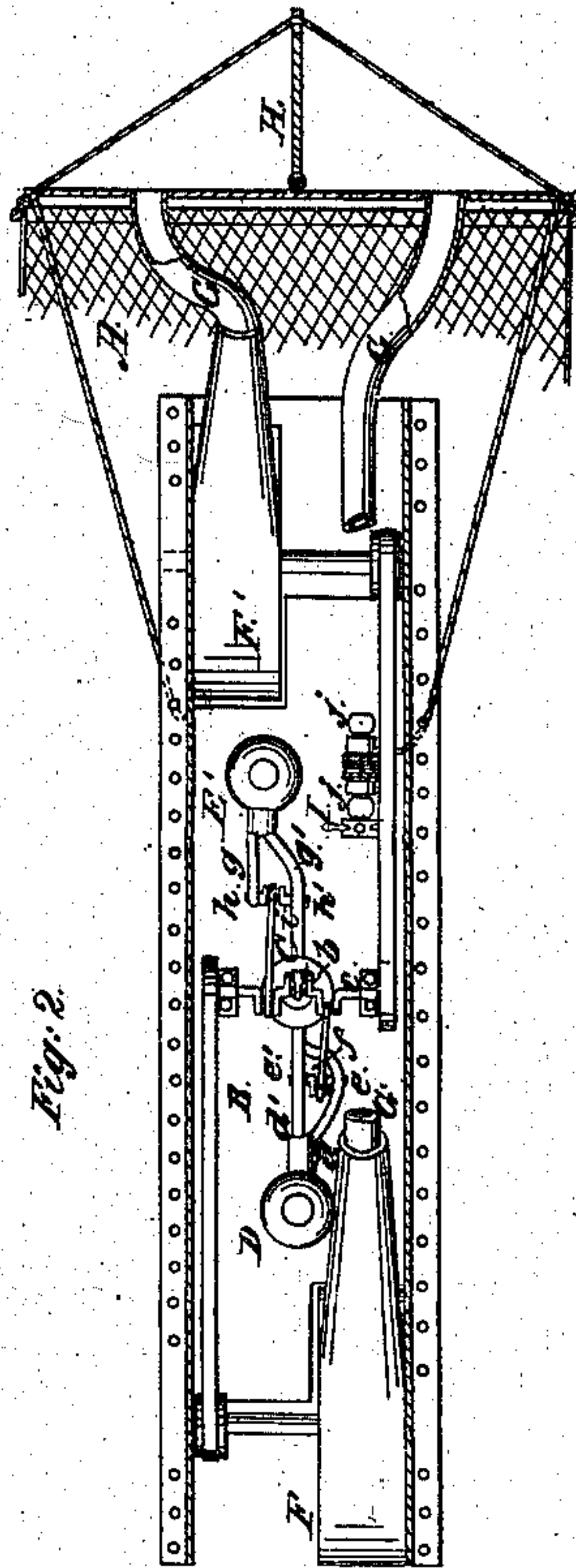


Fig. 2

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UNITED STATES PATENT OFFICE.

ARTHUR KINSELLA, OF CASCADES, WASHINGTON TERRITORY.

IMPROVEMENT IN AERIAL MACHINES.

Specification forming part of Letters Patent No. 35,453, dated June 3, 1862.

To all whom it may concern:

Be it known that I, ARTHUR KINSELLA, of Cascades, in the county of Skamania and Territory of Washington, have invented a new and Improved Aerial Machine; 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, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention. Fig. 2 is a horizontal section of the same, the line *x x*, Fig. 1, indicating the plane of section.

Similar letters of reference in both views indicate corresponding parts.

This invention consists in the employment or use of a gas-generator and condenser connected to a suitable cylinder by means of pipes provided with stop-cocks that are alternately opened and closed by the motion of the crank-shaft, in combination with fan-wheels and discharge-pipes passing out at the stern of the rocket-shaped balloon, and with a steering-gear in such a manner that by the action of the fan-wheels the air is forcibly driven out at the stern of the balloon, and the latter is propelled in the same manner as a rocket, and at the same time the course of the balloon can be governed at pleasure.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

A shell, A, is constructed of rattan, cane, or other suitable material split and woven together, in the manner of a chair-bottom, and the ends worked into a rope running fore and aft the shell. This shell is made in the shape of a rocket, as clearly shown in Fig. 1 of the drawings, and it is lined on the inside with silk or other suitable material capable of retaining gas and forming the balloon proper.

One side of the shell A is cut open, and secured to this side by means of pendants is the platform B, which supports the engine and other parts of the propelling and steering mechanism. The engine consists of an ordinary steam-cylinder, C, the piston of which connects with the crank *b* of the crank-shaft *c*, and to which compressed hydrogen gas is supplied from the generator D through pipes *d d'*, one of which connects with the cylinder near its bottom and the other near its top. Each of these pipes is provided with a stop-

cock, *e e'*, and the plugs of these cocks are connected by a crank-shaft, *f*, to which a rotary motion is imparted from the main shaft *c*. The holes in the plugs are bored at right angles to each other, so that one is closed when the other is open, and vice versa. By these means the gas from the generator is alternately admitted at the top and at the bottom of the cylinder. The spent or exhaust gas passes off through the pipes *g g'* to the condenser E, said pipes being provided with stop-cocks *h h'*, the plugs of which are connected by a crank-shaft, *i*, precisely in the same manner as the stop-cocks *e e'* of the induction-pipes *d d'*. The crank-shaft *i*, however, is connected with the main shaft in such a manner that the exhaust-pipe at the bottom of the cylinder opens simultaneously with the induction-pipe at the top, and vice versa, thus changing ports in the same manner as in an ordinary steam-engine.

From the main shaft *c* motion is transmitted to the two fan-wheels F F' by means of pulleys and belts, or in any other desirable manner. The fans of these wheels are secured to air-tight drums filled with hydrogen gas, and they rotate in half-cylindrical cases which fit close to the sides and to the circumference of said fan-wheels, and from which tubes G G' extend to the stern of the shell A. By imparting a rapid rotary motion to the fan-wheels the air is expelled with considerable force through the tubes G G', and the whole machine is thereby propelled similar to a rocket.

The course of the machine is governed by the rudder H, which connects by means of ropes with the steering-wheel I, which is constructed similar to an ordinary steering-wheel, having its bearings in standards *j*, that rise from the platform B.

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

The arrangement of the generator D and condenser E, connecting with the cylinder C by means of pipes *d d' g g'*, and stop-cocks *e e' h h'*, operated by crank-shafts *f i*, as described, in combination with the fan-wheels F F', tubes G G', and with the rocket-shaped balloon A, the whole being constructed and operating in the manner and for the purpose specified.

ARTHUR KINSELLA.

Witnesses:

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