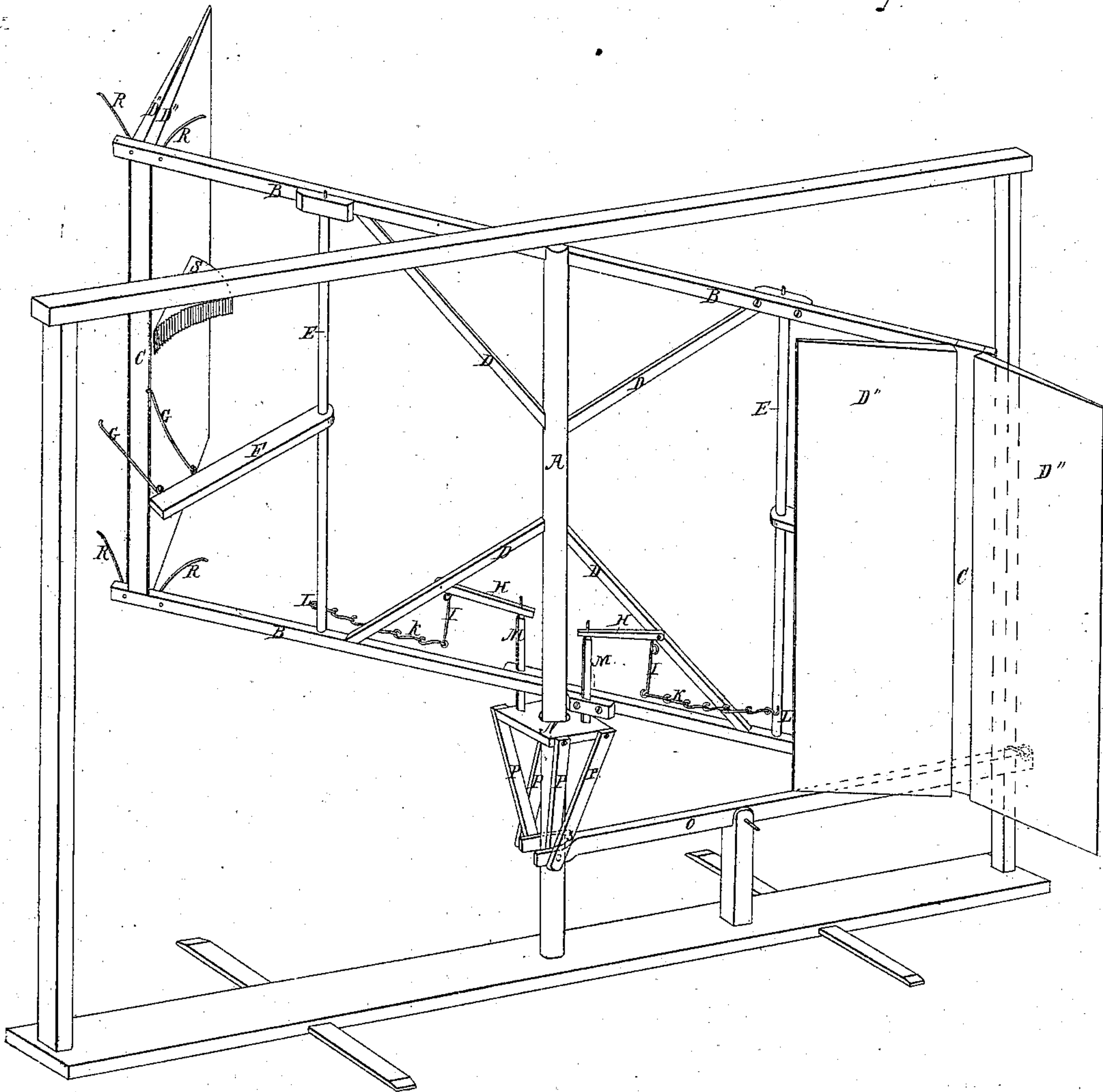


R. Nutting,
Wind Wheel,

N^o 17168.

Patented Apr. 28, 1857.



UNITED STATES PATENT OFFICE.

RUFUS NUTTING, OF RANDOLPH, VERMONT.

IMPROVED WINDMILL.

Specification forming part of Letters Patent No. 17,168, dated April 28, 1857.

To all whom it may concern:

Be it known that I, RUFUS NUTTING, of Randolph, county of Orange, State of Vermont, have invented a new and useful Improvement in the Construction of Wind-Powers; and I do hereby declare that the following is a full, clear, and exact description of the same, including both its construction and operation, reference being had to the annexed drawing, making a part of this specification.

The machine may be made with several pairs of wings all constructed and arranged alike.

The drawing, which is a perspective view, represents but two pairs of wings with their connections, one pair open and the other shut, as if the machine were in operation by the force of the wind.

A is the main shaft; B, the arms; C, the upright to which the wings D'' are hung; D, the braces for supporting the arms B. The wings may be connected to the main shaft A by two arms, as represented at B, or by one only if a small machine, or for a very large machine three or more arms to each pair of wings might be necessary. The wings D'' may be made of boards, sheet-metal, frame and canvas, or other material, and increased in length for greater power without retarding the velocity of the machine.

E is a small shaft having its upper axis about ten degrees back of its base or lower axis, by which means F, through which it passes, and to which are attached the spring bars or rods forming the clasp G, is caused to fall back from the wings by gravitation, and remains so till centrifugal force, caused by the increased velocity of the machine, shall bring it up to or toward the back of the wings.

R is a spring similar to G near the end of each arm, against which the wing strikes before getting fully open to obviate the jerk that would otherwise be, the inner wing being made about one-fifth wider than the outer wing, so that it may be operated upon sooner by the wind than it otherwise would be.

H is one arm of a lever turning upon a bolt in the brace D, having the spring I for its

other arm, to which is attached a chain K, connecting it with L, a short arm in the regulator-shaft E.

M are bars resting upon the brake N, through which the main shaft A passes and turns loosely, and which is connected with the lever O by the rods P, said lever O being forked at the end, as seen at 3.

When it is desired to close the wings in part or entirely by pressing down lever O, clasps G are brought against the ratchets S upon the back of the wings, and as soon as they are closed by coming against the wind prevent them from reopening till lever O is raised.

E F G constitute the regulator, which governs the speed of the machine by preventing the wings from opening wider than is necessary to receive sufficient wind to propel it the desired velocity, the amount of centrifugal force necessary to bring the regulator E F G toward the back of the wings as readily as desired being graduated by the weight of F G in connection with the distance the upper axis of E is back of its base. The wings being inclined to hang forward at the top and back at the bottom, an iron rod may be secured to the upper arm near its center, and, extending down, may be secured to the lower arm of the next pair back of it near its center, thus constituting a brace to obviate this tendency.

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

1. The construction of a horizontal wind-power with a regulator or clasp operated by centrifugal force, which shall regulate the amount of surface of wing or sail opened to the wind, substantially as described.

2. An arrangement by which the regulator or clasp may be conveniently set at any time by the operator in such position as to prevent the wings from opening too far or at all, as is desired.

RUFUS NUTTING.

Witnesses:

S. H. NUTTING,
D. A. STORRS.