

(Model.)

T. E. HUTCHINSON.

AUTOMATIC CYLINDRICAL POWER.

No. 249,629.

Patented Nov. 15, 1881.

Fig. 1.

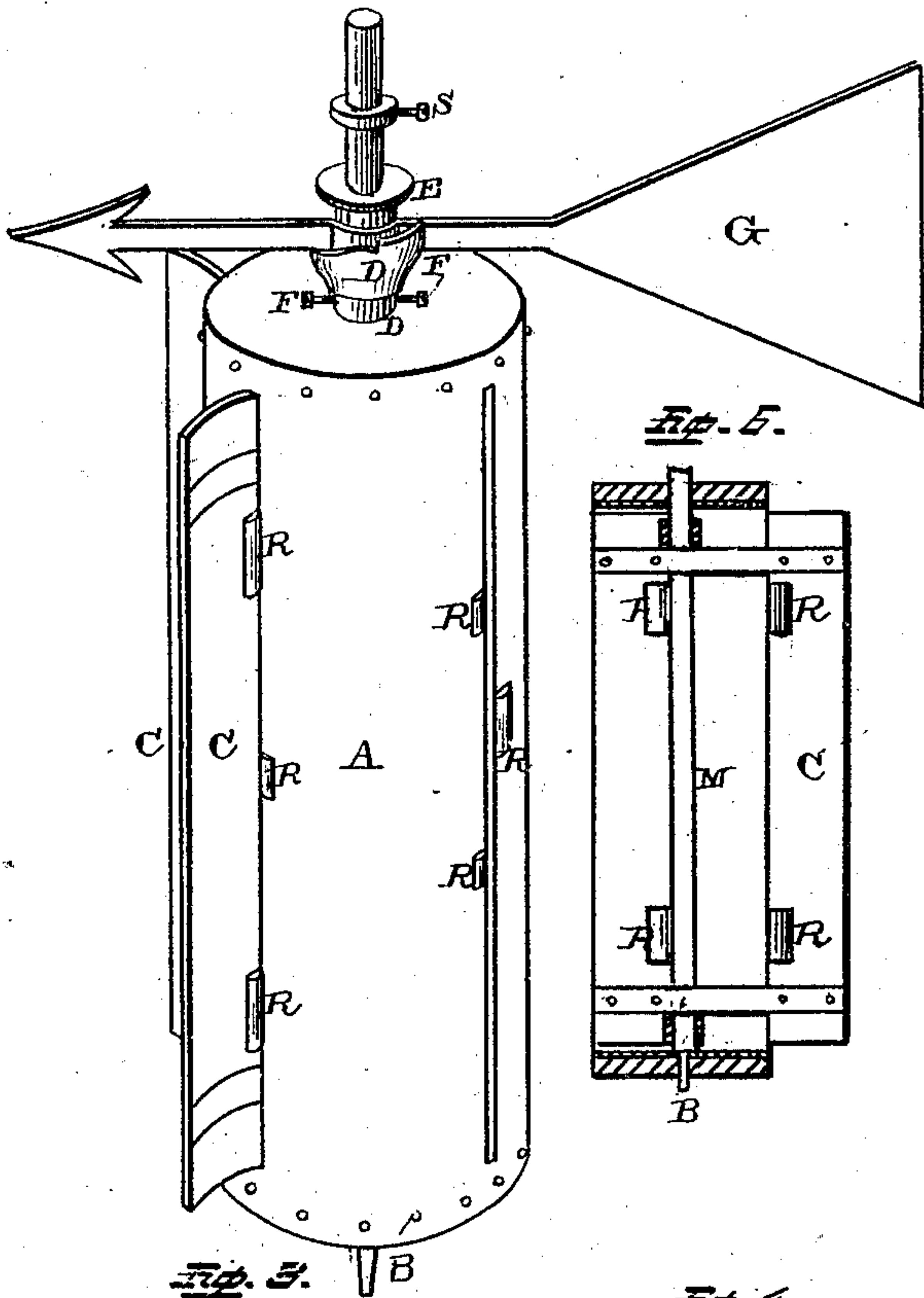


Fig. 2.

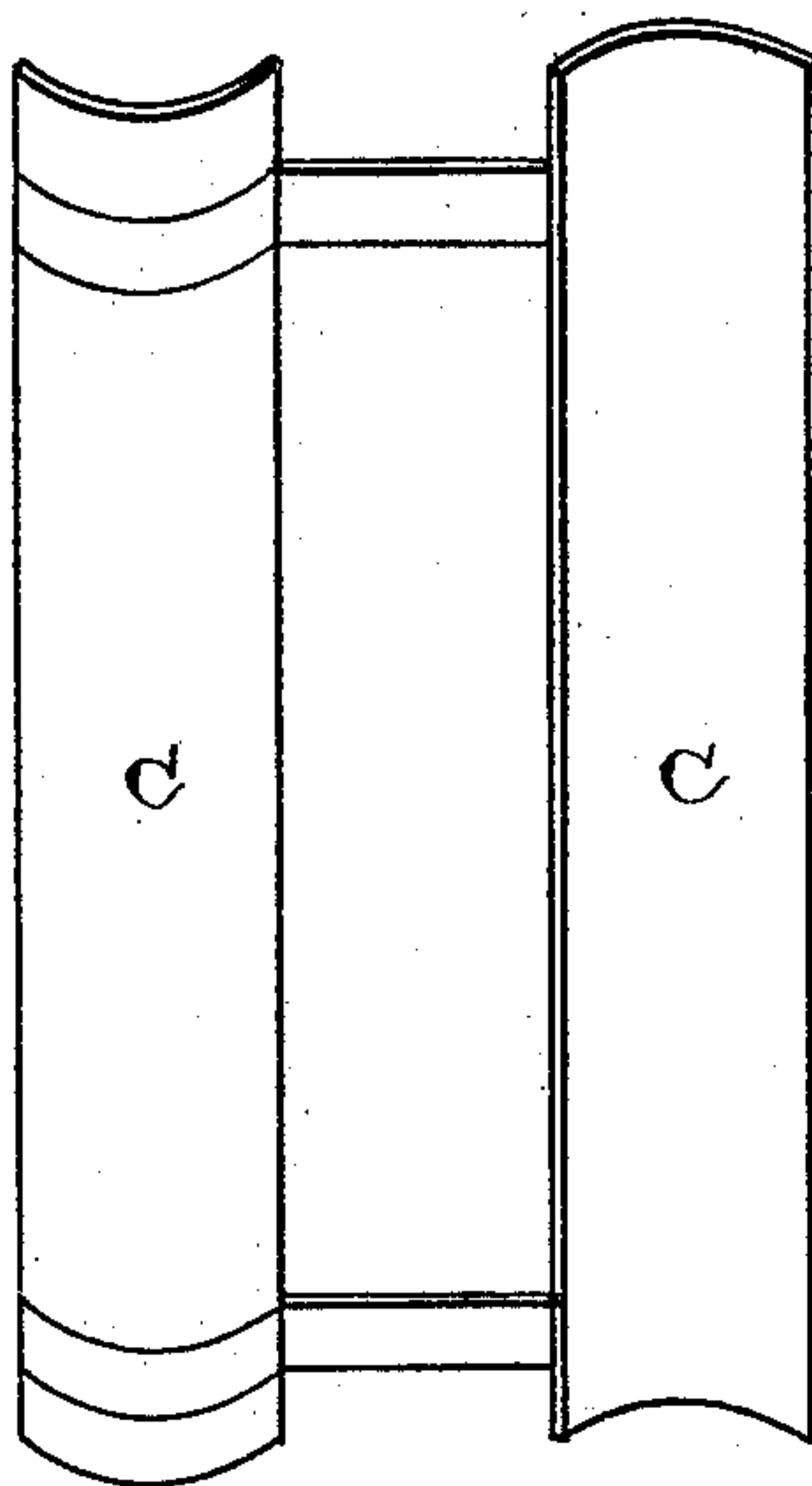


Fig. 3.

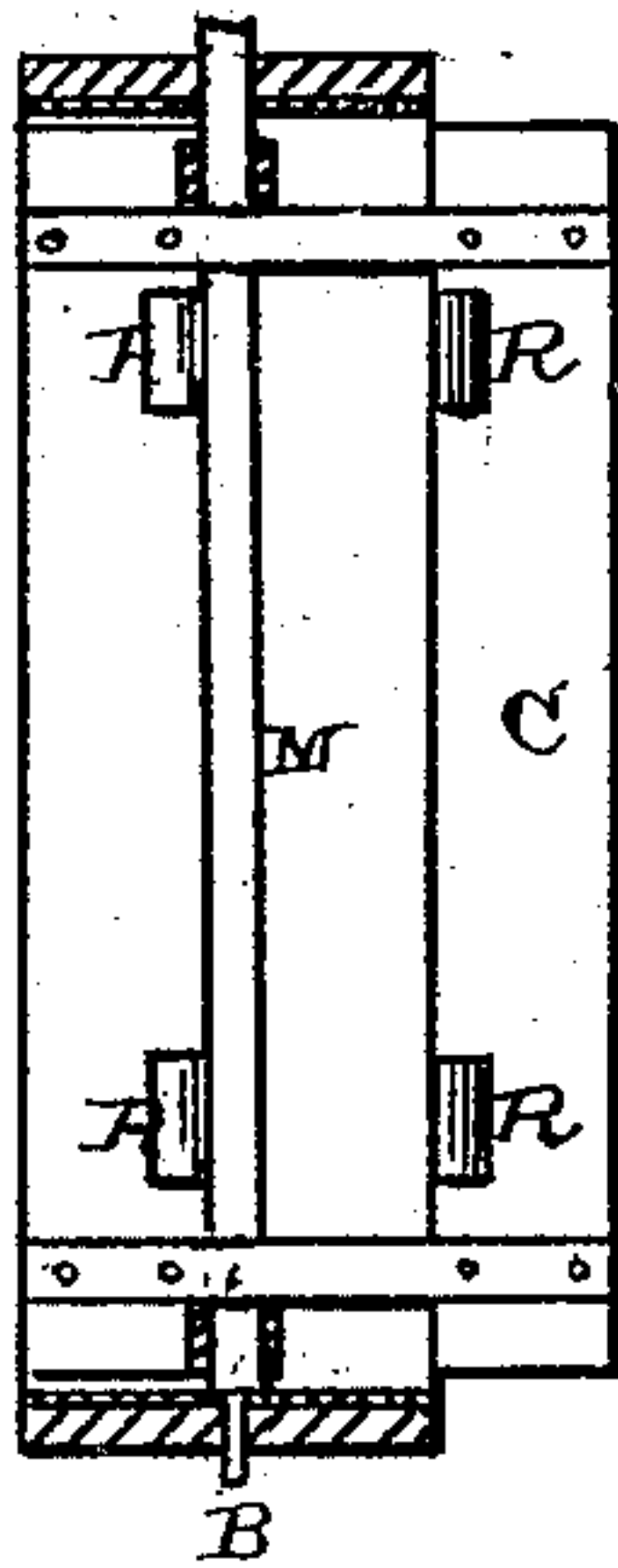


Fig. 4.

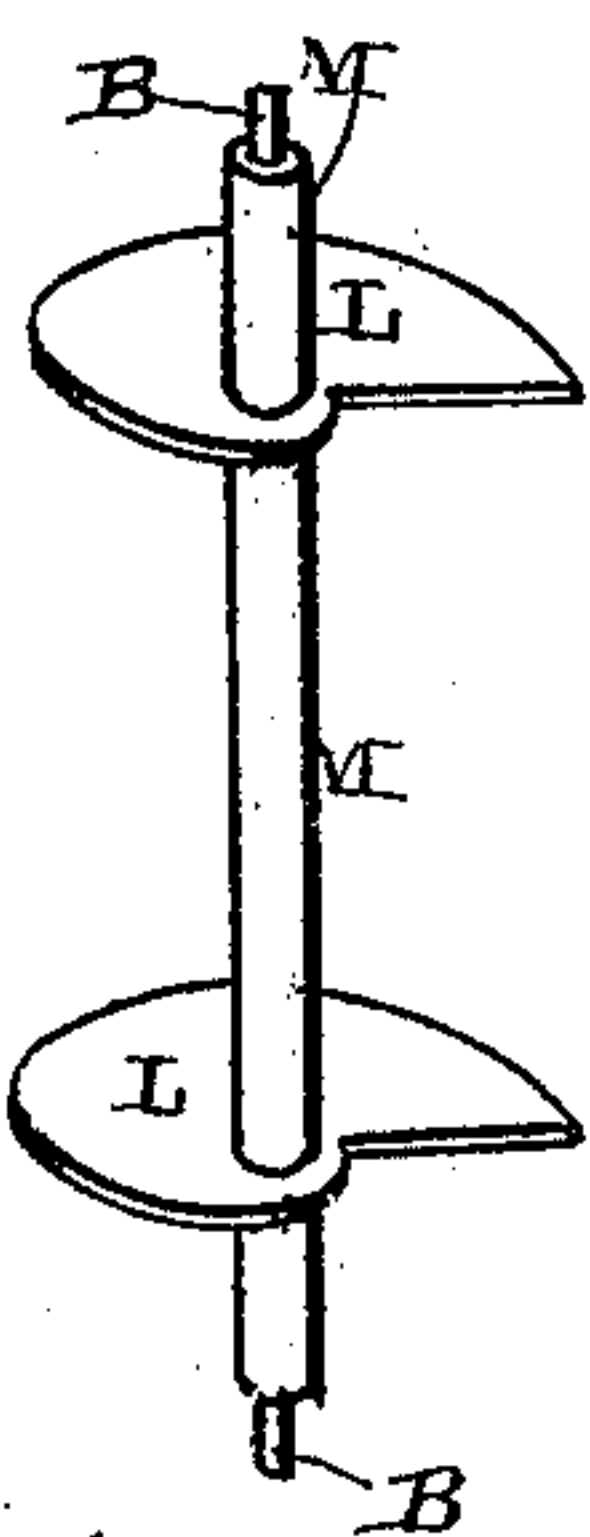


Fig. 5.

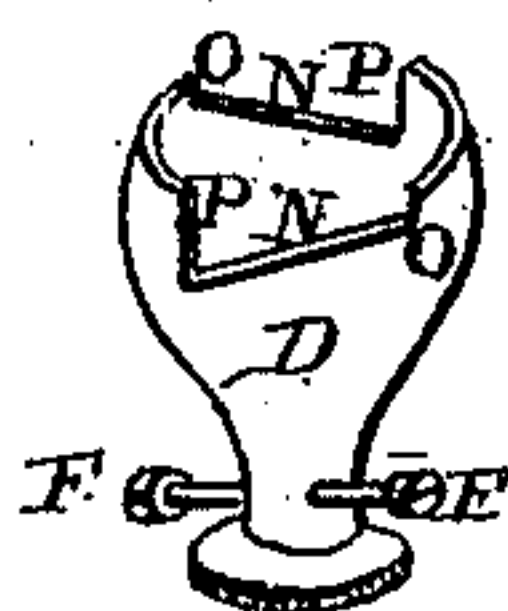
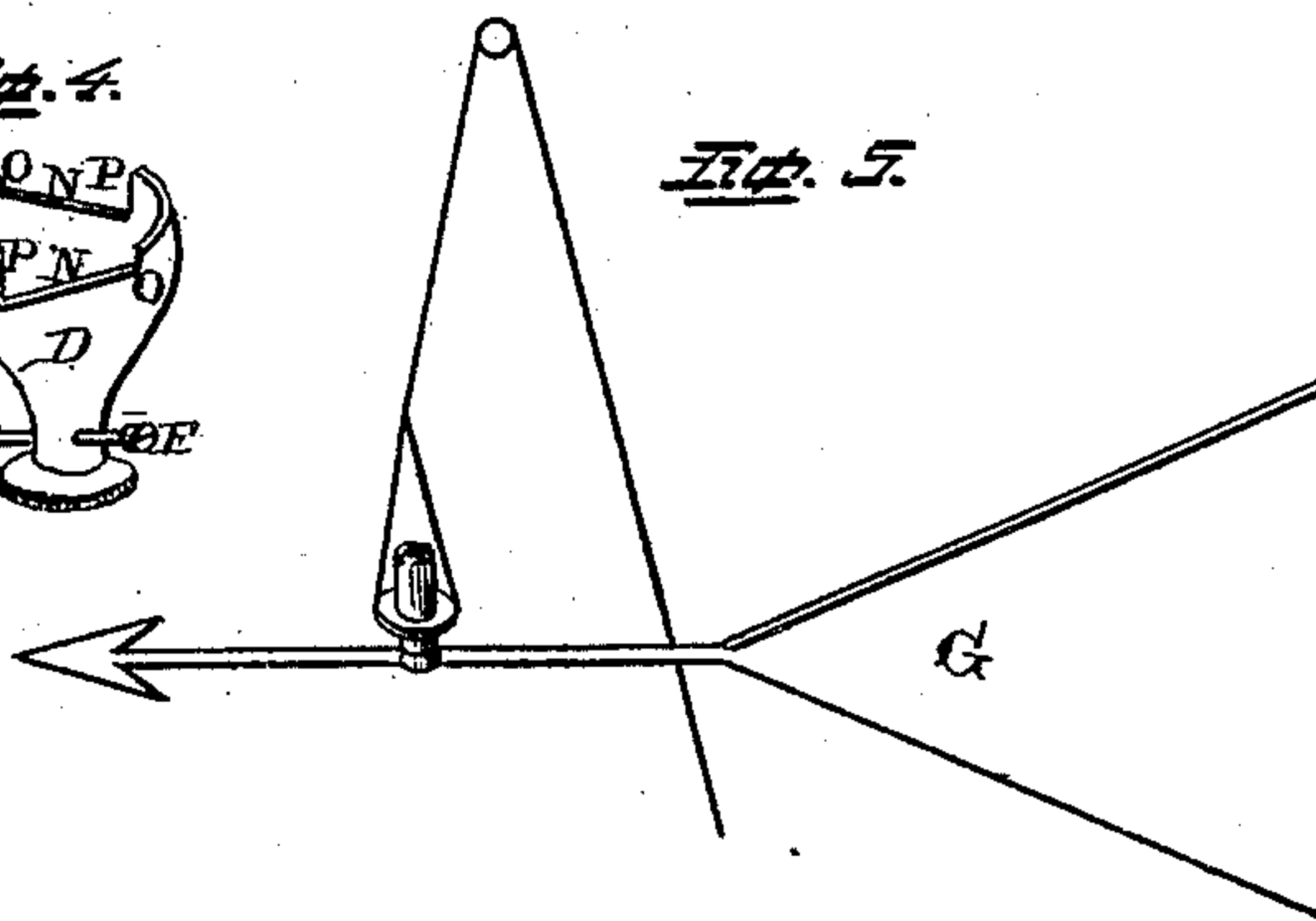


Fig. 6.



WITNESSES.

W. W. Mortimer.

A. L. Kiskadden.

INVENTOR.

Thos. E. Hutchinson

per

F. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

THOMAS E. HUTCHINSON, OF GUADALUPE, COUNTY, TEXAS.

AUTOMATIC CYLINDRICAL POWER.

SPECIFICATION forming part of Letters Patent No. 249,629, dated November 15, 1881.

Application filed July 6, 1881. (Model.)

To all whom it may concern:

Be it known that I, THOMAS E. HUTCHINSON, of the county of Guadalupe and the State of Texas, have invented a new and useful
5 Windmill, Water-Wheel, and Water-Craft Propeller, entitled "Hutchinson's Automatic Cylindrical Power;" and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of
10 the same, reference being had to the annexed drawings, making a part of this specification.

My invention relates to an improvement in wind and water motors; and it consists in the combination of a cylindrical slotted frame
15 with a series of blades which are connected together in pairs, and which are alternately forced through the slots in the frame to receive the force of the wind or water and then retracted, so that they will offer no resistance
20 during a portion of the revolution of the frame.

It further consists in the combination of the vane and the adjusting device upon which it rests, as will be more fully described hereinafter.

25 The object of my invention is to produce a motor which is adapted for use either as a wind-wheel or as a water-wheel, and in which one-half of the blades are kept constantly concealed in the revolving frame, while they project from the opposite side, so as to receive a
30 moving force or power which is to cause them to revolve.

Figure 1 is a perspective of my invention complete. Fig. 2 is a perspective of two of
35 the blades, showing how they are connected together. Fig. 3 is a perspective of the three cams by which the blades are forced in and out. Fig. 4 is a perspective of the device upon which the vane rests. Fig. 5 is a perspective
40 of the vane alone. Fig. 6 is a vertical section of the machine, taken from one side of its center.

A represents a cylindrical frame having any desired number of vertical slots cut through
45 its sides. This frame is rigidly secured to the shaft B at its lower end, so as to revolve with it. Inside of this frame are placed any desired number of blades C, which are united together in pairs, and which may be either
50 straight or curved, as may be preferred. These blades are separated from each other just far

enough to allow the cams L, which are secured to the pipe or cylinder M, which passes through the frame, to revolve between them. This tube or cylinder rests upon the bottom of the
55 frame B, and having these cams secured rigidly to them as the frame revolves the blades are alternately forced out through the slots, as shown in Fig. 1, and then retracted, so that a portion of the blades is always ready to receive the force of the wind or water, while the
60 other portion is entirely hidden in the frame, so as to form no resistance upon that side of the frame as it revolves. In order to enable these blades C to move in and out of the frame
65 with as little friction as possible, either they or the frame are provided with friction-rollers R, which prevent binding, and greatly lessen the friction. The pipe or tube M extends up through the top of the frame, and over it is
70 passed the device D, upon which the vane G rests. This vane is secured to this tube or cylinder N by means of the set-screws F, so that it can be turned around and secured in any desired position. As the shaft B revolves inside of
75 the tube M this vane-adjuster does not move with the frame, but remains in any position into which it has been adjusted. In the top edge of this adjusting device there are cut two inclined recesses, N, which have the shallow
80 shoulders O formed at one end and the deep shoulders P at the other. Against these shoulders the vane G strikes as it is being moved by the force of the air. When the vane is at rest it remains stationary against the two shoulders P; but when it is forced around by the
85 force of the air it strikes against the shoulders O, and in moving it turns the cams L inside of the frame, so that the point at which the blades are forced through the slots in the
90 frame A is changed to another side of the frame. By thus arranging the adjusting devices the vane G can be made to present any desired amount of surface of the blades C to the force of the wind. When a storm arises
95 and this vane is forced around against the shallow shoulders O, the blades will only be forced from the frame upon the opposite side from the point at which the wind is blowing, and hence the frame A will cease to revolve.
100 As soon as the force of the wind abates the vane will automatically sink down the inclines

N, so as to rest upon the shoulders P, and thus again bring the machine into operation.

Secured to the tube or cylinder M at any suitable distance above the top of the vane is
5 a stop, S, so as to prevent the vane from being entirely lifted out of the adjusting device. A rope, chain, or wire may be secured to this vane and passed up over a pulley placed anywhere on the frame-work, so that the vane can
10 be raised out of the adjusting device, and thus stop the operation of the machine at any time.

Where this motor is used as a water-wheel no vane is necessary. The water then comes against this portion of the blades C, which project beyond the sides of the frame, and cause
15 the frame A to revolve, while the opposite portions of the pairs of blades are entirely concealed within the frame, and so offer no resistance to the water as the frame revolves.
20 There may be two sets of these blades, as here shown, or a greater number, as may be preferred.

Having thus described my invention, I claim—

1. The combination of a cylindrical frame 25 provided with longitudinal slots through its sides, and the blades C, connected together in pairs, with the tube or cylinder M, provided with the cams L, by means of which the blades are forced outward and retracted, substantially as shown. 30

2. In a wind-wheel, the combination of the cylindrical frame A, the blades C, arranged in pairs, the tube or cylinder M, provided with cams, a vane, and an adjusting device, substantially as described. 35

3. In a wind-wheel, an adjusting device, D, having recesses N in its top, in combination with a vane which rests in the recesses, substantially as specified.

THOMAS E HUTCHINSON.

Witnesses:

W. R. COLLINS,
HENRY MANEY.