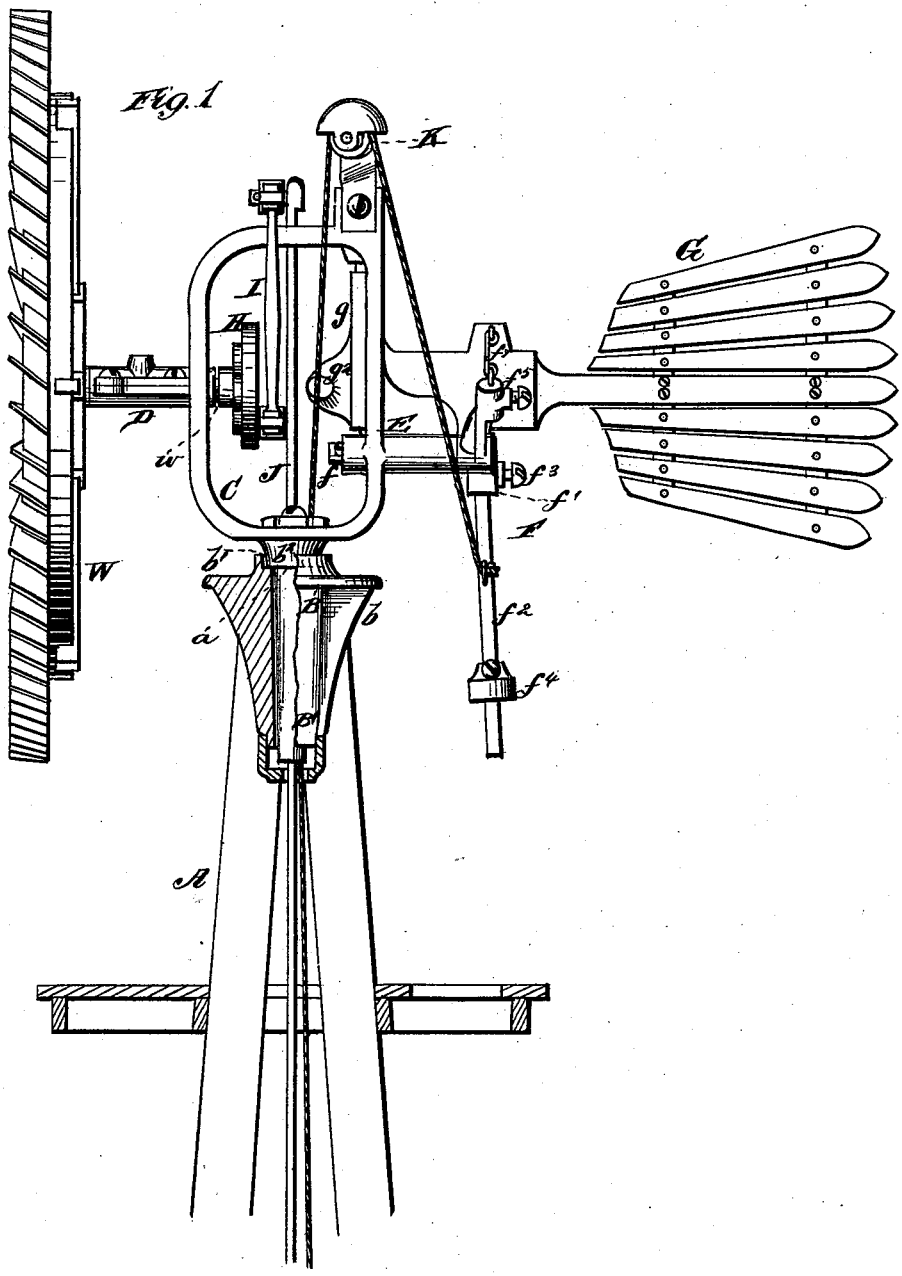
2 Sheets—Sheet 1.

D. C. WALLING.

Wind-Engine.

No. 209,947. **Patented Nov. 12, 1878.**

Fig. 1



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2 Sheets—Sheet 2.

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Wind-Engine.

No. 209,947. Patented Nov. 12, 1878.

Fig. 2.

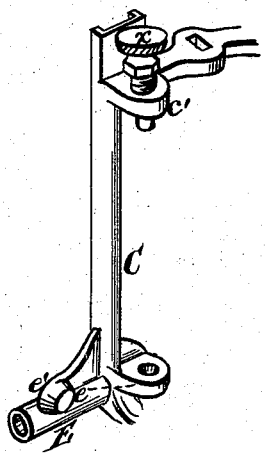


Fig. 3.

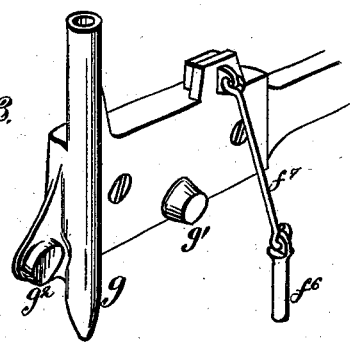
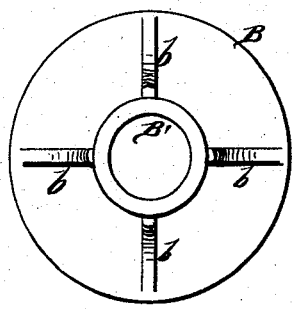


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID C. WALLING, OF KENDALLVILLE, INDIANA.

IMPROVEMENT IN WIND-ENGINES.

Specification forming part of Letters Patent No. **209,947**, dated November 12, 1878; application filed September 28, 1878.

To all whom it may concern:

Be it known that I, DAVID C. WALLING, of Kendallville, in the county of Noble and State of Indiana, have invented a new and valuable Improvement in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side view, part sectional, of my windmill. Figs. 2 and 3 are perspective detail views, and Fig. 4 is a view of the cap B.

The nature of my invention relates to that class of machines wherein wind is utilized as a motive power.

The novelty consists, first, in the adaptation and arrangement of the governor relatively to the rudder or vane; and, secondly, in a capped sleeve, perforated longitudinally to receive the piston-rod, having radial longitudinal flanges, which are received and secured between the timbers of the derrick, to prevent rotary motion, and provided with a recess in its upper surface adapted to receive a lubricant, and within this recess an annular shoulder furnishes a bearing for a corresponding shoulder upon the revolving frame. This cap is rigidly secured to the top of the derrick, and furnishes the complete bearing for the oscillating wind mechanism.

Referring to the drawing, upon a suitable derrick, A, is rigidly and firmly secured a capped sleeve, B representing the cap, and B′ the tapering sleeve. Radial flanges *b*, running longitudinal with the plane of the sleeve B′, are received between the timbers, and, being securely bolted thereto, prevent rotary movement of the cap, which cap furnishes the bearing for the engine and comprises the base of the turn-table. Upon the upper surface of the cap B is an annular upwardly-extending flange, b^1, of larger diameter than the diameter of the upper end of the sleeve, and also an annular shoulder, b^2, for the corresponding bearing-shoulder *a* upon the rotating frame C or turn-table. This turn-table C is of about quadrilateral form, and from it extends, on opposite sides, brackets D and E, on the former of which I journal the wind-wheel W, and on the latter I journal the horizontal shaft *f* of the governor F. A lateral projection, *e*, on the bracket E provides a bearing for the lower end of the vertical standard *g* of the vane G, and the upper end of said vertical standard is formed hollow, and receives a thumb-screw, *x*, which passes through a projection, *c′*, on the frame C.

Upon the bracket E, and on the side next the tail-vane, is a lug, *e′*, against which a corresponding lug, g^1, on the vane G abuts when the governor is at rest. A sleeve, f^1, receives a rod, f^2, which is rendered adjustable by means of a set-screw, f^3, and which carries a weight, f^4. A sleeve, f^5, receives an adjustable eye-pin, f^6, to which is loosely connected a link, f^7, which extends to the vane.

It will thus be observed that my governor is adjustable in three different places, and that by this construction a greater scope of choice is allowed the operator to regulate the power to correspond with the wind required.

Upon the inner end of the wind-wheel shaft *w* is an eccentric, H, which carries a pitman-connection, I. J represents the pitman-rod. These are of ordinary construction, and no claim is made for them herein.

A projection, g^2, upon the inner end of the vane G is adapted to abut against the frame C when the governor is in full force. It will be observed that the play of the vane is nearly ninety degrees—that is to say, the projection g^1, abutting against the projection *e′*, holds the vane a little away from a right angle with the plane of the wind-wheel when the governor is at rest, and the projection g^2, abutting against the frame C, holds the vane a little away from a parallel with the plane of the said wheel.

K represents a stationary pulley, over which passes a cord, wire, chain, or the like, one end of which is secured to the rod f^2 of the governor F, and the other extends downward in the derrick.

The operation of my invention is obvious. The governor may be operated from below, either to gage the speed or power or to en-

tirely stop the machine, at will. The governor is capable of adjustment in three different places, to suit the occasion.

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

1. The governor composed of the bell-crank body, having the horizontal shaft *f*, sleeves f^1 f^5, with set-screws, the rod f^2, and adjustable weight f^4, and the link f^6 f^7, combined with the vane, as shown, for the purpose specified.

2. The capped sleeve B B′, the upwardly-extending annular flange b^1, shoulder b^2, and longitudinal flanges *b*, made of one piece of metal, and adapted to serve in combination with the derrick-frame and rotating frame, as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID C. WALLING.

Witnesses:
ROBT. P. BARR,
L. E. GOODWIN.