J. HEMP.
Wind-Engine.

No. 217,285. Patented July 8, 1879.

Fig. 1.

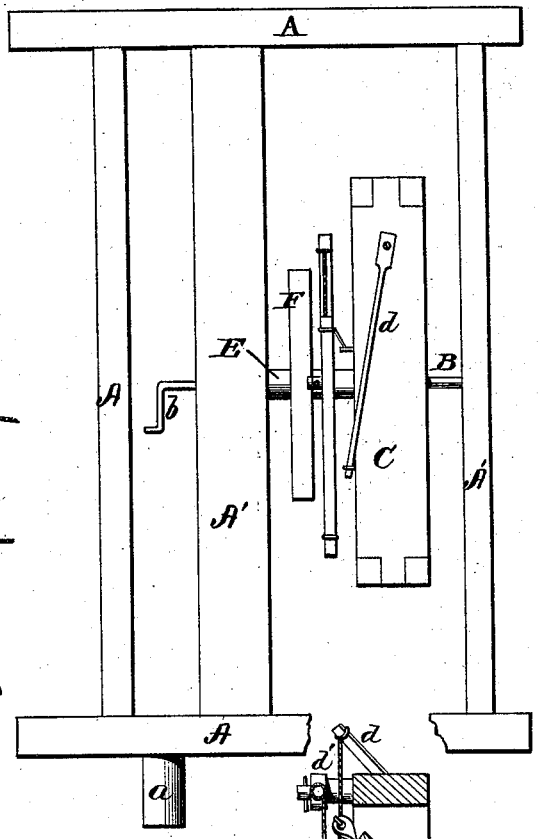


Fig. 3.

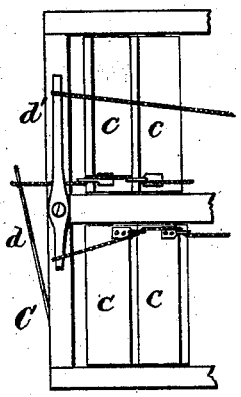


Fig. 2.

WITNESSES
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James Hemp INVENTOR
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# UNITED STATES PATENT OFFICE.

JAMES HEMP, OF MIDDLEBROOK, VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JACOB AREHART, OF SAME PLACE.

## IMPROVEMENT IN WIND-ENGINES.

Specification forming part of Letters Patent No. **217,285**, dated July 8, 1879; application filed May 5, 1879.

*To all whom it may concern:*

Be it known that I, JAMES HEMP, of Middlebrook, in the county of Augusta and State of Virginia, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my improved windmill. Fig. 2 is a plan view in section, and Fig. 3 is a detail view of one end of the revolving frame.

This invention has relation to wind-engines, and more particularly to that class provided with a revolving governor for controlling the speed during high winds and gales; and it consists of certain improvements in the construction of the same, hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings similar letters of reference marked thereon indicate like parts of the invention.

A is a rectangular frame, mounted so as to revolve vertically on the spindle or journal *a*. A revolving shaft, B, has its bearings in the uprights A′ A′ of the frame A, and it is provided at its inner end with a crank, *b*, through which motion may be communicated, as desired.

The shaft B has firmly secured to it a square frame, C, provided with a series of movable slats, *c*. These slats *c* are set at such an angle as will readily utilize the force of the wind, and are connected together by the pitman D, one end of which is attached to the spring *d*, and the other to the shorter end of the lever *d′*, the operation of the spring being to keep the slats *c* always in a position to take the wind.

A sleeve, E, is loosely mounted on the shaft B, and has secured to it a smaller rectangular or square frame, F, provided with a series of fixed slats, *f*, with their faces set in an opposite direction to those on the larger frame C, so that it will have a tendency to revolve in the opposite direction.

A cord, G, is passed around the sleeve E, and its ends are connected to the longer end of the lever *d′*.

The frame C, in revolving in an ordinary wind, carries the smaller frame F with it; but as the wind increases it acts upon the smaller frame F, retarding it. This causes the cord G to be wound on the sleeve E, and the outer end of the cord G, acting upon the lever *d′*, draws the slats *c* with their ends to the wind, in which position it naturally slows down, and is thus automatically controlled by the smaller frame F. As the wind decreases, the springs *d*, through the cord G, draw the slats *c* to their original position.

My mill is mounted in a rectangular frame, so as to freely revolve, and is provided with the ordinary tail-vane to keep the wheel to the wind.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent of the United States, is—

In a wind engine or motor, the frame C, mounted upon the shaft B, and provided with a series of pivoted slats, *c*, connected together by the pitman D, in combination with the sleeve E, having the frame F and cord G, and the lever *d′* and spring *d*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in presence of two witnesses.

JAMES HEMP.

Witnesses:
J. W. MCCORKLE,
JOS. S. RUFF.