D. NYSEWANDER.

WIND-MILL.

No. 181,196. Patented Aug. 15, 1876.

Fig. 1

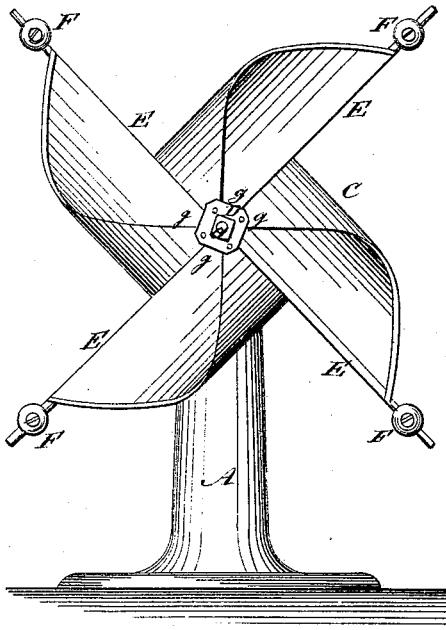



Fig. 2

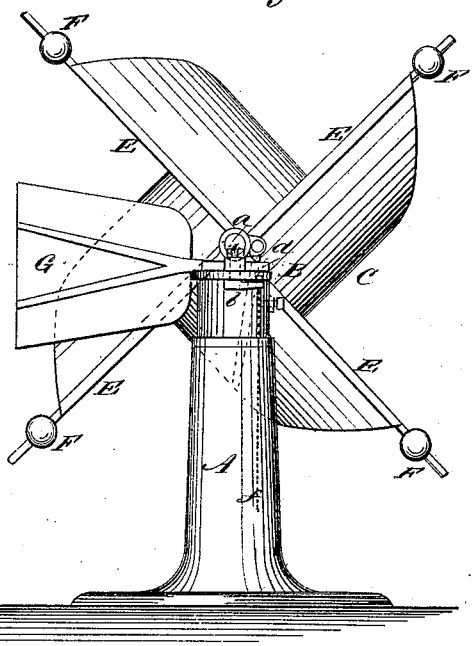
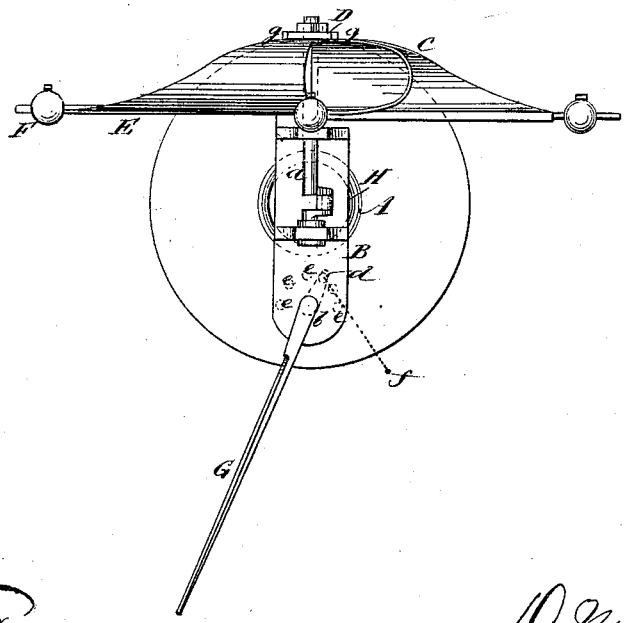



Fig. 3




WITNESSES:

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# UNITED STATES PATENT OFFICE.

DANIEL NYSEWANDER, OF SPRINGFIELD, OHIO, ASSIGNOR TO HIMSELF AND DAVID NYSEWANDER, OF SAME PLACE.

## IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **181,196**, dated August 15, 1876; application filed May 27, 1876.

*To all whom it may concern:*

Be it known that I, DANIEL NYSEWANDER, of Springfield, in the county of Clarke and State of Ohio, have invented a new and Improved Windmill, of which the following is a specification:

Figure 1 is a front elevation. Fig. 2 is a rear elevation. Fig. 3 is a plan.

Similar letters of reference indicate corresponding parts.

My invention consists in making the vanes of windmills from sheet metal, of such form that it is possible to attach the points, which are bent over toward the center, to a central plate which is fixed on the end of the shaft. I provide weights at the extremity of the arms, for balancing the wheel and giving it additional momentum when in motion. I also furnish a convenient device for changing the relative position of the guiding-vane, making it possible to control the motion of the mill by this means.

A is the ordinary support for the windmill, having at its upper end a sleeve, H, which supports the bed B, and upon which the bed-plate turns. Suitable bearings for the shaft *a* are arranged upon the bed-plate B. The wheel C, which is attached to the shaft *a*, consists of a square plate of sheet metal, which has been cut from the corners nearly to the center, and the points *g* bent over and attached to a central plate, D, which is fixed to the end of the shaft *a*. The arms E are attached to the back of the wheel C, to strengthen it, and are provided with the weights F.

The guiding-vane G is pivoted loosely at *b*, and is provided with a lever, *c*, having a lug, *d*, upon its upper side, capable of engaging with the holes *e*. The vane G can be moved by the lever *c*, in a horizontal plane, into any desired position, where it is securely held by the lug *d*, which engages with one of the holes *e*. A rod or rope, *f*, is provided for working the lever *c* from the ground. Power is transmitted from the shaft *a* by any of the ordinary known means.

The advantages claimed for my invention are that the wheel is stronger than others now in use, by virtue of the points *g* being attached to the central plate D, and that by bringing the points together at the center I get a greater effective surface for the wind to act upon. The adjustable guiding-vane G permits the easy control of the motion of the wheel.

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

1. A wind-wheel, C, having the points of the vanes *g* brought together and attached to a central plate, D, substantially as specified.

2. The adjustable vane G, in combination with the bed-plate B and lever *c*, having the lug *d* engaging with holes *e*, as shown and described.

DANIEL NYSEWANDER.

Witnesses:

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