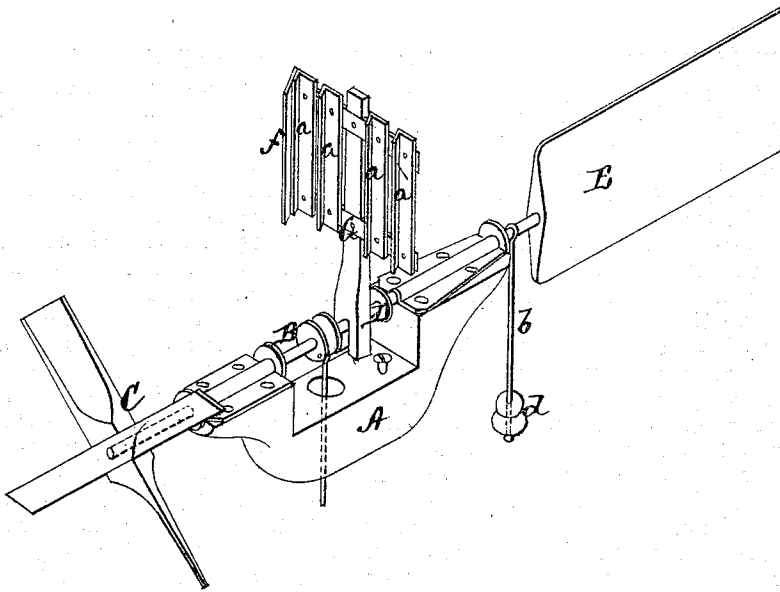


J. G. SMITH.

Wind-Mills.

No. 129,609.

Patented July 16, 1872.



Witnesses
John A. Ellis.
Wm. K. Ellis

Inventor
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By
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Atty.

UNITED STATES PATENT OFFICE.

JOSEPH G. SMITH, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 129,609, dated July 16, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, J. G. SMITH, of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of an upright vane, oscillating from a perpendicular to a horizontal position, carrying with it the wheel or fan, or, in other words, turning the wheel-edge to the wind, or at any point from edge to face, according to the blast, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which represents a perspective view of my improvement.

A represents the usual turn-table of a windmill. B is the shaft, with the wheel or fan C at its outer end. On a line with this shaft, and extending in the opposite direction, is an oscillating rod or tube, D, to the outer end of which is rigidly attached the main vane E. G represents the upright vane, provided with angular slats *a a* placed upon it at any angle desired to produce the greatest side pressure, for the purpose of carrying it over when the wind blows hard. The stem of this vane is

attached to the oscillating rod or tube D, upon which the main vane E is attached in such a manner that its edge will be in line with the stem of the upright vane. There is also a rod, *b*, and weight, *d*, attached to this oscillating shaft or tube at any desired point or angle, to act as a counter-balance to the small vane. The small or upright vane G oscillates from an upright to a horizontal position, according to the strength of the current; also oscillating the main vane E out and into the wind. When the wind is blowing very hard it is desirable to turn the main vane-edge to the wind, allowing the small vane and wheel to be in line with the wind, thereby insuring the safety of the mill. Thus the vane and counter-balance act as a governor of the speed, as well as throwing the wheel entirely out of the wind when desired. On the left-hand side of the vane G is a flat flight, *f*, to hold it steady when blown over to its horizontal position.

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

The upright vane G, provided with angular slats *a a* and flat flight *f*, and oscillating from a perpendicular to a horizontal position, substantially as and for the purposes herein set forth.

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

JOSEPH G. SMITH.

Witnesses:

HENRY OHL,
GEO. WOLF.