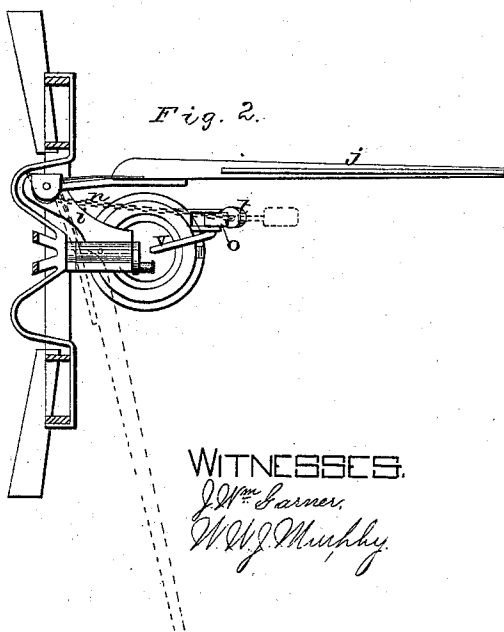
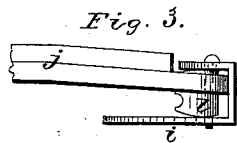
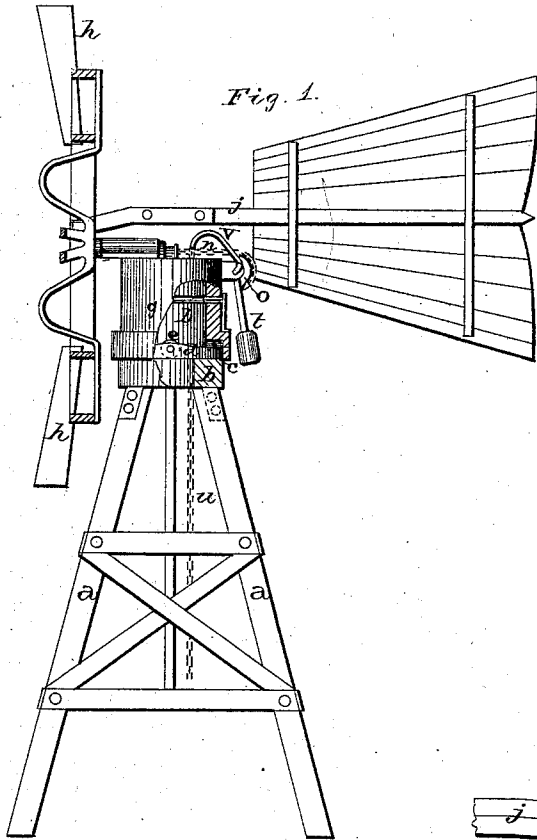


D. G. WEBSTER.
Wind-Mills.

No. 149,899.

Patented April 21, 1874.



WITNESSES.
J. W. Garner,
W. H. Murphy.

INVENTOR.
D. G. Webster
per
F. A. Lehmann, atty

UNITED STATES PATENT OFFICE.

DAVID G. WEBSTER, OF PARK'S CORNERS, ILLINOIS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 149,899, dated April 21, 1874; application filed March 30, 1874.

To all whom it may concern:

Be it known that I, DAVID G. WEBSTER, of Park's Corners, in the county of Boone and State of Illinois, have invented certain new and useful Improvements in Windmills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The nature of my invention relates to an improvement in windmills; and it consists in the peculiar formation of the spider of the wheel, so that the vane can be pivoted to the turn-table or cylinder at a point in front of the axis of the wheel. It also consists in the arrangement and combination of devices which will be more fully described hereafter.

The accompanying drawings represent my invention.

a represents an ordinary frame or tower, to the top of which is secured the cylindrical casting *b*, upon which is formed the slightly-inclined shoulder *c*. Upon the top of this shoulder is placed a collar, *d*, in which are journaled a number of friction-rollers, *e*, upon which the cylinder or turn-table *g* rests. This cylinder may be of any desired construction, and may be held in position by means of a spring bolt or pin, the inner end of which catches in the horizontal groove made in the side of the casting *b*, or by any other suitable device. Upon the top of this turn-table is journaled the wheel *h*, the spider of which is made concave on its rear side, so that the supporting-plate *i* can project forward in it to a point beyond the axis of the wheel. Upon this plate, in front of the wheel, is pivoted the swinging vane *j*, the front end of which has a grooved cam, *l*, formed upon it, the under side of which is made inclined, so that the vane will swing from its own weight, from a right angle to the wheel, so as to be on a line with it. Fastened at one end to this cam is a chain, *n*, which has its other end secured to the cam

o on the upper end of the weighted lever *t*. To this lever is secured a bent arm, *v*, which projects up over the top of the turn-table, and has a rope or chain, *u*, attached to its end. The weight upon the lower end of the lever *t* should be such that it will hold the vane always at a right angle to the wheel in moderate winds, but which, in violent gusts or storms, will allow the vane to swing around so as to be on a plane, or nearly so, with the wheel. As the vane swings around toward the wheel, the wheel presents more or less of its edge to the wind, and in this manner its velocity is graduated in proportion to the power of the wind, and as the wind decreases the weight gradually draws the vane back into position again. When it is desired to check or stop the wheel, the rope or chain *u* is drawn upon until the weighted lever *t* is raised upward, when the wheel will at once turn its edge to the wind and cease to revolve. By making the spider concave and pivoting the vane within it the construction of the wheel is greatly simplified, the action of the vane is more quickly felt upon the wheel, and a cheaper and better mill is produced in every way.

Having thus described my invention, I claim—

1. A windmill in which the vane is pivoted at a point in front of the axis of the wheel, substantially as set forth.

2. A wind-wheel having its spider made concave on its rear side, so as to receive the pivot of the vane within it, substantially as specified.

3. The combination of the wheel, vane *j*, cams *l o*, chain *n*, weighted lever *t*, arm *v*, and chain or rope *u*, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of March, 1874.

DAVID G. WEBSTER.

Witnesses:

DAVID DANIEL,
MAURICE H. DANIEL.