D. G. WEBSTER.

Wind-Mill.

No. 162,724. Patented April 27, 1875.

Fig 1.

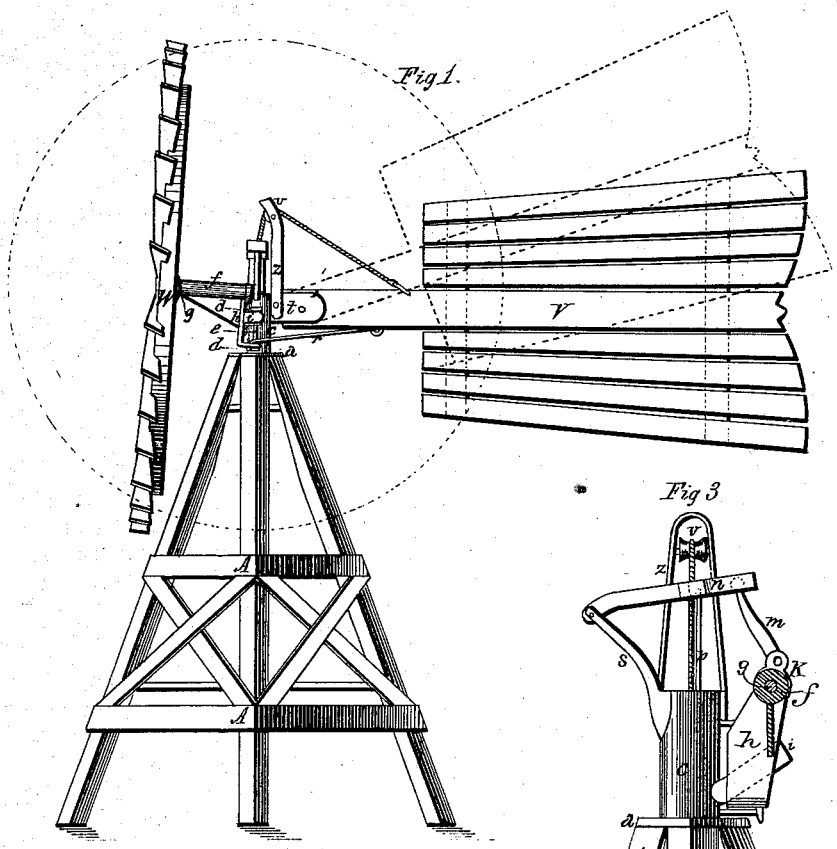


Fig 3

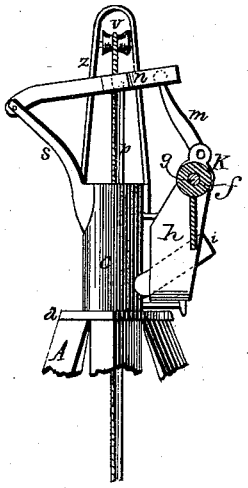


Fig 2.

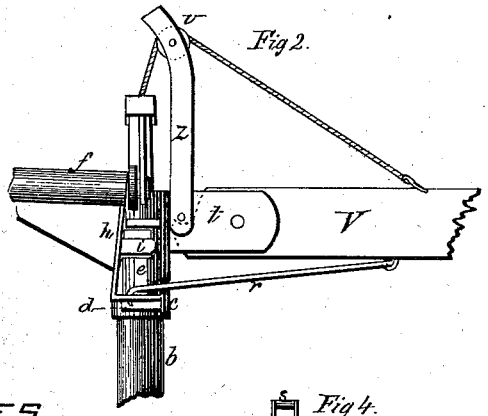
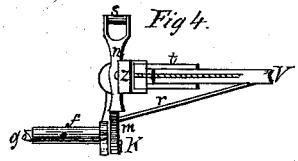


Fig 4.



WITNESSES.

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UNITED STATES PATENT OFFICE

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

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **162,724**, dated April 27, 1875; application filed March 1, 1875.

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.

My invention relates to an improvement in windmills; and consists in pivoting the wheel to one side of the center of the turn-table, and attaching it by means of a short rigid rod to a pivoted vertically-moving vane, so that when the wheel yields to the force of the wind, and the wheel and vane are brought into the same plane with each other, the vane is raised upward. As soon as the wind subsides, the weight of the vane brings the wheel into position again.

The accompanying drawing represents my invention.

A represents a derrick, of which the upper ends are held together by a plate, *a*, and through which plate passes the pump-tube *b*, of which the upper enlarged part *c* rests on the plate *a*. On the side of this enlarged part *c*, which acts as a turn-table, are the two projections or ears *d*, between which is placed the bar *e*, which bar forms a pivot on which the wind-wheel turns. The shaft of the wind-wheel passes through the sleeve *f*, formed on the top of the support *h*, which support is pivoted upon the bar *e*, and is provided with a stop, *i*, to keep the wheel W and vane V apart, when they are turned in the same direction. The wheel attached in front of the shaft *g* leans slightly backward at the top, to better resist a sudden shock, and to facilitate its being turned sidewise by the wind. At the rear end of the shaft *g* is a crank, K, to which is pivoted one end of the rod *m*, the other end of which is attached by a movable joint to the inner end of the lever *n*. To the lever *n*, which extends over the center of the tube *c*, the pump-rod is fastened, and on the upper part of this tube *c*, extending outward, is an arm, *s*, to which the outer end of the lever *n* is pivoted. Thus the wheel, when in motion, operates the pump by means of the crank K, rod *m*, the lever *n*, and the pump-rod *p*. On the rear side of the tube *c* are formed the two ears *t*, between which the end of the vane V is pivoted, which vane has a shoulder formed at its end for catching under the stop *o*, by which means the vane is supported in a horizontal position. From under the vane, where one of its ends is secured, extends a rod, *r*, which has its other end fastened to the support *h*.

As the pressure of the wind forces the wheel around in the usual manner toward the vane, and as the vane, in a like manner, is forced toward the wheel whenever the wind becomes too strong, these two move toward each other until they stand side by side. But as the two are connected by a rigid rod, they can only approach each other by one yielding in another direction. The vane being pivoted and free to move vertically, as the wheel swings around the rod *r* raises the outer end of the vane vertically upward, and the nearer they come, until stopped by the stop *i*, the higher is the vane raised. As the wind moderates, the weight of the vane forces the wheel into position again.

To the ears *t*, in which the vane is pivoted, is secured a support, *z*, for a pulley, *v*, over which a cord passes from the vane down the tube *c*.

To stop the mill, this rope is drawn down, whereby the vane is drawn upward, thus compelling the wheel to turn its edge to the wind.

It is evident that by placing the wheel on one side of the turn-table less power is required to turn it out of the wind, or, what is the same, to turn the turn-table, than when it is placed in the center in front of it. Without taking advantage of this means, the difficulty heretofore has been to construct windmills that would readily and automatically turn their sides to the wind before they could be affected by the violence of a storm. The present invention overcomes this difficulty altogether, since any degree of leverage can be given to the wheel by placing it farther from or nearer to the center of the turn-table, or by lengthening or shortening the rod *r*, so that even an ordinary wind may turn it.

I am aware that a vane pivoted so as to

move vertically, but entirely disconnected from the wheel, is not new, and this I disclaim. My invention consists in connecting the wheel and vane together, so that the weight alone of the vane forces the wheel into position.

Having thus described my invention, I claim—

1. In combination with a wind-wheel, a vane that is pivoted so as to move vertically, and connected to the wheel by a rigid connecting-rod, substantially as shown.

2. The combination of the wheel W, journaled in the support *h*, which support is placed to one side of the center of the derrick, in combination with the stop *i*, rod *r*, and vertically-moving vane V, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 20th day of February, 1875.

DAVID G. WEBSTER.

Witnesses:
DAVID DANIEL,
LUCY LEACH.