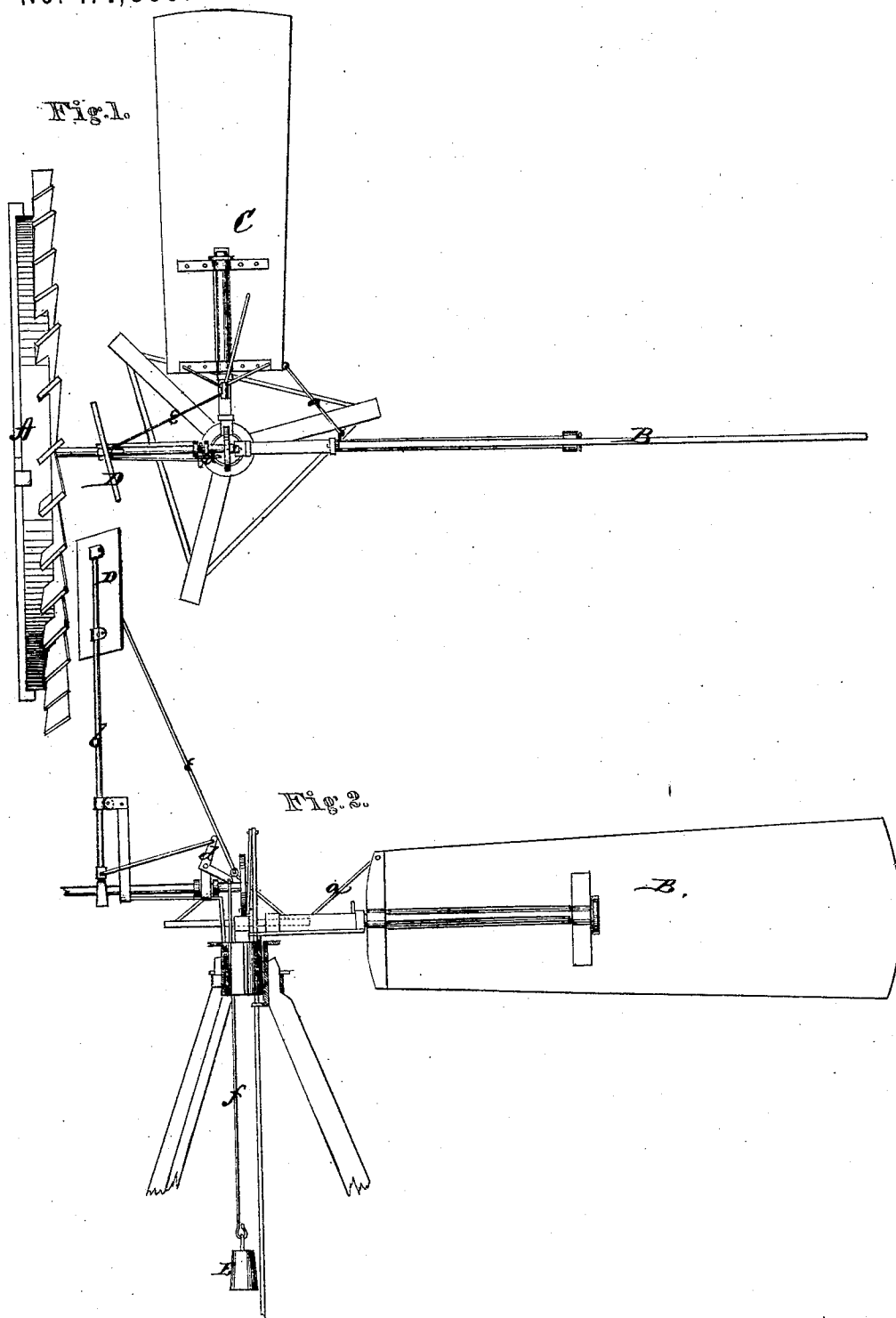


S. M. ABBOTT.
Improvement in Windmills.

No. 114,899.

Patented May 16, 1871.



Witnesses
Chas. Kenyon,
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United States Patent Office.

SAMUEL M. ABBOTT, OF WILMINGTON, ILLINOIS.

Letters Patent No. 114,899, dated May 16, 1871; antedated May 5, 1871.

IMPROVEMENT IN WINDMILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, SAMUEL M. ABBOTT, of Wilmington, in the county of Will and State of Illinois, have invented a new and valuable Improvement in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is my windmill in plan view, and

Figure 2 is a side elevation of the same.

The nature of my invention consists in the construction and arrangement of a wind-power and mode of controlling the wind-wheel, as will be hereafter 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.

A represents the wind-wheel, constructed in any suitable manner, with stationary wings.

B is the tail, rudder, or vane, which holds the wheel to the wind.

This vane is, by a rod, *a*, (chain, gearing, or other means may be substituted,) connected with another vane or rudder, C, which is smaller than the vane B, and stands at right angles with it, as shown.

D is a wind-disk attached to the upper end of a lever, *b*, the lower end of which slides on the wheel-shaft, and is connected with an elbow, *d*, pivoted on the turn-table.

The wind-disk D is, by a rod, *e*, connected with the vane C.

The vanes B C are so arranged as to turn one-quarter round on their axles.

A weight, E, is attached to the rod *f*, on the inner end of the elbow *d*, to keep the wind-disk D at a perpendicular in an ordinary wind, and to allow the disk, with its lever, to fall back before a stiff wind, and so turn the wheel to a greater or lesser angle, according to the force of the wind.

In case of a sudden gust or gale of wind the disk is forced back, the vanes changing their relative positions. The longer one, B, which was perpendicular and held

the wheel in the wind, changes to a horizontal position; the other, C, which was horizontal, changes to a perpendicular position, takes effect in the wind, and brings the wheel to a right angle, to the position it was in before the disk was blown back. This quarter-revolution of the whole structure above brings the thickness of the wheel into the eye of the wind, and it immediately ceases to revolve. The wheel is kept in this position by the wind-disk D being placed diagonal to the face of the wheel so long as the gale continues.

As soon as the wind lulls the weight E draws the disk and lever to a perpendicular, the vanes changing their positions to what they were at first. This brings the wheel into the wind and it begins to revolve again.

I make the space between the bearings of the shaft of the wheel a trough or reservoir for oil to lubricate those bearings, and also the contiguous surfaces of the turn-table or staple or thimble which holds the wheel and vanes in their place.

I use also a small oil-fountain on the top of the pit-man or perpendicular shaft to lubricate the other rubbing surfaces. These two oil-founts make it easy to keep the machine well lubricated.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The rudders or vanes B C, placed at right angles with each other, and constructed so as to be capable of turning one-quarter around on their axles, and connected together by any suitable means, substantially as and for the purposes herein set forth.

2. In combination with the vanes B C, the wind-disk D, pivoted lever *b*, connecting-rod *e*, substantially as and for the purposes herein set forth.

3. In combination with the wind-disk D and lever *b*, operating the vanes B C, as described, the elbow *d*, rod *f*, and weight E, substantially as and for the purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL M. ABBOTT.

Witnesses:

ENOCH JACKSON,
WILLIAM F. WHITSON.