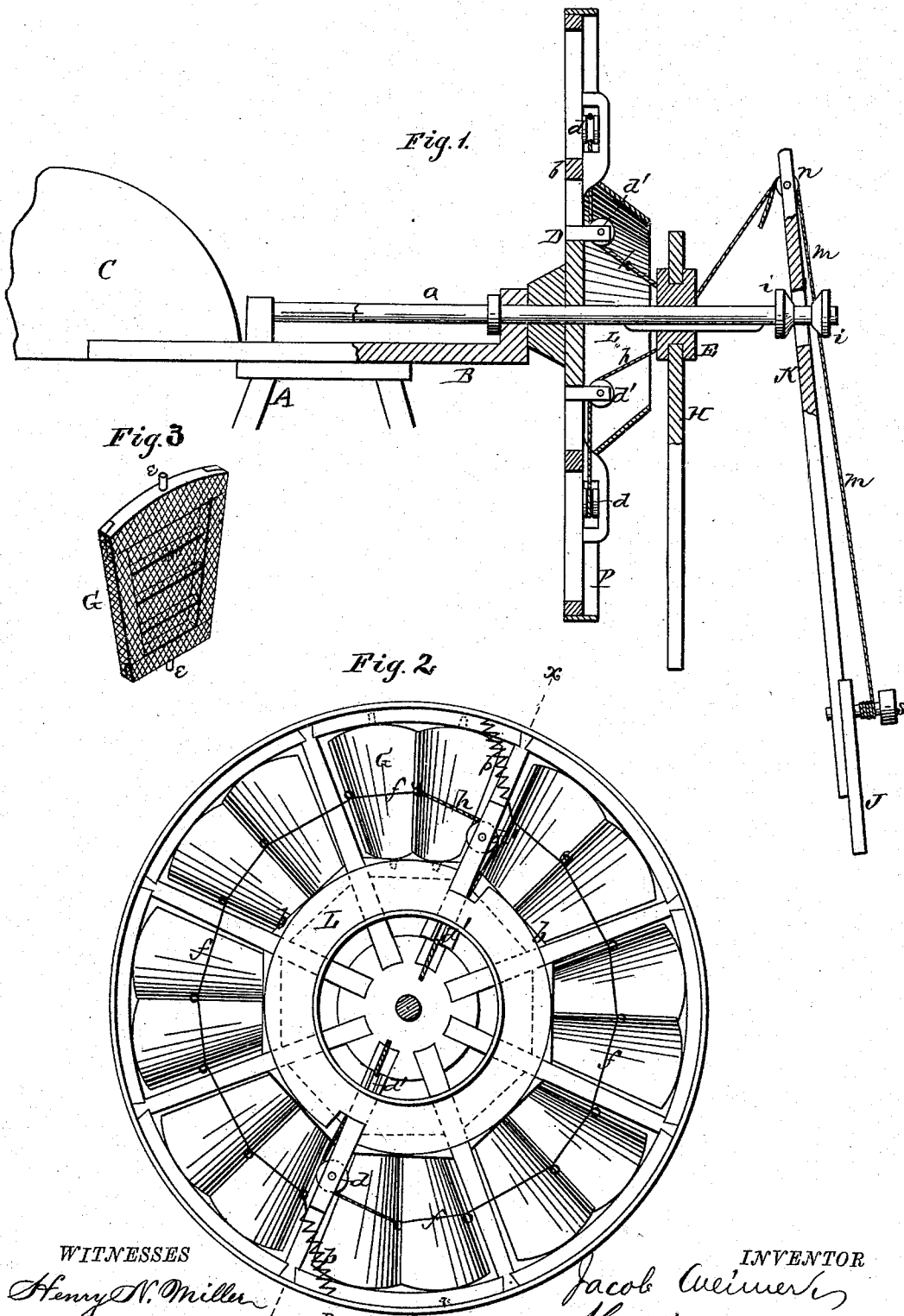


J. WEIMER.
WIND-WHEEL.

No. 172,223.

Patented Jan. 11, 1876.



WITNESSES
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JACOB WEIMER, OF ELMORE, NEBRASKA.

IMPROVEMENT IN WIND-WHEELS.

Specification forming part of Letters Patent No. **172,223**, dated January 11, 1876; application filed July 22, 1875.

To all whom it may concern:

Be it known that I, JACOB WEIMER, of Elmore, in the county of Richardson and in the State of Nebraska, have invented certain new and useful Improvements in Wind-Wheels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, forming a part of this specification.

My invention relates to windmills; and it consists in the construction of the wind-wheel proper, and also in the device for governing or regulating the motion of the wheel, 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, in which—

Figure 1 is a section of a windmill embodying my invention. Fig. 2 is a front view of the wind-wheel. Fig. 3 is a perspective view of one of the wings of the wind-wheel.

A represents the frame-work or tower of my windmill, on top of which is the turn-table B, carrying at one end the tail-vane C, and the wind-wheel shaft *a* is placed in suitable boxes thereon.

These parts may all be constructed in any of the known and usual ways.

The wheel D, secured on the shaft *a*, is composed of a hub with radial arms connecting it with the rim. At a suitable distance from the hub the arms are connected by cross-bars *b*, which form a regular polygonal-shaped figure. Between these cross-bars and the rim of the wheel are pivoted a series of wings, G G, which are constructed as shown in Fig. 3, each wing consisting of a skeleton frame with cross-bars, and covered with canvas. The wings are provided at top and bottom with projecting pivots *e e* inserted in the rim and cross-bars of the wheel, and on which the wings turn. On two of the arms of the wheel D that are radially opposite each other are arranged pulleys *d d*, dividing, as it were, the wings G into two separate series, each series extending one-half around the wheel, and the wings of each series connected by wires *f f*, as shown in Fig. 2. From the last wing at

one end of each series a cord, *h*, passes around the adjoining pulley *d*, and around another pulley, *d'*, attached to the inner end of the same arm, and from thence to a hub, E, which is feathered on the shaft *a* outside of the wheel D. The hub E is grooved circumferentially, and in said groove is placed a paddle, H, from which depends a weighted arm, I. On the outer end of the shaft *a*, between two beveled collars, *i i*, is loosely placed an arm, K, having a paddle, J, at its lower end, and from this paddle a cord, *m*, extends up over a pulley, *n*, in the upper end of the arm K, where the cord branches into two, and attached to the paddle H on each side of the hub E.

The wind, blowing against the paddle J, forces the same inward, so that the cord *m* will draw the hub E outward on the shaft, thereby opening the wings. The weighted paddle H, which moves the hub, keeps the paddle J from turning around as the hub and wheel revolve. When the wind decreases, springs *p*, properly arranged and connected to the wings, draw them back into the wind again.

The cord *m* is attached to the paddle J by a winding-pin, *s*, to wind the cord on, which will open the wheel and let the wind all pass through, and consequently the wheel stops. By this means the power may be weighed according to the amount of wind. In the center, on the front of the wheel D, is a beveled hood, L, which throws the wind from the center to the outer edge of the wheel, in order to get more leverage. Around the ordinary rim of the wheel is a rim, P, projecting forward, which catches the wind that is thrown from the center.

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

1. In a wind-wheel having pivoted wings, as described, a beveled hood, L, arranged in the center on the front of the wheel, for the purposes herein set forth.

2. The combination, in a wind-wheel, of the projecting rim P and beveled center hood L, substantially as and for the purposes herein set forth.

3. The combination of the pivoted wings G,

connecting-wires *f*, cords *h*, springs *p*, pulleys *d d'*, and sliding hub *E*, substantially as and for the purposes herein set forth.

4. The combination, with the sliding pulley *E*, of the weighted paddle *H*, cord *m*, arm *K*, paddle *J*, and winding-pin *s*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I

have hereunto set my hand this 14th day of April, 1875.

JACOB ^{his} ~~x~~ WEIMER.
mark.

Witnesses:

E. B. STEPHENS,
H. B. GRABLE.