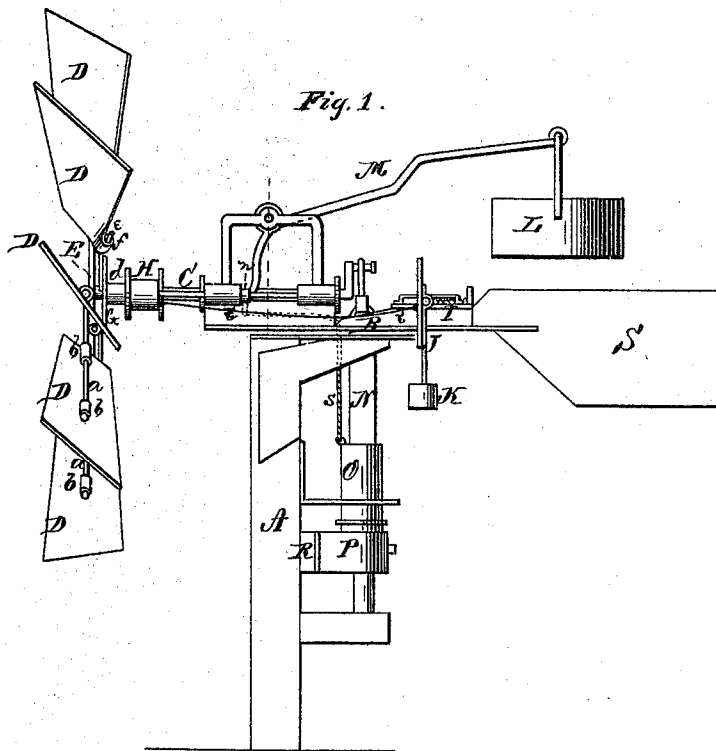


M. J. KAUFFMANN.
Wind-Mills.

No. 142,479.

Patented September 2, 1873.



Witnesses:

Henry N. Miller
E. C. Custer

Inventor.

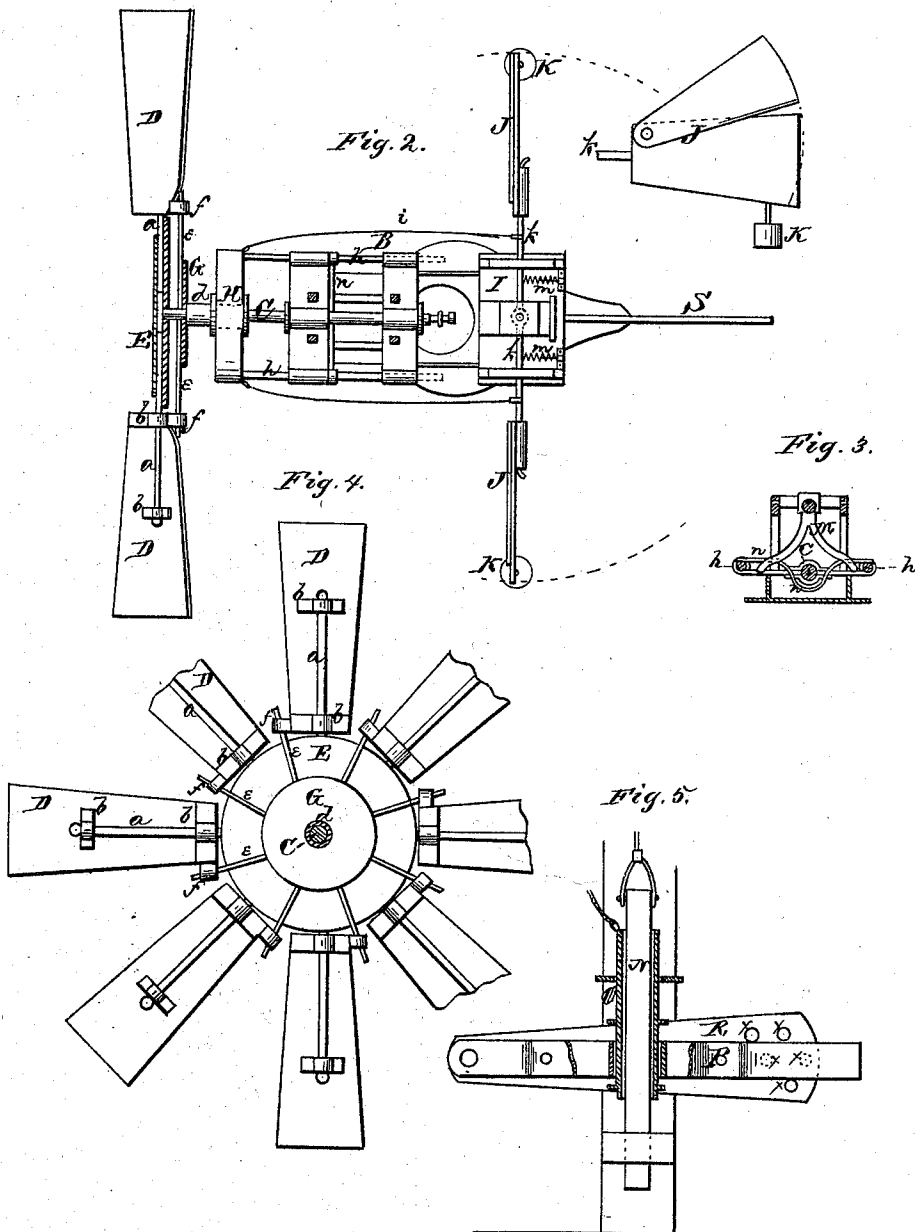
Moses J. Kauffmann
per Alexander Mann

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UNITED STATES PATENT OFFICE.

MOSES J. KAUFFMAN, OF ARCOLA, ILLINOIS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **142,479**, dated September 2, 1873; application filed April 11, 1873.

To all whom it may concern:

Be it known that I, MOSES J. KAUFFMAN, of Arcola, in the county of Douglas and in the State of Illinois, have invented certain new and useful Improvements in Windmill; 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 making a part of this specification.

The nature of my invention consists in the construction and arrangement of a windmill, 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 drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a plan view, of my windmill. Figs. 3, 4, and 5 are detached views of certain parts thereof.

A represents the post or standard with a turn-table, B, on its upper end, said table supporting the crank-shaft C in the usual manner. On the outer end of this shaft C is a disk or wheel, E, having a series of radial round arms, *aa*, projecting a suitable distance from the edge of the wheel, and at equal distances apart. D D represent the wings, which are each, on the rear side, provided with two metal sockets, *b b*, as shown in Fig. 4, and placed one upon each of the round arms *a*. On the outer end of each arm is a slight projection which prevents the wing from coming off from the same, but does not in any way interfere with the wing revolving for a certain distance on the arm. On the shaft C, back of the wheel E D, is a sleeve, *d*, to the front end of which a disk, G, is attached, which disk is provided with a series of rods, *ee*, projecting radially from the same, and the said rods pass through loops *ff* formed upon one of the inner corners of each wing D, so that, by moving the sleeve *d* with its disk G on the shaft backward from the wheel, the wings will be turned on their arms. To the sleeve *d* is also attached a cross-head, H, from which two guide-rods, *h h*, pass through suitable boxes or bearings on the turn-table. From each end of the cross-head H a chain, *i*, or

coupled rods extend backward to and connect with a lever, *k*, which two levers are pivoted on a platform, I, on the rear part of the turn-table, and extend one to each side, as shown in Fig. 2. On the outer end of each lever *k* is pivoted a governor-wing, J, which is made in two parts, so as to increase or diminish its surface as occasion may require, the governor-wing being held in a perpendicular position by a weight, K. A spring, *m*, is placed behind each of the levers *k* to throw the same, with the governor-wing, forward.

The object of putting the wings G G in sockets, as described, and of the governor-wings J J, is to avoid the strain and breakage by storms and gales. As the winds increase in force the governor-wings J J are pushed back, turning the edges of the wings D D to the gale. These governor-wings J J also regulate the motion of the mill. In ordinary mills the stronger the wind the greater the speed, but in mine the action of the governor-wings, by turning the edges of the wings D D to the wind, prevents any material acceleration of motion, unless desired, thus securing uniform rate of speed. As the wind decreases the springs *m m* bring the governor-wings J J back to their position. The wings D D are brought back against the wind by means of a weight, L, suspended on one end of a lever, M, the other end of which is forked and works against a cross-bar, *n*, connecting the two guide-rods *h h*, as shown in Fig. 3.

The speed may be increased or decreased by adding to or decreasing the weight L, as the wings D D cannot be turned out of the wind until the force of the wind on the governor-wings J J is strong enough to overcome said weight.

N represents the pitman attached on the crank of the shaft C, and on said pitman is placed a sleeve, O, which is connected, by a rope or chain, *s*, with the cross-bar *n* above mentioned. The sleeve O is attached to a lever, P, which is pivoted, at one end, to a board R, attached to the post A, and the other end of this lever is held, by a pin, through either of a series of holes, *xx*, in the other end of the board R. By this means the mill may

be set for light or heavy winds, and its movement easily regulated. S represents the usual windboard projecting from the rear end of the turn-table B to keep the wheel to the wind in the usual manner.

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

The arrangement, with the wings D, pivoted to the disk E by the arms *a* and socket *b*, as described, of the loops *f*, rods *e*, disk G, sleeve

d, cross-head H, chains *i*, levers *k*, springs *m*, and governor-wings J, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 14th day of March, 1873.

MOSES J. KAUFFMANN. [L. S.]

Witnesses:

H. D. JENKINS,

MCH. BROOKS.