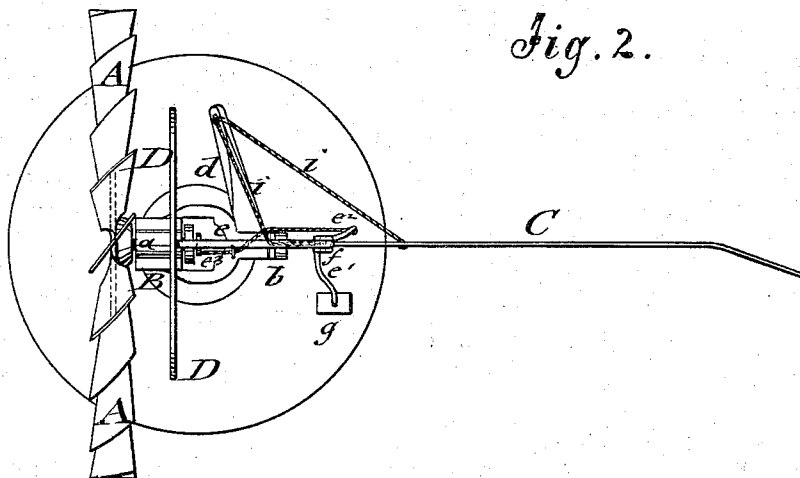
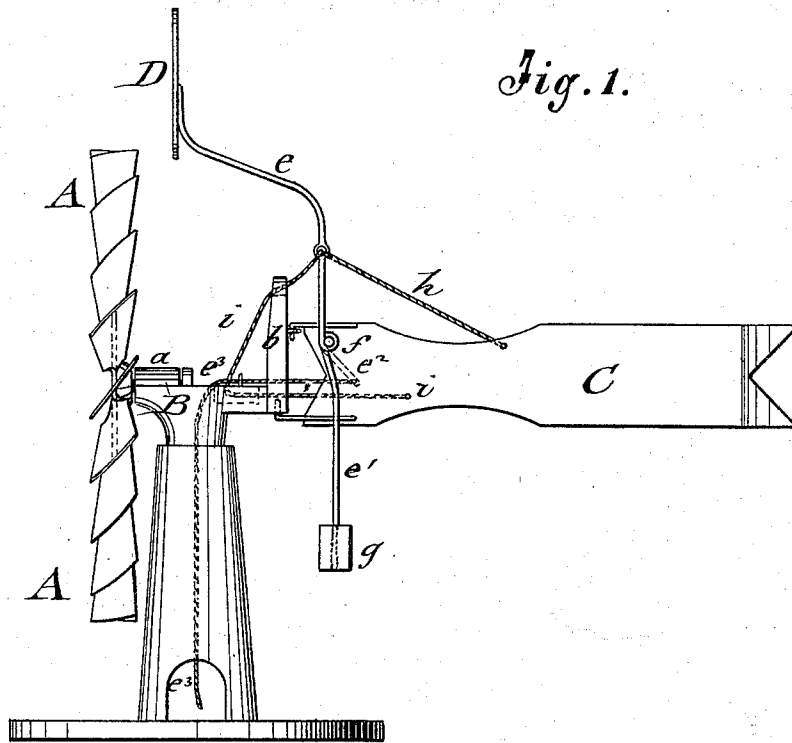


G. A. & C. E. MYERS.
Wind-Mills.

No. 148,131.

Patented March 3, 1874.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE A. MYERS AND CHARLES E. MYERS, OF SCHOOLCRAFT, MICHIGAN.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **148,131**, dated March 3, 1874; application filed December 29, 1873.

To all whom it may concern:

Be it known that we, GEORGE A. MYERS and CHARLES E. MYERS, of Schoolcraft, in the county of Kalamazoo and State of Michigan, have invented a new and Improved Self-Regulating Device for Windmills, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of our self-regulating device for windmills, and Fig. 2 a top view of the same.

Similar letters of reference indicate corresponding parts.

The object of our invention is to produce for windmills a cheap, simple, and effective regulating device, by which the main vane and wheel is turned sidewise when the wind is blowing too strongly, so that its effect on the wheel is reduced, and a uniform motion of the same obtained at the speed desired.

The invention will first be fully described, and then pointed out in the claim.

In the drawing, A represents the wheel, made of suitable stiff material. The shaft *a* of wheel A turns in socket-bearing B, which revolves on the main pillar of the mill. The bearing B is provided, in the rear of the wheel-shaft, with an upright arm, *b*, and, under suitable angle to arm *b*, with a horizontal arm, *d*. The main vane C is hung to the upright arm *b*. The upright regulating-vane D is applied, under nearly a right angle to vane C, above wheel A, to a strong curved supporting-rod, *e*, which is pivoted by its bifurcated end, at F, to the main vane C, near upright arm *b*, being provided at one side with a lever-extension, *e*¹, and at the other side with a short lever-arm, *e*². To the end of lever-extension *e*¹ is applied the adjustable weight *g*, which regulates, by its position on lever *e*¹, the power of the wind desired to be used on the wheel. The supporting-rod *e* is furthermore connected with the main vane C by a brace-chain, *h*, which secures its upright position, and also by a chain, *i*.

When the force of the wind, bearing against the upright regulating-vane D, is sufficient to overcome the weight *g*, vane D will be pressed backward, turning by its rod *e* on its pivotal point *f*, at the main vane, and carrying at the same time, by chain *i*, the main vane C around toward the wheel A. This motion of main vane C is assisted by its curved end, which is bent in opposite direction to that in which the main vane turns, by the action of the regulating-vane D. When the vane C is thus brought round toward the wheel and receives a less force of wind than the wheel, the latter moves round with the socket to a corresponding position. Thus, however great and changeable the wind may be, the same force may be exerted, and a uniform velocity secured.

The decreasing velocity of the wind allows the weight to carry the regulating-vane into its upright position, drawing with it the main vane into its original place, keeping then the wheel to the wind in the usual manner.

The shorter arm *e*² of rod *e* is also connected by a chain, *e*³, to the base of the pillar for throwing the wheel directly out of the wind, by turning the upright vane down, and drawing thereby the main vane around to the side of the wheel.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination, with wheel A, rotary socket-bearing B, having arms *b* *d*, and the vane C, of the lever *e* *e*¹, having vane D at the top, weight *g* near the bottom, and pivoted to said vane, also connected therewith by a cord, *i*, as described, for the purpose specified.

GEORGE A. MYERS.
CHARLES E. MYERS.

Witnesses:

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C. C. DYCKMAN.