J. J. REED.
Windmill.

No. 197,796. Patented Dec. 4, 1877.

Fig: 1.

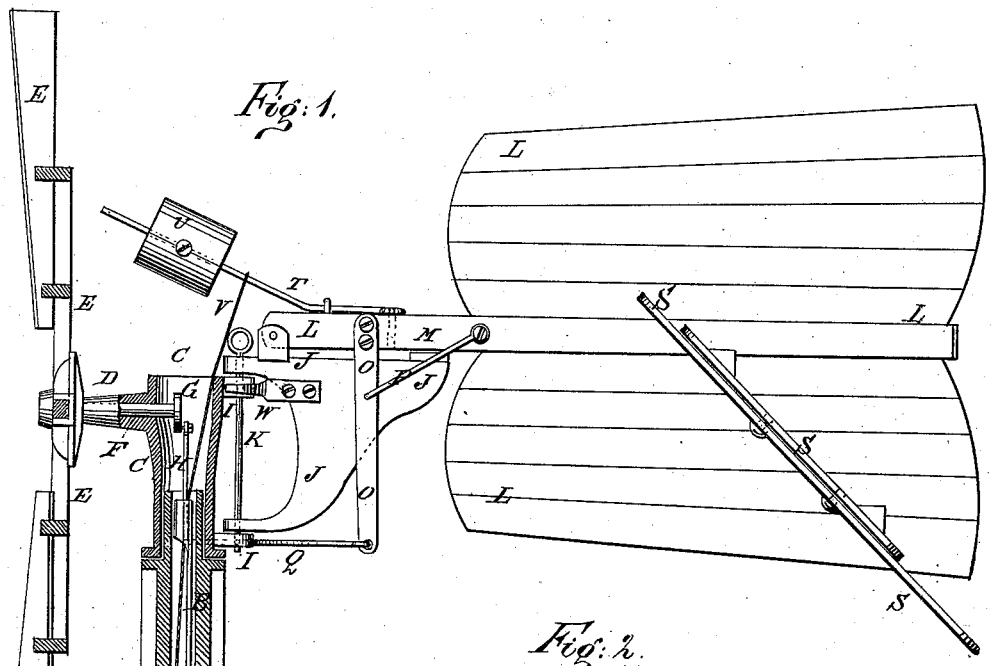


Fig: 2.

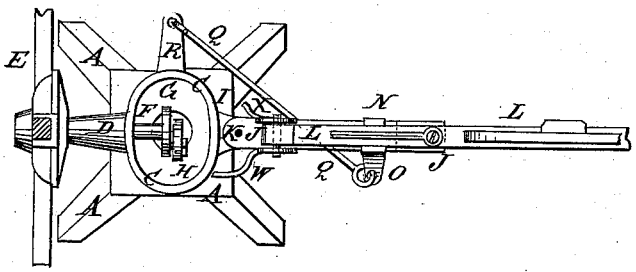
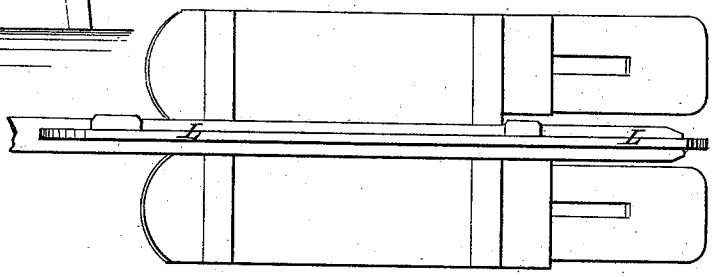


Fig: 3.



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UNITED STATES PATENT OFFICE.

JOHN JAMES REED, OF LYONS, IOWA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **197,796**, dated December 4, 1877; application filed October 27, 1877.

To all whom it may concern:

Be it known that I, JOHN J. REED, of Lyons, in the county of Clinton and State of Iowa, have invented a new and useful Improvement in Windmills, of which the following is a specification:

Figure 1 is a side view of my improved windmill, partly in section, to show the construction. Fig. 2 is a top view of the same, parts being broken away. Fig. 3 is a top view of the vane or tail.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved windmill, which shall be so constructed that the action of the wind, as it increases in force, will turn the wheel more and more out of the wind, and finally stop it, that it may be readily stopped by hand and fastened out of the wind, and which shall be simple in construction, and not liable to get out of order.

The invention consists in a windmill in which the vane is connected with the rotating barrel that carries the wind-wheel by a plate or frame hinged to said barrel, and to which the said vane is hinged; in the combination of the lever, the connecting-rod, and the arm with the hinged vane and with the rotating barrel that carries the wind-wheel; and in the combination of the inclined boards or wings with the sides of the hinged vane, substantially as herein shown and described.

A represents the tower or frame that supports the mill, and to the top of which is attached a hollow pivot, B. Upon the pivot B revolves a sleeve or band, C, upon the forward side of the upper end of which is formed a hollow arm, D. E is the wind-wheel, which is constructed in the usual way, and the shaft F of which passes through the hollow arm D, and has a crank or crank-wheel, G, attached to its inner end. To the pin of the crank or crank-wheel G is pivoted the upper end of the rod H, which passes down through the cavity of the barrel C and pivot B, and is connected at its lower end with the pump or other machinery to be driven. The rod H should have a swivel formed in it, to prevent it from being twisted by the turning of the barrel C upon the pivot B. Upon the upper and lower parts of the rear side of the barrel C are formed lugs I, to which are pivoted the upper and lower corners of the triangular or three-armed plate or frame J by a rod, K. The upper edge of the plate J is horizontal, and to it, near its forward end, is hinged the end of the central bar of the vane or tail L, which bar, when the vane L is in a horizontal position, rests upon a rubber block, M, attached to the upper edge of the rear or third corner or arm of the plate J, to prevent noise as the said vane drops into a horizontal position. The vane L is kept in the same vertical plane with the plate J by the bars N O attached to the opposite sides of the forward part of the central bar of the said vane L, and which project down upon the opposite sides of the said plate J. The bar O is strengthened by an inclined brace, P, the lower end of which is attached to the said bar O, and its upper end is attached to the central bar of the vane L in the rear of the upper end of the said bar O. The bar O is extended downward, and to its lower end is pivoted the end of a rod, Q, the other end of which is pivoted to the end of an arm, R, formed upon or rigidly attached to the lower part of the barrel C, midway between the arm D and lugs I. To the opposite sides of the rear lower part of the vane L are attached boards or plates S, which incline downward, and to which are attached extension-boards, so that the said boards or wings can belengthened or shortened, to make them more or less sensitive to the wind.

With this construction the wind blows against the under sides of the inclined boards or wings S, and tends to raise the rear end of the vane.

As the vane rises, the lever O and rod Q draw upon the arm R, and turn the barrel so as to tend to bring the wheel E parallel with the vane L, and thus take the said wheel E more or less out of the wind, according to its force.

To the forward part of the central bar of the vane L is attached a bar or rod, T, which inclines upward, and to which is adjustably attached a weight, U, by a set-screw or other suitable means, so that the vane L S may be made more or less sensitive to the wind by adjusting the said weight U.

To the weight U or rod T is attached a cord or wire, V, which passes down through the barrel C and pivot B into such a position that it may be reached and operated by an attendant to throw the wheel E out of the wind.

To the side of the upper forward corner of the triangular plate J farthest from the arm R is attached an arm, W, which is curved outward and forward, and is made of such a length that its forward end will strike against the barrel C, when the vane L comes into a position at right angles with the wheel E, and prevent the said vane from moving any farther in that direction.

To the side of the upper forward corner of the triangular frame J, toward the arm R, is attached an arm, X, which projects into such a position, and is made of such a length, as to strike against the barrel C, when the wheel E has been swung around into a position parallel with the vane L, and prevent it from going any farther.

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

1. A windmill, in which the vane L is connected with the rotating barrel C that carries the wind-wheel by a plate or frame, J, hinged to the said barrel, and to which the said vane is hinged, substantially as herein shown and described.

2. The combination of the lever O, the connecting-rod Q, and the arm R with the hinged vane L, and with the rotating barrel C that carries the wind-wheel, substantially as herein shown and described.

3. The combination of the inclined boards or wings S, with the sides of the vane L, substantially as herein shown and described.

JOHN JAMES REED.

Witnesses:
J. H. FLINT,
N. BOARDMAN.