J. McGOVERN.

Wind-Mill.

No. 165,013. Patented June 29, 1875.

Fig. 1.

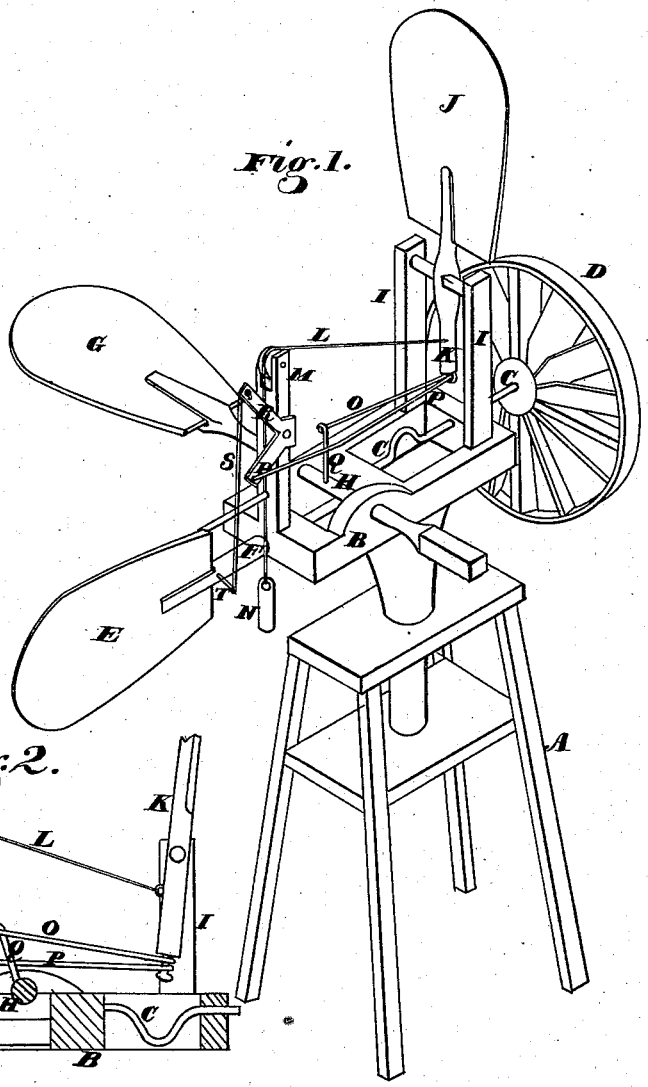
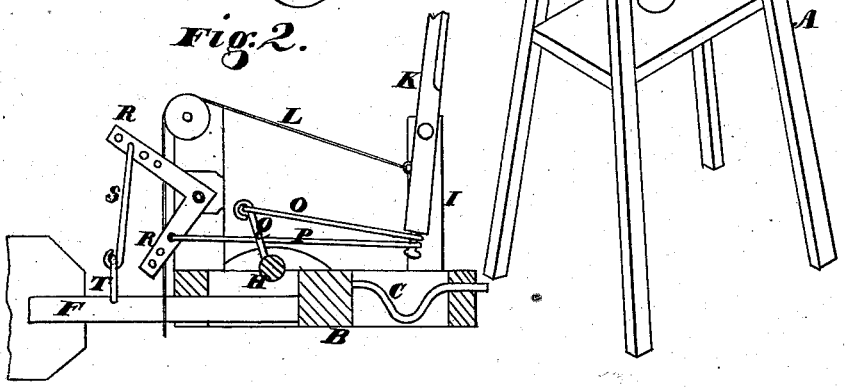


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH McGOVERN, OF MODESTO, CALIFORNIA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **165,013**, dated June 29, 1875; application filed May 3, 1875.

To all whom it may concern:

Be it known that I, JOSEPH McGOVERN, of Modesto, Stanislaus county, State of California, have invented an Improved Windmill; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to a novel construction for windmills, by which I am enabled to make the mill self-governing; and it consists in the combination of a vertically-placed vane with two other horizontally-placed vanes, one of which ordinarily holds the wheel to the wind. Any dangerous increase in the wind will act upon the vertical vane, and this by its connections will so turn the other vanes as to throw the mill more or less out of the wind.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1 is a perspective view of my mill. Fig. 2 are details referred to.

A is the frame, upon which is mounted the turn-table B, carrying the shaft C, wind-wheel D, and the tail E, which serves to hold the wheel to the wind. This tail is mounted upon a stem or shaft, F, which is fitted so as to rotate in bearings upon the turn-table B, so that the tail E can stand in its ordinary vertical position, or be turned to lie horizontally when desired. At right angles with this tail is mounted another tail or vane, G, upon a shaft, H, which is also supported upon the turn-table so as to be rotated. Two uprights, I, near the front of the turn-table, serve to support a vertically-placed vane, J, its axis or shaft being mounted horizontally between the support I, so that the vane may be turned down to a horizontal position at will. The stem K of this vane extends some distance below the axis, and a cord or chain, L, is attached to this part, and, passing over a pulley in the top of the upright M, extends down to a weight, N, which serves to retain the vane J in its vertical position until the wind attains a stated strength. A stout spring may take the place of the weight and cord in some cases. This vane stands parallel with the wheel, or so that its flat side is toward the wind when the wheel is, and as it extends upward to some distance it will be seen that when the wind blows hard enough to overcome the weight N the vane will be inclined backward more or less toward a horizontal position. The lower end of the stem K has attached to it two connecting-rods, O and P. The rod O connects with an upright arm, Q, upon the shaft H of the side vane G, while the rod P connects with one arm of a bell-crank lever, R, on the upright M. The connecting-rod S extends from the other arm of the lever R to an arm, T, which projects from the shaft F of the vane E.

By means of these or equivalent connections both the vanes E and G will be rotated simultaneously whenever wind or the weight act upon the vane J.

The operation will be as follows: The vane E, standing in its usual position for holding the wheel to the wind, will be vertical, or with its edges up and down, and the vane G will lie horizontally, or with its edge toward the wind, thus presenting a slight resistance to it. The vane J will be held upright, with its flat face toward the wind, until this is strong enough to overcome the weight, when the vane J will be bent backward. By means of the rods O and P, and their connections, the shafts E and H will then be simultaneously rotated, so that the vane E will be turned horizontally and out of the wind, while the vane G will be turned vertically, or with its face to the wind, which can thus turn the mill until it is more or less out of the wind.

As the strength of the wind rises, it will be manifest that the mill will regulate itself to all its necessities.

I am aware that it is not new to construct wind-wheels to be automatic in adjusting themselves to the wind, as this is shown and described in the patent to Samuel M.

Abbott, May 16, 1871, No. 114,899. I, therefore, do not claim an automatic adjustment broadly, as this is not my invention.

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

The vanes E, G, and J, mounted as shown, together with the connecting-rods O, P, and S, the arms Q and T, and the bell-crank lever R, whereby power is transmitted directly from the hinged vane J to each of the vanes E and G, substantially as herein described.

JOSEPH McGOVERN.

Witnesses:

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