W. E. SHORT.

Wind-Mill Power.

No. 169,051. Patented Oct. 19, 1875.

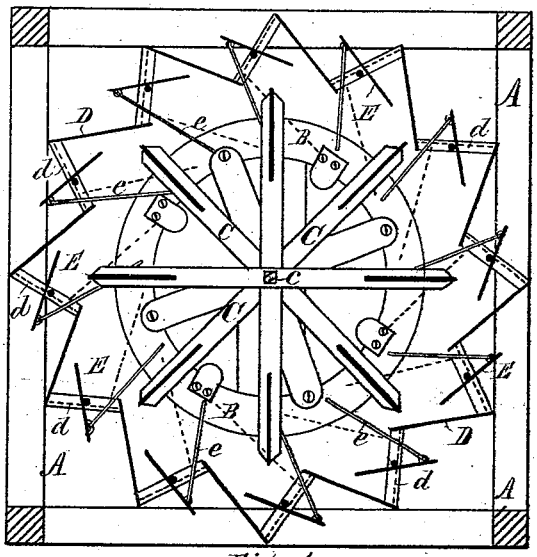

Fig. 1.

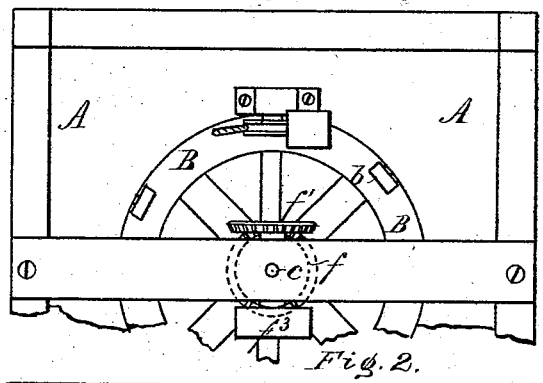

Fig. 2.

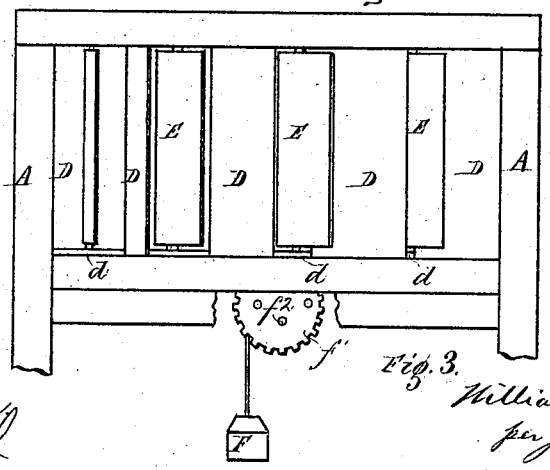

Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM E. SHORT, OF TALLULA, ILLINOIS.

IMPROVEMENT IN WINDMILL-POWERS.

Specification forming part of Letters Patent No. **169,051**, dated October 19, 1875; application filed July 26, 1875.

To all whom it may concern:

Be it known that I, WILLIAM E. SHORT, of Tallula, Menard county, and State of Illinois, have invented an Improved Power-Windmill, of which the following is a specification:

This invention relates to the improved construction and combination of parts composing my windmill, by means whereof I am enabled to utilize the wind-power to its greatest extent; also, regulate and control the admission of the wind to operate the wheel, and impart to same at all times a uniform rotation; also, to the improved combination of gearing with wind-wheel—all of which will now more fully appear.

Of the drawing, Figure 1 is a top sectional plan; Fig. 2, part bottom plan; Fig. 3, a side elevation.

Arranged in the bottom of the housing A is a turn-table or platform, B. This simply consists of a circular plate or platform, resting upon friction-rollers *b*. (More clearly shown in Fig. 2.) To this turn-table the movable shutters are connected, to operate as will hereinafter appear. C is the wind-wheel, and, as usual, supported on a vertical shaft, *c*, which turns in proper steps in the top and bottom cross-beams. The housing A, surrounding the sides of the wheel, I provide with shutters D. These, as shown in Figs. 1 and 3, are arranged tangently to the wheel. Hence the shutters D are secured fixedly between bearings *d*, which are on the floor of the housing, in a manner shown in Figs. 1 and 3.

The shutters D direct and cause the wind (no matter from what side) to act upon the wheel-paddles with a great utilization of force and power, owing to their tangent position with relation to the wheel.

Further, I surround the wheel with movable shutters E. These are arranged between the fixed shutters D, and are pivoted at top and bottom to the housing, in manner shown in Figs. 1 and 3, the purpose of the shutters E being to control and regulate the admission and action of the wind upon the wheel. Hence, further to accomplish this object, I connect each shutter E, by a rod, *e*, to the turn-table B, before alluded to, and as shown in Fig. 1. When, therefore, the wind blows too strong, the shutters E close, and, in doing so, turn the turn-table B partially to one side from its original position. This movement of the turn-table raises a weight, F, Fig. 3, which is suspended from below, passing over a pulley, and which weight, reacting again on the platform or table B, restores it to its original position, and also returns the shutters E again to position to freely admit the wind.

By these means, therefore, I achieve a perfect automatic operation, so that the wind-power is made to act uniformly at all times upon the wheel, and the same likewise performs the required uniform revolutions.

The weight F is diminished or increased according to the difference of work to be done.

The revolutions of the windmill are imparted to actuate the pumps or machinery to be driven by the combination of gearing, as follows: The lower end of the shaft *b* I provide with a bevel-gear, *f*. This meshes with a similar gear, f^1, and which is secured to the lower cross-beam. (See Fig. 2.) The gear f^1 has holes f^2 for the connection of the pump-rod, and said points of fastening vary in distance from the center, so as to give the said rod more or less stroke. On the same gear-shaft is a belt-wheel, f^3, (see Fig. 2,) by means whereof the attachment to drive machinery by belting or rotary motion can be had.

What I claim is—

1. The gearing $f f^1$, holes f^2, in combination with wind-wheel C, to operate as and for the purpose set forth.

2. The gearing $f f^1 f^3$, in combination with wind-wheel C, to operate as and for the purpose set forth.

3. The combination of the fixed shutters D, movable shutters E, connected to turn-table B, carrying weight F, the wind-wheel C, its shaft *c*, gearing $f f^1 f^3$, all constructed and arranged to operate in the manner and for the purpose herein shown and described.

In testimony of said invention I hereunto set my hand.

WILLIAM E. SHORT.

Witnesses:

WILLIAM W. HERTHEL,

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