W. C & P. B. Day.

Windmill.

No 75384 Patented Mar. 10, 1868.

Fig. 1.

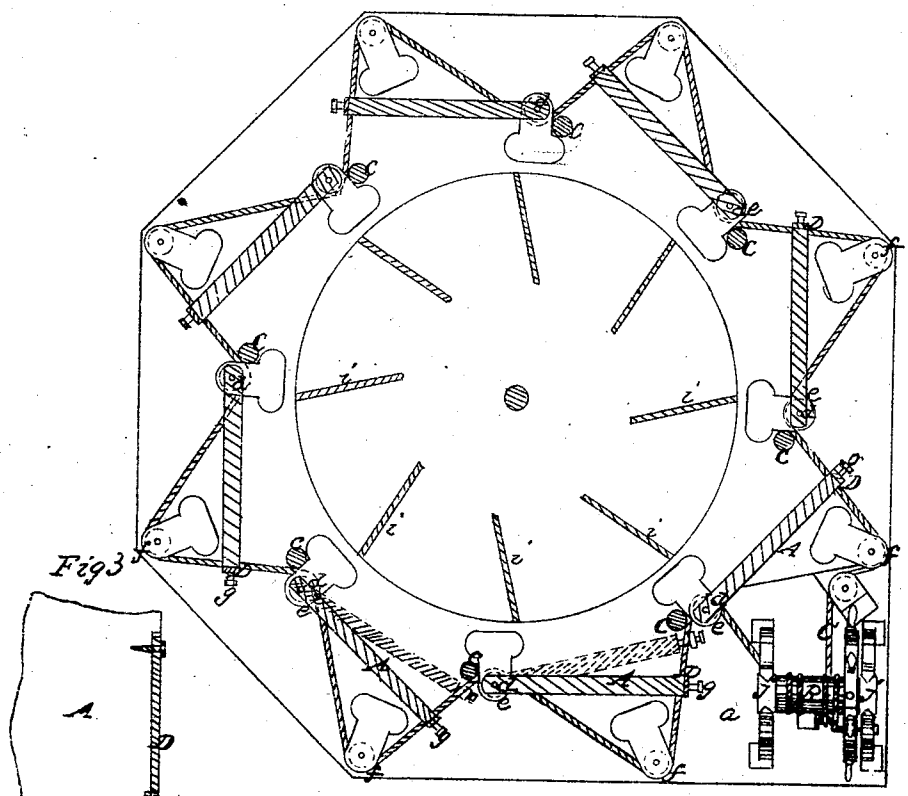
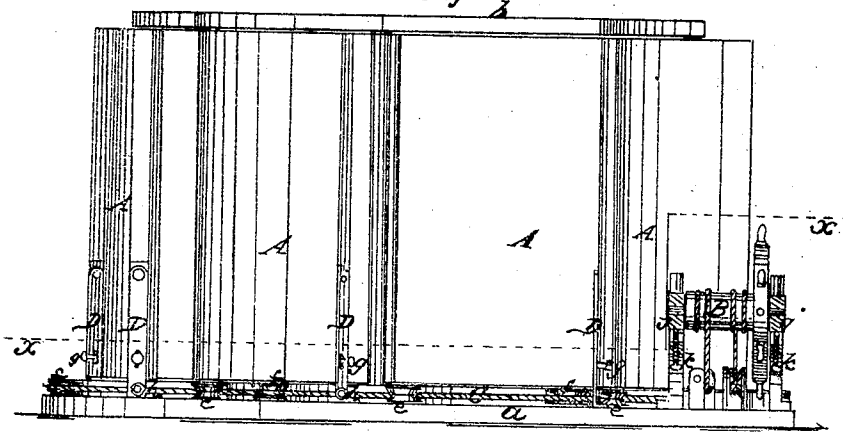


Fig 3

Fig. 2.



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Letters Patent No. 75,384, *dated March* 10, 1868.

IMPROVEMENT IN WINDMILLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, WILLIAM C. DAY, of Mohawk, in the county of Herkimer, and State of New York, and PARDON B. DAY, of Shelby, in the county of Blue Earth, and State of Minnesota, have invented a new and improved Wind-Wheel; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved wind-wheel, of that class in which vertical wings or rails are employed, and the wheel enclosed within a box provided with doors, by opening and closing which more or less wind is admitted to the wheel, and the speed of the same regulated as desired, and by closing the doors the motion of the wheel entirely stopped.

The present invention consists in the application, to the doors of the box which encloses the wheel, of a chain or cord, connected with a windlass, and arranged in such a manner that by operating the windlass all the doors of the box may be opened and closed simultaneously, and the wheel kept running at a uniform speed, or stopped entirely, when required, with the greatest facility. In the accompanying sheet of drawings—

Figure 1 is a horizontal section of my invention, taken in the line *x x*, fig. 2.

Figure 2, an elevation or side view of the same.

Figure 3, a detached vertical section of the lower part of one of the doors of the wheel-box.

Similar letters of reference indicate corresponding parts.

The box in which the wind-wheel is enclosed is composed of a bottom plate, *a*, and a top plate, *b*, connected by standards *c*, the side of the box being formed of doors A, placed between the standards *c;* and hung at one end are joints or pivots, at *d*, the doors, when closed, filling up the spaces between the standards *c*. On the bottom, *a*, at the inner pivoted edge of each door, there is fitted a pulley, *e*, and similar pulleys, *f*, are secured to the bottom-plate *a*, near its outer edge, and at points in lines radial with the wind-wheel, and passing through the spaces between the pulleys *e e*, a little at one side of the centres of said spaces. On the bottom-plate *a*, at the outer side of the doors A, there is secured a windlass, B, to which the ends of a chain or rope, C, are attached, and this chain or rope passes around the pulleys *e f*, as shown clearly in fig. 1. To the outer edge of each door A, near its lower edge, there is secured a spring, D, the lower parts of which are perforated to allow guide-pins *g* to pass through, as shown in fig. 3. The lower ends of these springs, below the perforations where the guide-pins pass through, are attached by pins or screws *h* to the chain or rope C, as also shown in fig. 3, and it will be seen that by turning the windlass B, the chain or rope C will be moved so as to open or close the doors A, according to the direction in which the windlass is turned. The springs D perform an important function, to wit, they keep a direct pull on the chain or rope from the pulleys *e* to the pulleys *f*, at the outer edges of the doors A, and as these edges describe a curve as the doors open and close, the lower ends of the springs D are stretched outward as they describe this curve in closing, and as they are opened the springs gradually approach the doors. By this arrangement much friction is avoided. The wind-wheel E has a vertical shaft, and the wings *i* have not a radial, but a slightly oblique position, as shown in fig. 1. This wheel does not require to be turned or adjusted in any way to suit the direction of the wind, as the latter will act upon it when blowing from any quarter.

In order to insure a constant or uniform velocity of the wheel without any manipulation whatever, a governor may be connected with the windlass B, and the latter may have the journals of its drum fitted in sliding bearings *j*, which may be adjusted by screws *k*.

We do not claim broadly a wind-wheel enclosed within a box provided with doors, as that is an old and well-known device; but

We do claim as new, and desire to secure by Letters Patent—

1. The arrangement of chain or rope C, windlass B, and pulleys *e f*, with the doors A, surrounding the wind-wheel E, substantially as shown and described.

2. The combination of chain or rope C, doors A, and springs D, substantially in the manner as and for the purpose set forth.

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Witnesses:

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