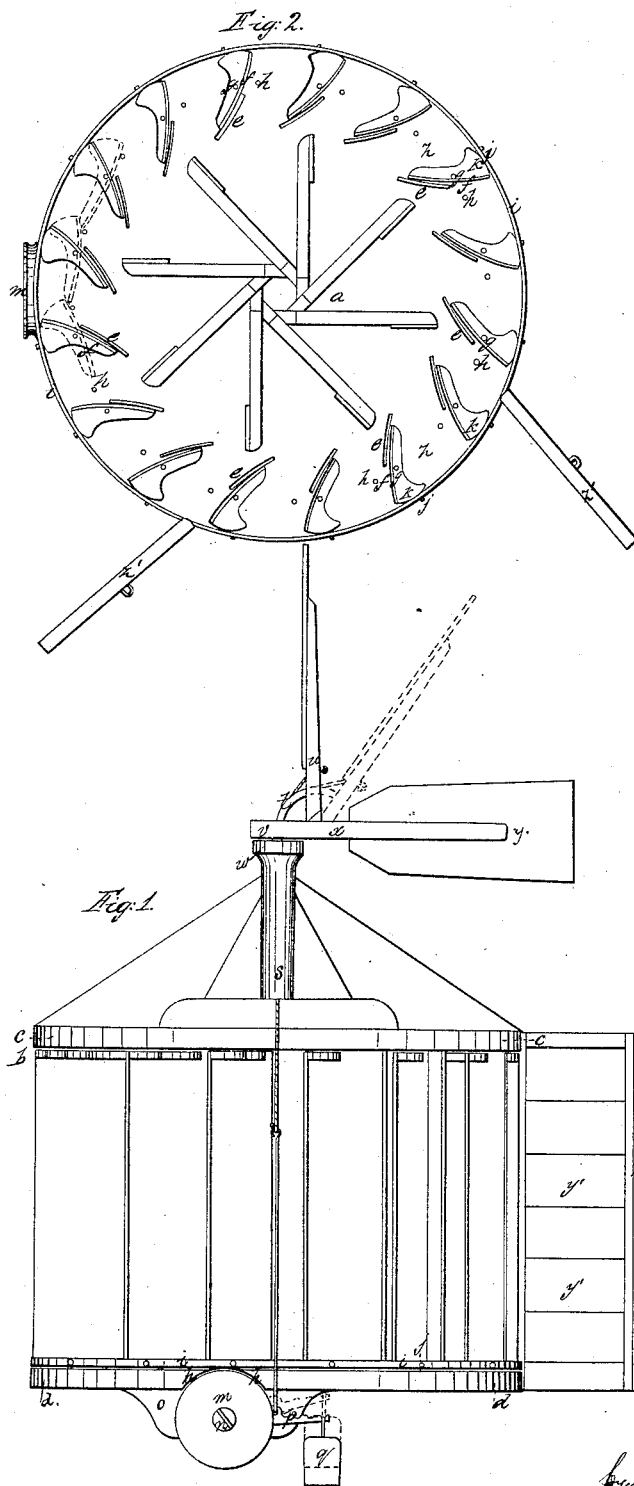


*G. H. Reister,*  
*Wind Wheel*

N<sup>o</sup> 45,273.

*Patented Nov. 29, 1864.*



Witnesses:  
J. Smith  
L. Jones

Inventor.  
Geo. H. Reister  
by Atty. T. T. Everett

# UNITED STATES PATENT OFFICE.

GEORGE H. REISTER, OF WASHINGTON, IOWA.

## IMPROVEMENT IN WIND-WHEELS.

Specification forming part of Letters Patent No. 45,273, dated November 29, 1864.

*To all whom it may concern:*

Be it known that I, GEORGE H. REISTER, of Washington, in the State of Iowa, have invented a certain new and useful Improvement on Wind-Wheels and the Means for Regulating the Same; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings and to the marks and letters thereon.

My improvement is intended to be used upon or with a class of wheels wherein the wheel is surrounded by a frame having movable guides or movable and fixed guides, controlling and directing the current of the air toward and onto the wheel, and my improvement is specially adapted to a wind-wheel of this character, on which Letters Patent were granted to me and my assignees on the 15th day of January, 1861.

The drawings forming part of this specification show a wind-wheel having my improvement attached thereto and forming a part thereof, Figure 1 of said drawings being a view in elevation, and Fig. 2 a view by transverse section on a horizontal line through the body or main part of the wheel and its surrounding frame and guides.

In each of these figures where like parts are shown like marks and letters are used to indicate the parts.

The wheel *a* is surrounded by a frame, *b*, to the top plate, *c*, and bottom plate, *d*, of which fixed guides *e* are attached. These guides *e* are curved, as are also the movable guides *f*, which have pivots *g* at the bottom and top, fitting into the bottom and top plates, *c* and *d*, on which pivots the movable guides turn. Pivots *h*, projecting from the plates, sustain the movable guides at their extreme closing movement. A band, *i*, passes entirely around the frame and is connected by some suitable means, *j*, to the base-piece *k* of each of the movable guides. This band is also connected by suitable means, *l*, to a disk, *m*, which is attached at *n* to the base-piece *o* of the bottom plate, *d*, the disk *m* having motion on its attaching pin or device. A lever, *p*, notched so that its weight *q* may be moved to graduate its influence, is affixed to the disk *m*. From the lever *p* a cord or rod, *r*, passes up through the post *s* over a segment, *t*, and is attached to the vane *u*. The vane *u* is hinged to the knob *v*, which it will be noticed is

socketed, *w*, in the post *s*, in which it turns, and the knob *v* is a part of or affixed to the plate *x* of the guiding-vane *y*. The relation to each other of the means herein briefly noticed, it will be seen, is such that, while the guiding-vane *y* will keep the face of the vane *u* at right angles to the line or direction of the wind, the power of the wind on the vane *u* will, through the other means named, overcome the influence of the weighted lever and in free or heavy winds lessen the inlet-spaces *z* to the extent due to the power of the wind; or, through the influence of the weighted lever, allow the spaces *z* to be increased, and thus the current of air to the wind-wheel to be controlled and regulated and the movement of the wind-wheel to be uniform and regular under the varying power and influence of the wind.

When the vane *u* is vertical, as is shown by black lines in Fig. 1 of the drawings, the movable guides will be fully open; and when the vane is deflected or forced back, as shown by the red lines in the same figure, the movable guides will be quite closed.

For the purpose of concentrating the wind and giving it direction to the inlets, shutters *z'* are attached to the top and bottom plates, *c* and *d*, the shutters being placed in line with the guides *e* and at right angles to each other. By Fig. 2 two of such shutters only are shown for illustrating their position, while it is intended to use four or such other number as may be deemed the most efficient. The movable slats *y'* of these shutters can be made the means of regulating their directing and concentrating power over the wind, so that in light winds the slats may be closed, and in heavy winds entirely or fully open.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Operating the movable guides of the vane *u* and the other means or devices as herein recited, the several parts being arranged in relation to each other substantially as described.

2. In combination with the guides, the adjustable shutters for concentrating and directing the wind to the inlets, as set forth.

This specification signed this 3d day of May, 1864.

GEORGE H. REISTER.

Witnesses:

J. E. GLOVER,  
A. DODDER.