

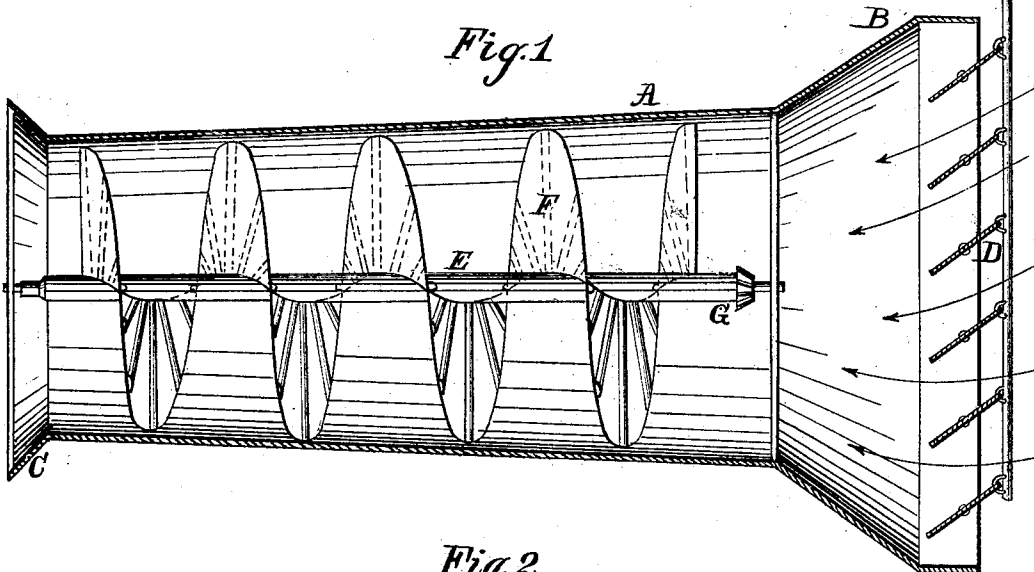
*R. Waite,*

*Wind Wheel,*

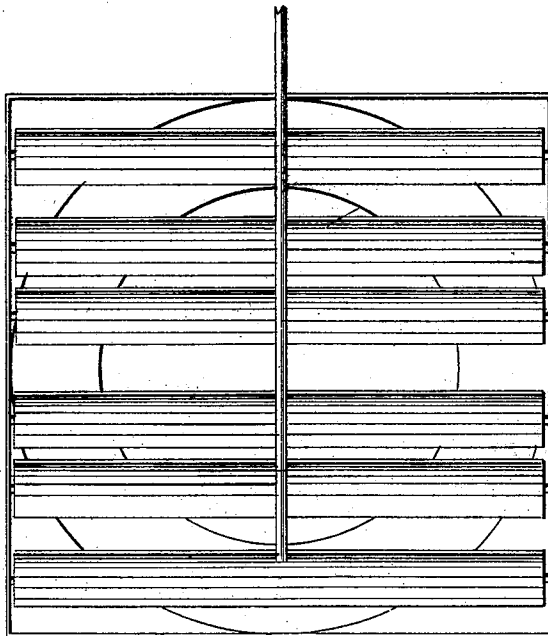
*N<sup>o</sup> 84,237.*

*Patented Nov. 17, 1888.*

*Fig. 1*



*Fig. 2.*



*Witnesses.*

*Wm. A. Morgan  
G. C. Cotton*

*Inventor:*

*R. Waite.  
Per Wm. J. C.  
Attorney.*

# United States Patent Office.

R. WAITE, OF BLUE EARTH CITY, MINNESOTA.

Letters Patent No. 84,237, dated November 17, 1868.

## IMPROVEMENT IN WIND-WHEELS.

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

To all whom it may concern:

Be it known that I, R. WAITE, of Blue Earth City, in the county of Faribault, and State of Minnesota, have invented a new and useful Improvement in Wind-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal sectional elevation of my improved wheel, and

Figure 2 represents a front elevation of the same.

Similar letters of reference indicate like parts.

My invention relates to improvements in wind-wheels, whereby it is designed to provide a more simple and effective apparatus for utilizing the power of wind than any now in use.

It consists in a horizontal wheel having a spiral-tapered vane of varying twist, enclosed in a correspondingly-tapered case, provided with bell-mouths at each end, and with a means for regulating the passage of air at the receiving-end, or shutting it off altogether, as will be more fully described on reference to the accompanying drawing, wherein—

A represent a circular casing, larger at one end than the other, and provided with a larger bell-mouth, B, at the receiving-end, and a smaller one, C, at the other end. The purpose of the former is to compress the air as it enters the tube, and of the latter, to create a partial vacuum at the discharging-end.

The mouth B has a square termination, wherein a regulator, D, is arranged to govern the quantity of air to be admitted.

E represents the wheel, which consists of a spiral vane, F, secured to the shaft G, which is supported in suitable bearings at each end of the casing, and provided with a gear-wheel or other suitable means for transmitting motion through the vertical axis upon which the apparatus is to be supported.

The pitch of the spiral vane is designed to be made variable, decreasing toward the small end, as the diameter of the vane decreases, whereby the wind is further condensed as it passes through.

The vane may be made continuous or in sections, and in any suitable manner.

The regulator may be connected to any automatic apparatus whereby it may be actuated.

Among the advantages sought to be gained by this arrangement is an increase of velocity and power, consequent upon the condensation of the air, the increased draught due to the vacuum caused at the rear by the bell-mouth C, and the freedom of the vane from the reaction of the air which occurs when not protected by a case.

Having thus described my invention,

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

The wind-wheel, constructed as described, of the case A, having the flanges B-C, the draught-regulator D, horizontal shaft G, and the spiral wind-wheel E, having a variable diameter and pitch, all arranged and operating as described for the purpose specified.

R. WAITE.

Witnesses:

URI HILL,  
H. RAYMOND.