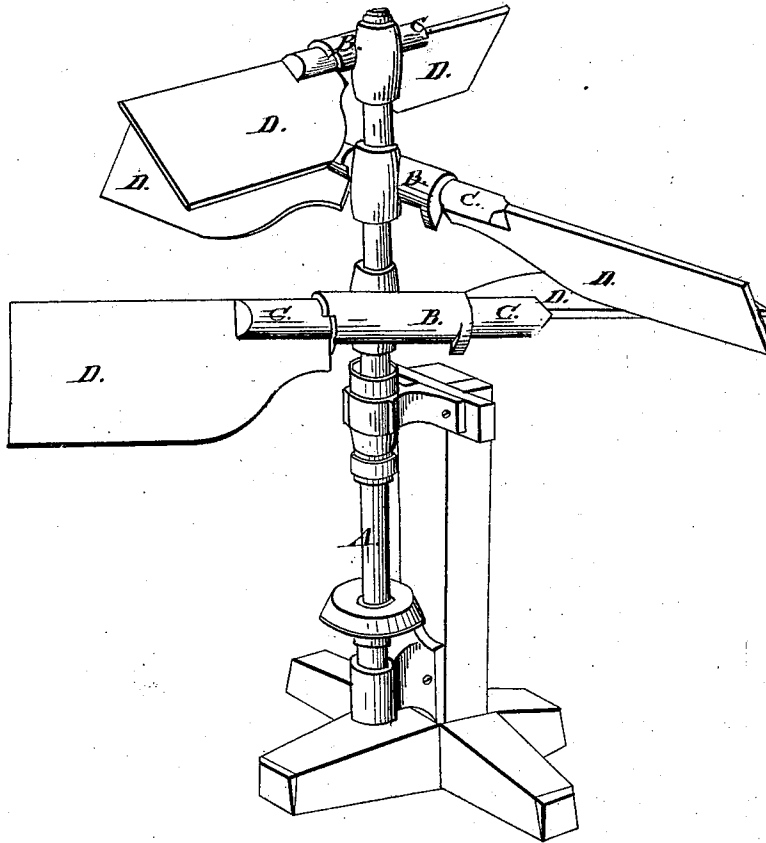


L. M. Godfrey,

Wind Wheel.

No. 96,796.

Patented Nov. 16, 1869.



WITNESSES:

Jas. J. Luyt
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United States Patent Office.

LUMAN M. GODFREY, OF COLON, MICHIGAN, ASSIGNOR TO HIMSELF AND
GEORGE S. SHEFFIELD.

Letters Patent No. 96,796, dated November 16, 1869.

IMPROVEMENT IN WIND-WHEELS.

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

To whom it may concern :

Be it known that I, LUMAN M. GODFREY, of Colon, in the county of St. Joseph, and State of Michigan, have invented a new and useful Improvement in Wind-mills; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification.

The nature of this invention relates to an improved and simplified construction of a windmill, by means of which the power may be indefinitely multiplied, by the lengthening of the shaft, and the addition of an indefinite number of arms and sails, or wings.

The invention consists in a proper bearing, rigidly secured to a suitable shaft.

Within this bearing is sleeved an arm, at its centre, each end of which is provided with a sail, so arranged relatively to and with each other that they are attached to the arm at right angles.

By this arrangement, when the mill is stationary for want of wind, the sails incline downward, at an angle of about forty-five degrees.

When the wind commences to act upon the mill, it acts directly upon both the sails, compelling the one to assume a vertical position, against which the wind will act with great force, to propel the apparatus, while at the same time the wind will act upon the opposite sail, and compel it to assume a horizontal position, thereby presenting its edge only to the wind, and offering the least possible resistance to its passage.

As soon, in its rotation, as the sail passes out of the line of direction of the wind, by its own gravity, it will assume the position first described, when the next sail in the series will be similarly acted upon, thereby obtaining a constant direct power upon the apparatus.

The advantages I claim over other devices for a similar purpose, are—

First, its great simplicity, there being no mechanism required to throw a sail edgewise to the wind, after it has done its work, and rotated out of line of the wind's passage. This motion is automatic, and the sails self-adjusting in my apparatus.

Second, its economy in construction, saving, as it does, more than three-quarters the expense attending the construction of the windmills in ordinary use.

Third, the ready and easy method of increasing the power, by simply adding to the shaft more arms and sails. As these are arranged one above the other upon the shaft, so that they act freely and independently of each other, an indefinite number may be added, until the power required is obtained.

Fourth, the fact that my apparatus will be equally as valuable, and work equally well with the shaft in a horizontal as in a vertical position, and will make one of the best current-wheels for use in water.

In the drawings—

A represents a vertical shaft, properly journalled and secured, so that it will freely rotate, and to which is secured suitable gearing, to communicate its power to the object to be driven.

B are hollow bearings, rigidly secured to and at right angles with the shaft A.

C are round arms, sleeved within the bearings B, with ends projecting beyond the same at either end, to which are secured the sails or wings D, which are fastened to said arms, so as to be at right angles with each other.

In the drawings, the lower arm has its sails presented so that the one is being acted upon by the wind, while the other is thrown up edgewise to the wind.

The arm next above on the shaft, shows one sail just being brought into action, while the other is being thrown up edgewise.

The upper arm has its sails in the position herein first described.

Any suitable mechanism may be employed to hold the apparatus stationary when desired, or the connecting-machinery may be thrown out of gear, and the mill be allowed to run with less strain upon the shaft.

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

The combination of the hollow bearings B, within which are sleeved the arms C, to which are secured the sails D, with the shaft A, when constructed, arranged, and operating substantially as and for the purposes herein specified.

LUMAN M. GODFREY,

Witnesses:

THOS. S. SPRAGUE,
JAS. I. DAY.