

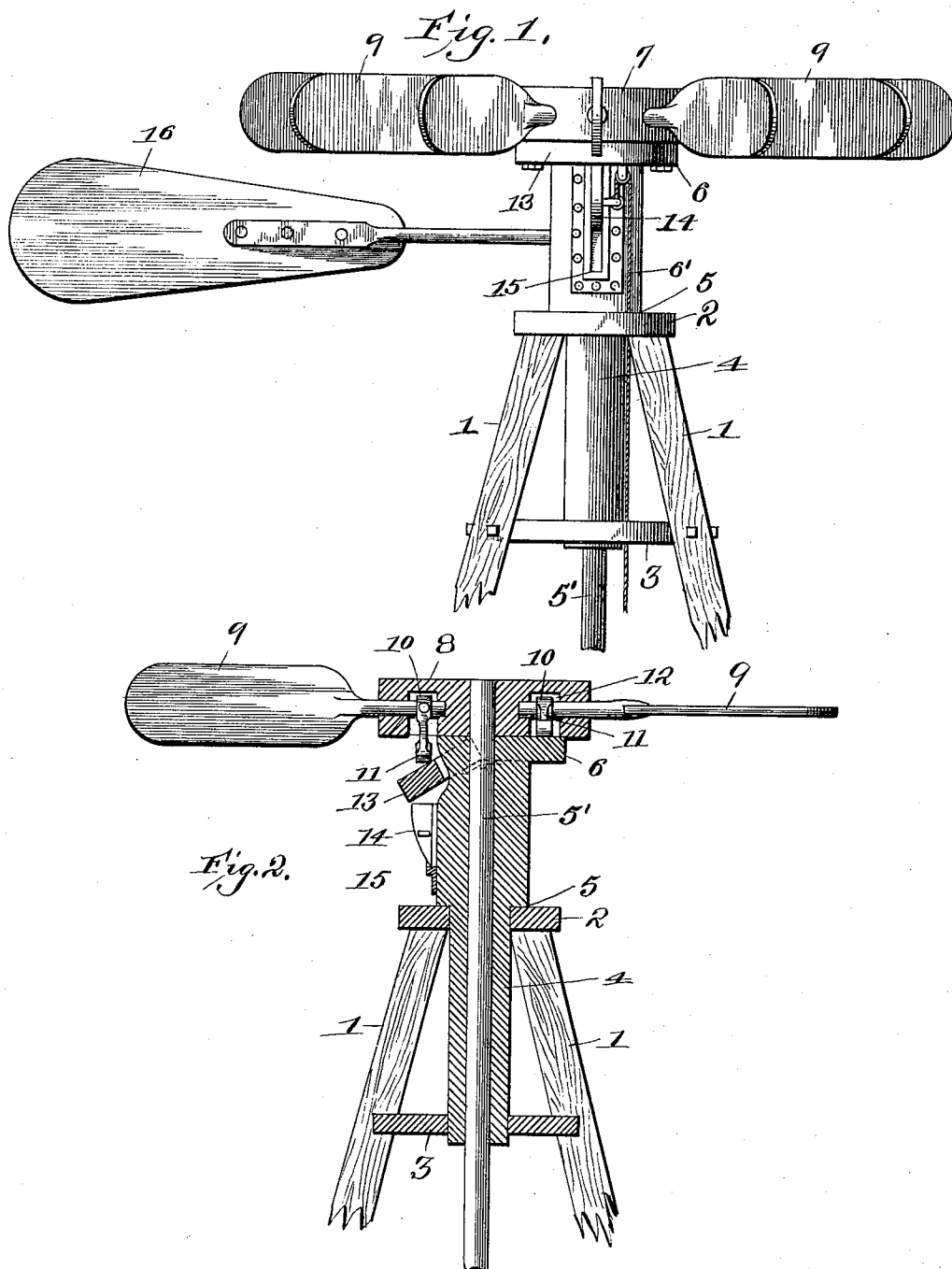
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Patented Dec. 13, 1898.

L. BARTHOLOMEW.
WINDMILL.

(Application filed May 15, 1897.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

LEANDER BARTHOLOMEW, OF MAGNET, MISSOURI.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 615,782, dated December 13, 1898.

Application filed May 15, 1897. Serial No. 636,762. (No model.)

To all whom it may concern:

Be it known that I, LEANDER BARTHOLOMEW, of Magnet, in the county of Atchison and State of Missouri, have invented certain new and useful Improvements in Windmills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in horizontal wind-wheels, the object of the same being to simplify the construction and increase the durability.

With these ends in view the invention consists of a series of blades in rotatable engagement with a hub mounted upon a vertical shaft, the inner ends of the blades having weighted arms located in an annular groove or channel formed in the under side of the hub.

In the following specification I have entered into a detail description of my invention, reference being had to the accompanying drawings and to numerals thereon, which designate the different parts, and what I consider to be the novel features of construction are specifically recited in the claims.

In the drawings forming part of this specification, Figure 1 is a side view of my wind-wheel. Fig. 2 is a vertical sectional view through the upper part of the apparatus.

My improved wind-engine may be mounted upon any suitable support, and in the accompanying drawings I have shown the same supported by a tower. The inclined corner-posts 1 1 of the tower support a ring 2 at their upper end and a second bearing-ring 3 a suitable distance below the first, and within these rings are mounted a tubular standard or sleeve 4, having a shoulder 5, which rests upon the ring 2, the said standard or sleeve forming a bearing for the main shaft 5 and presenting a table 6 at its upper end upon which bears the hub 7, that carries the blades. In the hub 7 are radial sockets to receive the stems of the blades 9, and in the under side is formed an annular groove or channel 12, through which the stems or shanks of the blades extend and within which they are provided with arms 11, rigidly fixed thereon and adapted to turn into and out of said groove

or channel. These arms are secured to the stems of the blades in such relative position that when the arms lie within the channel 12 the blades will be horizontal, with their edges presented to the wind, and when the arms drop by gravity said blades will turn to a vertical position to receive the force of the wind, this movement being effected by the construction hereinafter described.

The table 6 at the upper end of the rotatable standard or sleeve 4 is provided with a hinged section or segment 13, the outer end of which rests upon a vertically-movable slide 14, by the movement of which the hinged section is adapted to be raised to a horizontal position in the plane of the fixed or rigid portion to form a continuous plane surface. The downward movement of this slide is limited by a shoulder 15, and the slide is held in engagement with the collar by forming a dovetailed recess in the latter and a corresponding projection on the slide. The weight of the slide and segmental portion or hinged section of the table which rests thereon will bring said hinged section in a lowered position, and in order to raise the same an operating-cord 6 is attached to the slide and passes upward over a suitable guide-roller, from which it depends to a convenient point for operation. It will be understood, of course, that the arms at the inner ends of the blades or vanes will be operated by the stationary part of the table and turned up into the grooves 12 and position the blades to cut the wind, and when the wheel has turned to a position above the hinged section of the table the arms will drop by gravity and turn the blades to receive the force of the wind, and as the hinged section forms one-half of the table the blades will be properly presented to receive the force of the wind for half of the revolution and feathered to cut the wind during the other half of the revolution. It will also be apparent that when the operating-cord is pulled upon to move the hinged section on a line with the stationary section the arms will be held at all times within the recess of the hub and the blades retained in feathered position to cut the wind, whereby the wheel will be rendered inoperative, there being then no surface exposed for the wind to act upon.

In order to bring the table in proper position to effect the proper operation of the wind-wheel, it is provided with a tail 16, extending therefrom.

5 As shown in Fig. 2 of the drawings, the hub is of larger diameter than the table upon which it rests and turns and extends out beyond the same. The annular groove or channel 12 formed in the under side of the hub lies
10 over the table to prevent snow or ice getting thereinto to interfere with the proper working of the arms 11 and plates 9. It will also be noticed that by reason of the construction shown the table is at all times sheltered and
15 protected and that the working joints are also shielded to prevent dampness from getting thereinto to produce oxidation.

I am aware that the hinged table is not new in horizontal wind-wheels, and I do not, therefore, claim the same broadly, but only in connection with my particular construction and arrangement of the hub.

Having thus described my invention, what I claim as new, and desire to secure by Letters
25 Patent, is—

1. In a horizontal wind-wheel, the combination of a suitable support, a rotatable table or cam-track having a vane connected there-

with, a hub mounted on said table or track having on its under side an annular groove 30 or channel, oscillating radial vanes mounted in said hub with shanks extending through said groove, and arms fixed on said shaft within the groove adapted to turn into and out of the latter to cooperate with the cam-track to feather the blades or vanes, substantially as described.

2. In a horizontal wind-wheel, the combination of a table or cam-track, a hub rotatably mounted thereon, the hub being of larger 40 diameter and extending beyond the track and having in its under side within the radius of the track an annular groove, oscillating radial vanes or blades mounted in the hub having shanks extending through the groove, and 45 arms fixed on said shanks within the groove adapted to turn into and out of the same and to cooperate with the table or cam-track to feather the blades, substantially as described.

In testimony whereof I have signed this 50 specification in the presence of two subscribing witnesses.

LEANDER BARTHOLOMEW.

Witnesses:

GEO. B. BARTHOLOMEW,
GEO. H. MORGAN.