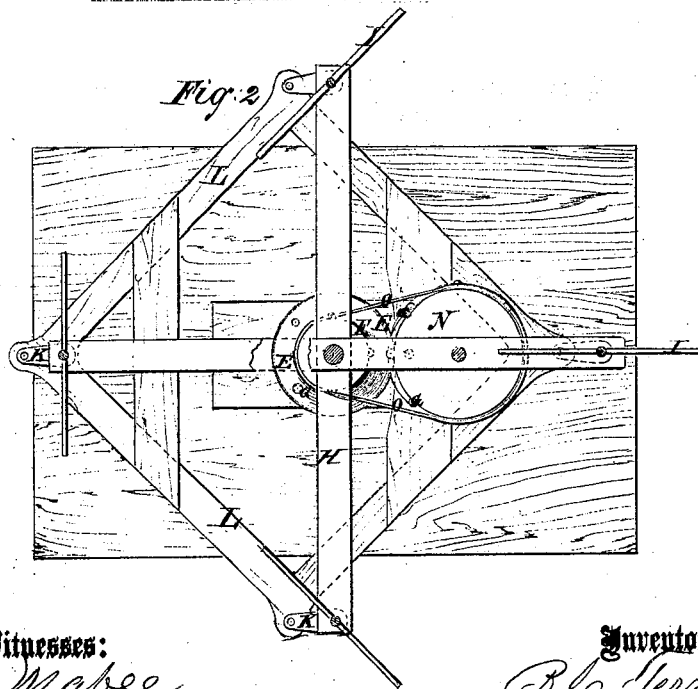
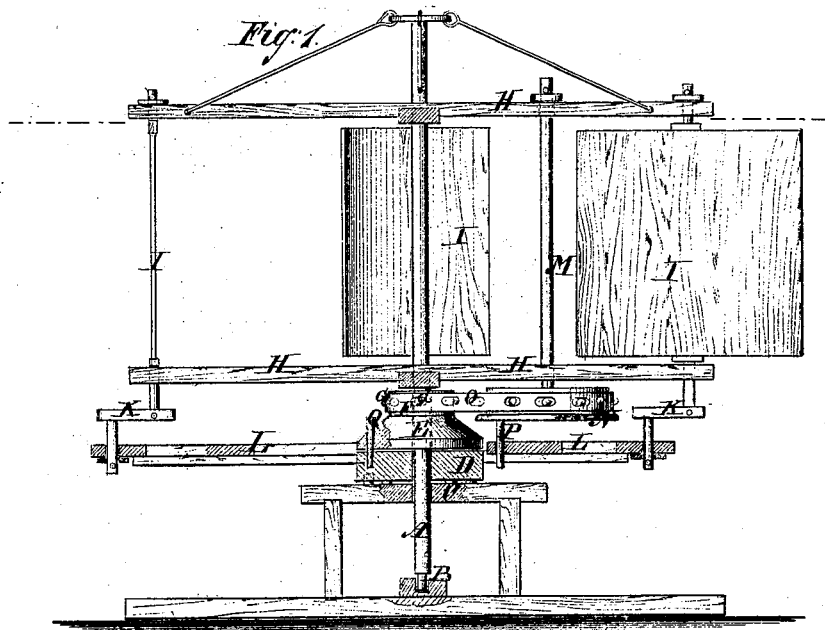


B. C. Terry,

Wind-Mill.

No. 107,563.

Patented Sept. 20, 1870.



Witnesses:
Geo. W. Mabey
S. S. Mabey

Inventor:
B. C. Terry
PER *Wm. L. Mabey*
Attorneys.

United States Patent Office.

BENJAMIN C. TERRY, OF KEY PORT, NEW JERSEY.

Letters Patent No. 107,563, dated September 20, 1870.

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, BENJAMIN C. TERRY, of Key Port, in the county of Monmouth and State of New Jersey, have invented a new and improved Wind-Wheel; 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 drawing forming part of this specification.

This improvement relates to improvements in wind-wheels, and consists in an improved arrangement of means for feathering the vanes or fans, as hereinafter described.

Figure 1 is a vertical section through my improved wheel, and

Figure 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

The vertical shaft A is stepped in a suitable bearing, B, and turns in a bridge-tree, C, supported above the step in any suitable way, and having a strong block, D, above it.

E is a block fitted around the shaft A, above the block D, so that the shaft can turn in it, and so that it can be turned around on the said block D; it terminates at the top in a pulley, F, which has studs G projecting from its face at suitable regular intervals of space from each other.

Above this block are the radial arms H, in the ends of which the vertical vanes I are mounted.

The axles of these vanes have cranks K at the lower ends, by which they are connected to the shifting frame L, which is suspended from the said cranks of the vanes, so as to revolve with the vanes around the shaft A, and it is worked for shifting them by means of the cranked shaft M mounted in the vane-frame, and having a pulley, N, on which a belt, O, works, which is worked by the pulley F, which does not revolve, as shown in the drawing. This pulley is about twice as large as the pulley F, and it is turned slowly on its own axis by the action of the belt O, at the same time that it is carried around by the vane-frame. Its movement is in the opposite direction to that of the vane-frame, and it makes half a turn to one rev-

olution of the said vane-frame, and thereby causes the vanes to make quarter turns in passing from one side, where they take the wind, to the other side, where they return to windward, so that, standing perpendicular to the wind on the side where they take it, they will stand edgewise to it when returning.

The shaft M is connected to the frame L by a crank or a wrist-pin, P, having the same throw that the cranks of the vanes have.

Instead of using the belt and the pulleys for turning the shaft M, I may use gear-wheels, placing one on the shaft in place of the pulley F, and another on the shaft M, preferably with an intermediate wheel, to cause the shaft M to turn in the opposite direction to that of the vanes.

For changing the action of the shifting frame, according to the direction of the wind, the wheel F, and the block to which it is attached, are made adjustable around the shaft or on the block D, and, in this instance, it is held in either of the four required positions by a pin, Q, but it may have any suitable means for shifting and holding it.

In large machines it will probably be desirable to use two of the shafts M, and the necessary driving-wheels or gears therefor, in order to balance the frame.

Having thus described my invention,

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

1. The combination, with the cranked and revolving vanes, of the shifting-frame L and the cranked shaft M, the latter being turned by suitable gearing a half revolution while the vane-supporting frame makes one revolution, substantially as specified.

2. The combination, with the crank-shaft M, of the pulley N, belt O, and fixed pulley F, the latter being adjustable around the shaft A, substantially as specified.

The above specification of my invention signed by me this 26th day of May, 1870.

BENJAMIN C. TERRY.

Witnesses:

GEO. W. MABEE,
ALEX. F. ROBERTS.