(No Model.)

E. EVERSON.

WIND WHEEL.

No. 532,453. Patented Jan. 15, 1895.

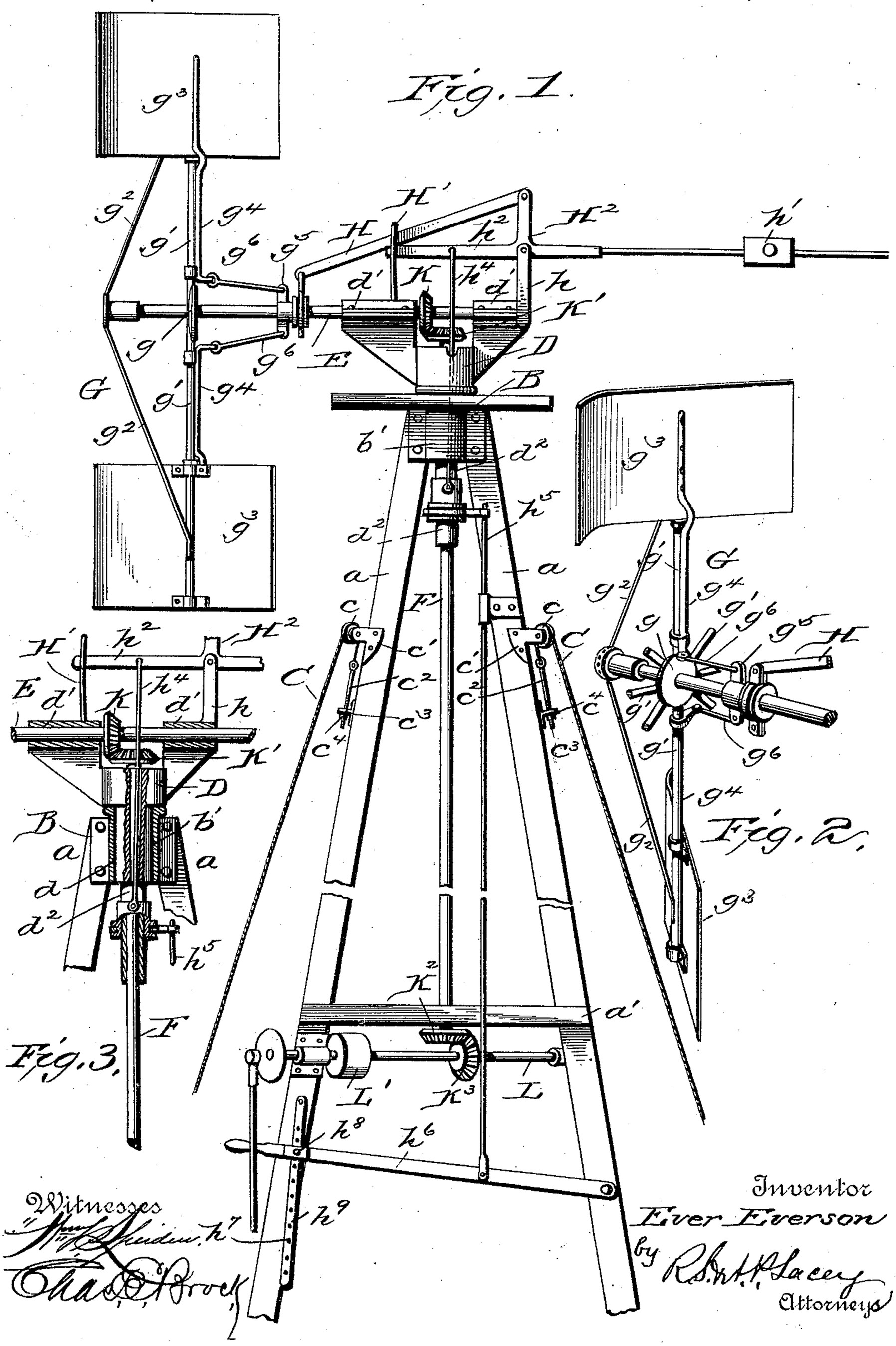

Fig. 1.

Fig. 2.

Fig. 3.

Witnesses
Wm. H. Gaudin.
Chas. E. Brock.

Inventor
Ever Everson
by R. S. H. P. Lacey
Attorneys

UNITED STATES PATENT OFFICE.

EVER EVERSON, OF MANKATO, KANSAS.

WIND-WHEEL.

SPECIFICATION forming part of Letters Patent No. 532,453, dated January 15, 1895.

Application filed September 8, 1894. Serial No. 522,457. (No model.)

To all whom it may concern:

Be it known that I, EVER EVERSON, a citizen of the United States, residing at Mankato, in the county of Jewell, State of Kansas, have invented certain new and useful Improvements in Wind-Wheels; 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 is an improved wind mill or engine.

The objects of the invention are, first, to simplify the construction of the feathering blade wheel; secondly, to simplify the construction of the tower and provide a novel form of bracing, and, thirdly, to provide a simple means for throwing the wheel into or out of the wind.

With these objects in view my invention consists in the peculiar construction of the several parts and their novel combination or arrangement, all of which will be fully described and pointed out in the claims.

In the drawings forming a part of this specification Figure 1 is a side elevation of my improved wind wheel. Fig. 2 is a detail view showing the construction of the wheel. Fig. 3 is a sectional view of the wheel casting and attached parts.

In carrying out my invention I employ a tower A which is constructed of the pieces of timbers "*a*" connected at their upper ends by means of a casting piece B and about midway their ends by means of a cross piece *a'*. The tower is braced by means of four cables or brace rods C C, said cables being securely anchored in the ground at their lower ends, their upper ends being passed over pulleys *c c* secured in brackets *c' c'* on the side of the tower. Rods c^2 c^2 are connected to the ends of these cables, the free ends of said rods passing through plates c^3 c^3 attached to the tower and upon the said ends are screwed the nuts c^4 c^4 by means of which the cables are tightened by simply turning the nuts upon the ends of the rods.

The casting B is made with a tubular bearing *b'* which receives the tubular bearings *d* of the wheel casting D. This wheel casting is formed with horizontal bearings *d'* to receive the power shaft or axle E, while the vertical bearing *a*, is intended to turn in the cap piece of the derrick or tower. A tubular guide d^2, is arranged in the portion *d*, and extends some distance below the same, said tubular guide having the driven shaft F, passing therethrough and turning therein, while upon its exterior is arranged a collar d^3, which is connected with the feathering mechanism as hereinafter explained.

The wheel G is mounted upon the end of the shaft E, said wheel comprising the hub *g*, a series of spokes *g'* radiating therefrom, the series of brace rods g^2 and the feathering blades g^3 journaled upon the outer ends of each spoke. Connected to each blade is a feathering rod g^4 which is turned at right angles at its inner end and connected with a sliding collar g^5 by means of links g^6. The sliding collar is mounted upon the power shaft or axle and connected therewith is a pitman H, which works through a guide H' mounted on the wheel casting and is connected to the upper end of an elbow lever H^2 pivoted upon an extension *h*. The opposite end of the elbow lever is extended and carries a weight *h'* the purpose of which is to throw the wheel out of the wind automatically. The lever also has an arm h^2 which extends inward and works in the guide H' and connected with said arm is a rod h^4 which passes down through the wheel casting and connects with a collar d^3 which slides on the tubular guide and connected with said collar is an operating pitman h^5 which receives its motion from a hand lever h^6 pivoted at one side of the lower and adjustable at its free end in conjunction with a guide bar h^6 which has a series of perforations h^7 through which a locking pin h^8 can be passed to lock the lever and consequently the blades of the wheel in any desired position. Power shaft or axle E has a beveled gear K mounted thereon which meshes with a similar gear K' upon the upper end of the driven shaft and at its lower end is also mounted a gear K^2 which meshes with a gear K^3 mounted upon a shaft L journaled upon the tower, said shaft carrying pulleys or gears L' for transmitting power. The wheel can be supplied with any suitable construction of vane.

In operation the hand lever is raised or low-

ered, and with it the pitman and levers which causes the sliding collar to move on the axle and turn the blades in or out. The hand lever is lowered to throw the blades out of the wind and raised to throw them into the wind. The wheel revolving operates the power shaft or axle and this drives the vertical shaft which transmits its power to the lower horizontal shaft.

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

1. In a wind wheel, the combination with a wheel casting, of a power shaft, the wheel having feathering blades, the links connected with said blades, the sliding collar connected with the links, the pitman for operating the collar, a vertical guide for said pitman, the elbow lever connected with a pitman and having an arm extending into the guide, and an operating rod h^4, connected with said extended arm, substantially as shown and described.

2. In a wind wheel, the combination with the wheel casting and power shaft, of the sliding collar thereon, the pivoted blades connected to the collar the pitman operating said collar, the elbow lever to which said pitman is connected, the vertical guide upon the wheel casting for guiding the pitman and elbow lever, the guide tube depending from said wheel casting, a collar sliding thereon, a rod connecting the collar and elbow lever, the pitman and hand lever all arranged, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

EVER EVERSON.

Witnesses:
W. S. HALL,
JOHN HOLMES.