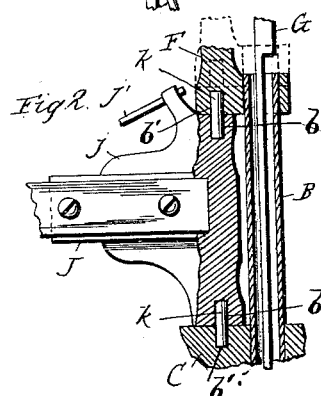
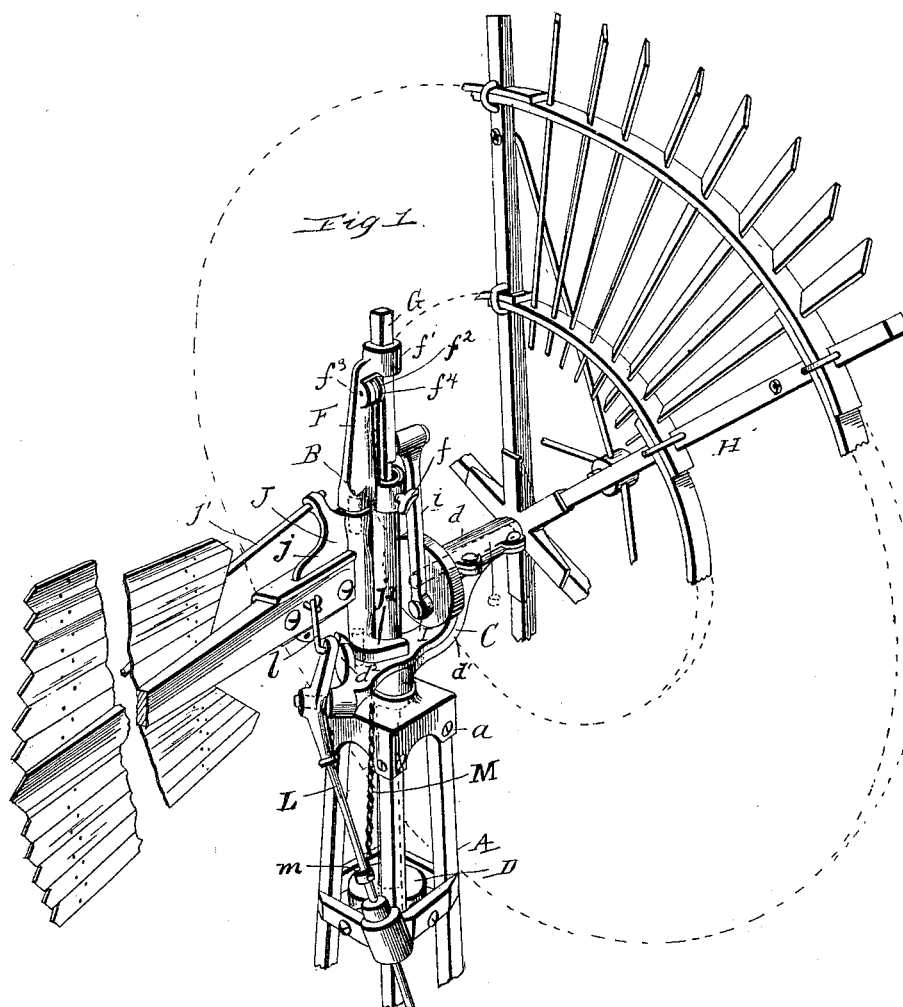


(No Model.)

W. J. HOGUE.  
WINDMILL.

No. 419,123.

Patented Jan. 7, 1890.



Witnesses  
H. Haider.  
Van Buren Hillyard.

Inventor  
*William James Hogue*

By his Attorneys *R. & H. Lacey*

# UNITED STATES PATENT OFFICE.

WILLIAM JAMES HOGUE, OF LA OTTO, INDIANA.

## WINDMILL.

SPECIFICATION forming part of Letters Patent No. 419,123, dated January 7, 1890.

Application filed May 1, 1889. Serial No. 309,186. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM JAMES HOGUE, a citizen of the United States, residing at La Otto, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Windmills; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to vertical solid windmills, and has for its object to improve the general construction of the same, whereby their efficiency is increased, the number of parts reduced, and the friction lessened.

20 The improvement consists of the novel features which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

25 Figure 1 is a perspective view, parts being broken away, of a windmill embodying my invention. Fig. 2 is a detail view showing the adjustability of the guide-casting on the tubular standard and the manner of attaching the tail-vane casting to the wheel-casting.

30 The corner-posts comprising the tower or derrick A are united and protected at their upper ends by the cap *a*, which is centrally apertured to receive the tubular standard B, that is secured to or forms part of the wheel-casting C. The lower end of the standard B is journaled in the centering device D, of ordinary construction.

35 The wheel-casting C is composed of the horizontal bearing *d*, in which the wheel-shaft *e* is journaled, the horizontal and oblique arm *d'*, and the vertical stop *d*<sup>2</sup>. The guide-casting F is adjustable or movable on the upper end of the tubular standard, being held thereon by the binding-screw *f*, and has the overhanging arm *f'*, through which the upper end of the pump-rod G works, and the depending lug *f*<sup>2</sup>, between which and the vertical portion *f*<sup>3</sup> the guide-pulley *f*<sup>4</sup> is journaled. The wheel H is of well-known construction, and is 50 mounted on the outer end of the shaft *e*, and

the crank I on the inner end of the said shaft is connected by the pitman *i* with the pump-rod G.

The tail-vane casting J, recessed in its side to receive the arm of the tail-vane, and having the vertical arm *j*, to which the stay-rod *j'* 55 is attached, is pivotally connected at its ends with the wheel-casting C and the guide-casting F, and has an extension or stop *j*<sup>2</sup> at its lower end. This stop *j*<sup>2</sup> strikes against the tubular 60 standard B when the wheel is full in the wind, and against the stop *d*<sup>2</sup> when the wheel is out of the wind. The ends of the tail-vane casting have sockets *b* formed therein, and the guide-casting F and the wheel-casting C 65 have corresponding sockets *b'*. The pintles *k* are fitted in the said sockets, and form the pivotal connections between the said tail-vane casting and the wheel and guide castings, as will be readily understood. To remove the 70 tail-vane casting or place it in position, it is necessary that the guide-casting F be raised sufficiently high to clear the upper end of the top pintle.

The wheel-shaft is set to one side of the 75 vertical axis about which the engine turns when adapting itself to the current of the wind, so that in a gale the engine will be automatically thrown out of gear by reason of the greater area of wind-surface of the wheel 80 on one side of the said vertical axis of the engine.

The weighted lever L is pivoted to the arm *d'*, and is connected by rod *l* with the tail-vane, as shown. The cord M, attached to the 85 adjustable collar *m* on the weighted lever, passes over the guide-pulley *f*<sup>4</sup>, and thence down through the tubular standard B within convenient reach.

Having thus described my invention, what 90 I claim, and desire to secure by Letters Patent, is—

In a windmill, the combination of the wheel-casting having a tubular standard B, a horizontal bearing *d*, a horizontal and oblique 95 arm *d'*, and the vertical stop *d*<sup>2</sup>, the tail-vane casting having a stop *j*<sup>2</sup>, constructed, as described, to engage either the tubular standard or stop *d*<sup>2</sup>, the guide-casting F, movable on the standard B and having the tail-vane 100

casting pivoted at its ends to the said wheel  
and guide castings, the weighted lever L, piv-  
oted to the arm *d'* and connected with the  
tail-vane, the pump-rod, and the wheel hav-  
5 ing its shaft connected with the said pump-  
rod, the wheel-shaft being to one side of the  
vertical axis of the mill or standard B, sub-  
stantially as and for the purpose described.

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

WILLIAM JAMES HOGUE.

Witnesses:

ELMER LEONARD,  
JAMES E. GRAHAM.