

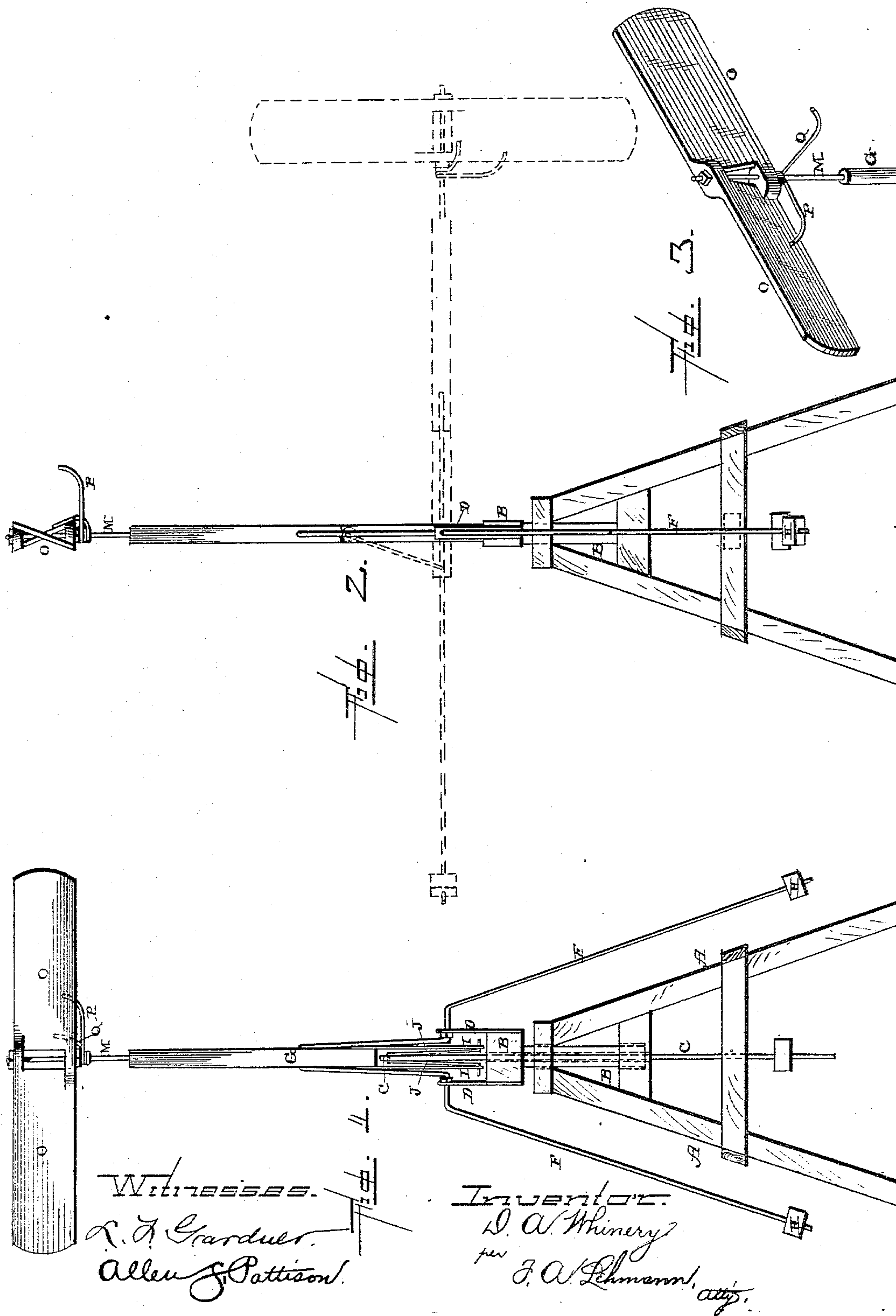
(No Model.)

D. A. WHINERY.

WINDMILL.

No. 387,938.

Patented Aug. 14, 1888.



UNITED STATES PATENT OFFICE.

DAVID A. WHINERY, OF ANTHONY, KANSAS, ASSIGNOR OF ONE-THIRD
TO MINNIE E. HELD, OF SAME PLACE.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 387,938, dated August 14, 1888.

Application filed April 3, 1888. Serial No. 269,478. (No model.)

To all whom it may concern:

Be it known that I, DAVID A. WHINERY, of Anthony, in the county of Harper and State of Kansas, have invented certain new and useful
5 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 pertains to make and use it, reference being had
10 to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in windmills; and it consists in the combination of a lever which is journaled in suitable bearings by means of rods which are weighted at
15 their lower ends, and which lever is connected by suitable connecting-rods to the pump-rod, the partially-revolving fan, and the stops for the fan, all of which will be more fully described hereinafter.

The object of my invention is to produce a windmill in which the pump-rod is worked by means of a rocking lever which is operated entirely by the pressure of a partially-revolving
25 fan pivoted upon its upper end and by counter-weights which return the lever to position.

Figure 1 is a front elevation of a mill embodying my invention in an upright position. Fig. 2 is a side elevation of the same, showing
30 in dotted lines the lever in a horizontal position. Fig. 3 is a perspective of the fan and its stops.

A represents a suitable derrick or framework, and B the swiveled support upon which the operating-lever works and through which the piston-rod C operates. Projecting above this support B are the journals or bearings D, through which pass the bent rods F, which are
35 secured to opposite sides of the lever G at their upper ends, and which have their lower ends turned outward and at an angle, and provided with weights H, which serve to counterbalance the lever and return it to position after having been moved by the wind from a vertical
40 position. The lower ends of the rods are turned upward from each other at such an angle that they will never strike the derrick in whatever direction they may be turned. The weights will be increased or decreased, according to
45 the force of the wind in which the mill is de-

sired to work. When it is desired to throw the mill out of operation, the weights have but to be removed, and when the mill is to work against a heavy wind the weights will be increased, so as to more readily counterbalance the lever. 55

Projecting down from the lower end of the lever are the two perforated rods or plates I, to the lower end of which the bent U-shaped connecting-rod J is pivoted. To the central portion of this connecting-rod, which rises into
60 the space between the two rods or plates, is fastened the pump-rod C, which is provided with a weight, so as to assist in returning the lever to position. This weight will be increased or decreased, according to the force of the wind
65 into which the mill is desired to work.

The lever G extends upward any suitable distance, and has extending from its upper end a rod, M, upon which the fan O is pivoted and to which rod the stops P Q are secured. The
70 fan has the sides of its opposite ends beveled in opposite directions, so that the force of the wind will cause the fan to partially revolve. The stop P extends outward at right angles from the lever, and against this stop the fan
75 strikes after it has been acted on by the wind and in order to hold the fan with its full face or front presented to the wind. The other stop, Q, which extends from the lever about in a line with its line of motion, serves as a stop
80 to prevent the fan from turning after the pressure of the wind against it has forced the lever backward almost into a horizontal position. While the fan is bearing against the stop P the wind exerts its full force in forcing the upper
85 end of the lever G backward at the same time that it raises the weighted ends of the rods. When the lever has moved backward, so that the lower edges of the fan are presented to the action of the wind, the pressure of the wind
90 against its inclined surface causes the fan to partially revolve until it strikes against the stop Q, when only the end and lower edge of the fan will be presented to the action of the wind. The weights then overcome the pressure
95 of the wind against the fan, when the lever returns to a horizontal position, and then the wind begins to act on the inclined surface of the fan, so as to cause it to partially revolve until it strikes against the stop P, when the
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pressure of the wind forces the lever backward again. When the lever is in the position shown in Fig. 2, the weights upon the lower ends of the rods and upon the pump-rod all assist in counterbalancing the lever and causing it to rise into its normal position. The heavier the weights used upon the lower ends of the rods F and the pump-rod the more quickly the lever will return to position, and the lighter the weights the less quickly the lever will rise. In light winds only light weights must be used, or the wind will not counterbalance them and force the lever backward, and in heavy winds heavy weights must be used in order to overcome the pressure of the wind. As the lever rocks back and forth the rods or plates connected to its lower end through the connecting-rod cause the pump-rod to reciprocate.

Having thus described my invention, I claim—

1. The combination of the pivoted lever provided with counterbalancing-weights at its lower end, connecting-rods for connecting the pump-rod to the lever, the fan placed upon the

upper end of the lever and adapted to be revolved by the wind through a portion of a circle at right angles to the length of the lever, and stops secured to the lever for limiting the turning movement of the fan, substantially as shown.

2. The combination of the pivoted lever provided with weighted rods at its lower end and connected to the pump-rod, the fan placed upon the upper end of the lever and adapted to be revolved by the wind through a portion of a circle at right angles to the length of the lever, and two stops secured to the upper end of the lever and projecting therefrom at different angles in the rear of the fan, so as to limit its turning movement, substantially as described.

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

DAVID A. WHINERY.

Witnesses:

GEO. E. BRUNER,
W. S. WOODWORTH.