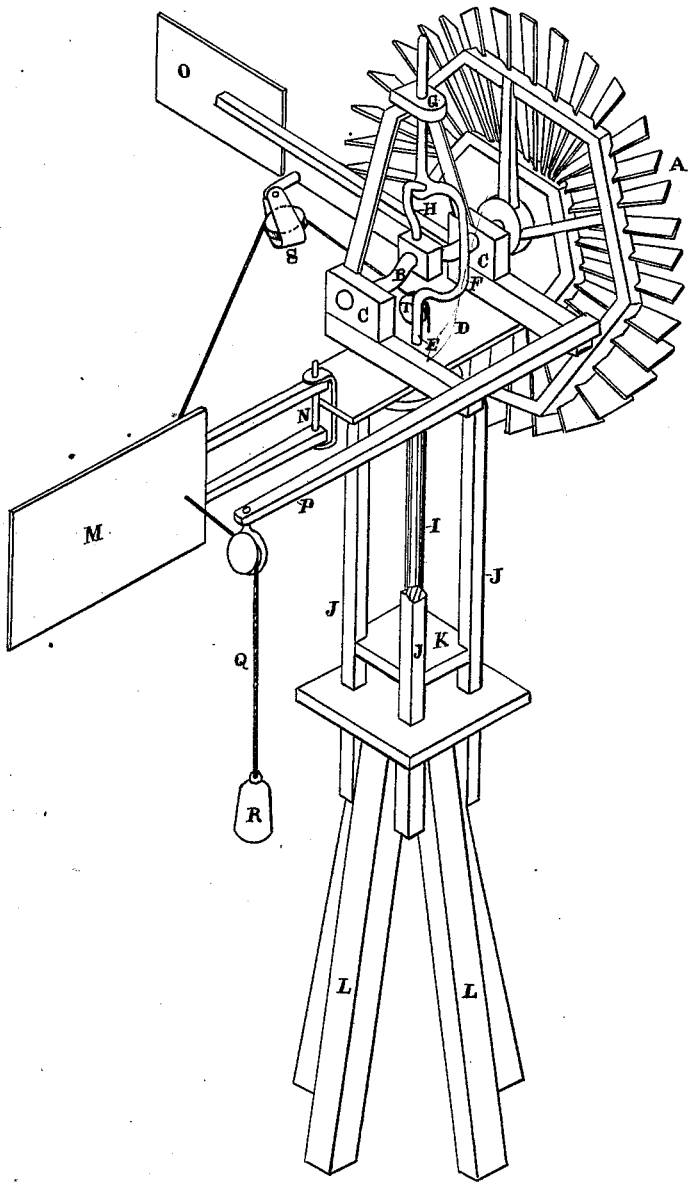
A. M. ABBOTT.
Wind-Mills.

No. 196,065. Patented Oct. 16, 1877.



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UNITED STATES PATENT OFFICE.

AMERICUS M. ABBOTT, OF STOCKTON, CALIFORNIA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **196,065**, dated October 16, 1877; application filed October 2, 1877.

To all whom it may concern:

Be it known that I, AMERICUS MILLER ABBOTT, of Stockton, county of San Joaquin, and State of California, have invented an Improved Windmill; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to certain improvements in windmills; and it consists in a means for producing a direct vertical motion of the rod or pitman, which extends from the crank through the turn-table of the mill, so that there will be no motion of the rod from side to side. This enables me to employ a novel construction for my turn-table, which is of very small size, so that the wheel can be placed close to it and near its vertical axis of revolution.

My invention consists in a cheap, strong, and novel construction for the frame of the mill, as will be more fully described in the accompanying drawings, in which the figure is a perspective view of my windmill.

A is the wheel of my mill, constructed in any suitable manner, and secured to the crank-shaft B. This shaft turns in boxes C, which are mounted upon the plate D of the turn-table, so that the wheel may be turned to any point of the compass.

In order to set my wheel as closely as possible to the center of its vertical rotation, and prevent undue strain upon the parts, as well as to effect a saving of material by reason of such a shortening of parts, it is necessary to reduce the turn-table to the smallest size which will allow the parts to work. Hitherto this turn-table has been constructed of a size at least sufficient to allow for the throw of a pitman from a crank of from four to six inches radius, and this necessitates an inside diameter of from ten to fourteen inches. I avoid this difficulty in the following manner: The pitman or rod E is bent into a curve large enough to allow the crank to turn within it, as shown at F, and above this point is again made to stand in a line with the lower part, and a guide, G, steadies the rod in its movements. From the crank a short connecting-rod, H, extends to a point in the straight part of the rod, either above or below the curve, where it is joined to the rod, so that the rotary motion of the crank is converted into a reciprocating motion of the pitman, and as there will be no side movement whatever, I am enabled to employ my improved turn-table. This consists of a tube, I, which, in practice, will be made of two-inch gas-pipe, having a head or plate cast upon its upper end, to which the plate D may be bolted.

The upper part of the frame consists of four timbers, J, bolted securely to the blocks K, through which the tube I passes. The lower timbers L are of such thickness as to just fit between the timbers J, as shown, and the timbers J are then cross-bolted to the timbers L. This construction renders it very easy to set up a mill anywhere with no difficulty in making everything come squarely into position, and it greatly cheapens the construction.

The tail M has a vertical hinge at N, where it joins the plate D, and is operated as follows: A permanent tail, O, is secured across the plate D, parallel with the face of the wheel, and a bar, P, extends back parallel with the crank-shaft to a point behind the hinge of the tail M. A pulley is secured to the end of this bar, and a cord, Q, extends from a weight, R, over this pulley, thence to the tail M, to which it is secured, and thence around the pulleys S and T, so as to pass down the tube I within reach of the operator. When the mill is running with sufficient wind the weight will retain this tail in a line behind the wheel, thus holding the latter to the wind; but a strong wind will act upon the tail O to force the mill around, and the weight will allow the tail M to swing correspondingly. By means of the rope the tail will also be pulled around, and the wheel turned out of the wind.

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

1. The rod or pitman E, suitably guided and bent into a curve at F, in combination with the connecting-rod H and crank of a windmill, so that the center of motion of the crank is in the direct line of the operation of rod E, substantially as and for the purpose herein described.

2. The turn-table consisting of the tube I, with its attached plate D, said tube being fitted to turn in the perforated blocks K of the

frame and allow the passage of the reciprocating rod E, the whole constructed to operate substantially as herein described.

3. The vertical timbers J J and brace K, and the diagonal timbers L, having their upper ends cross-bolted between the timbers J J, in combination with the operating mechanism of a windmill, as set forth.

In witness whereof I have hereunto set my hand and seal.

AMERICUS MILLER ABBOTT. [L. S.]

Witnesses:
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