

(No Model.)

A. MARTIN.

WINDMILL.

No. 299,563.

Patented June 3, 1884.

Fig. 1.

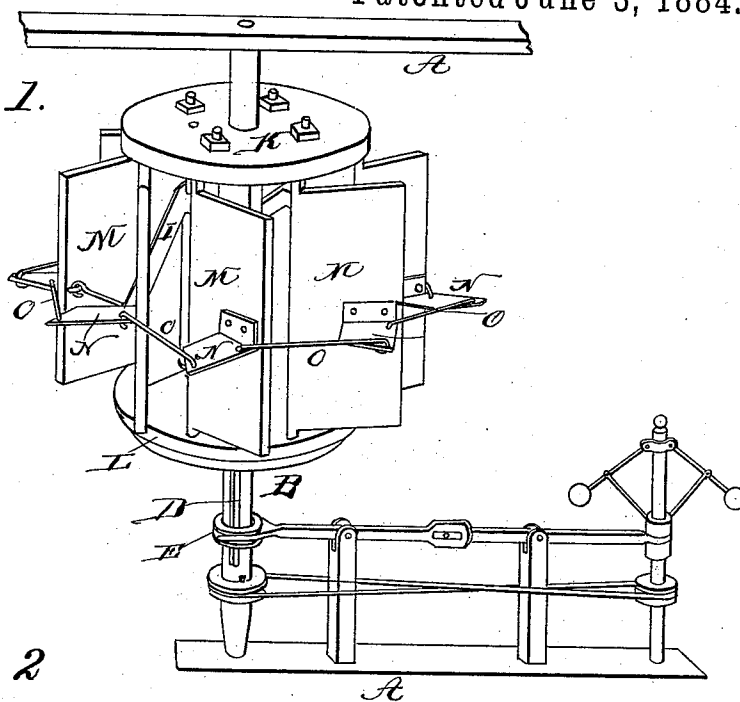


Fig. 2

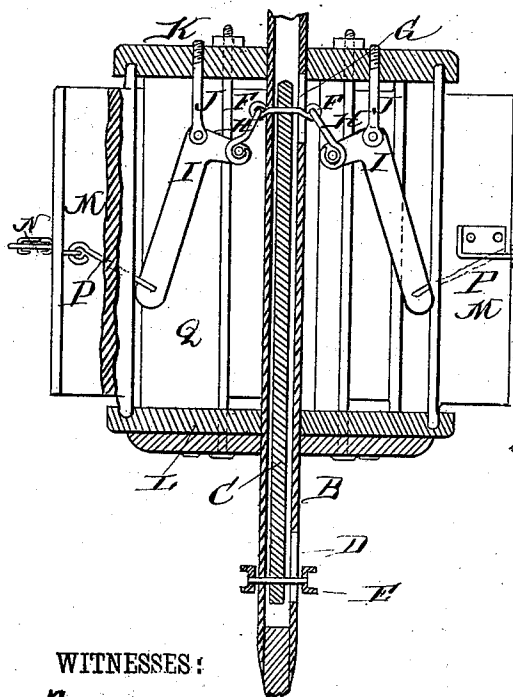
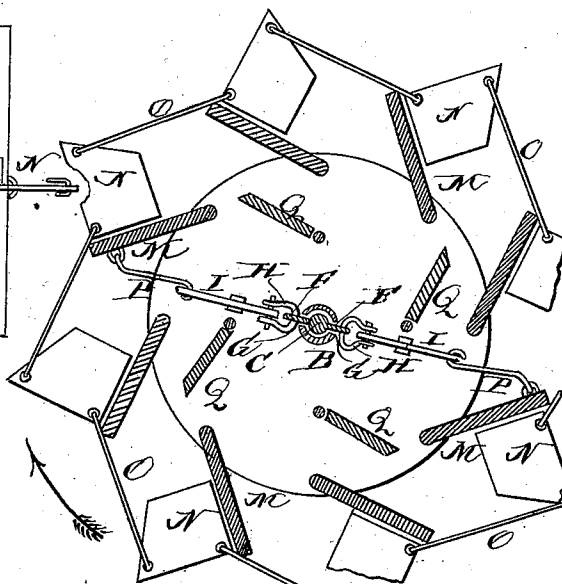


Fig. 3.



WITNESSES:

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ALBERTIS MARTIN, OF PLAINVILLE, KANSAS.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 299,563, dated June 3, 1884.

Application filed June 29, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALBERTIS MARTIN, of Plainville, in the county of Rooks and State of Kansas, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved windmill. Fig. 2 is a vertical section of the same, and Fig. 3 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to windmills; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the frame in which the main shaft B is journaled, and the portion of the latter which is between the two bearings is hollow, and a rod, C, slides in the hollow space inside the shaft. The lower end of this rod is provided with laterally-projecting lugs or bolts, which slide in longitudinal slots D in the lower portion of the hollow shaft, and are fastened to a sliding sleeve, E, which slides upon the shaft, and is connected with a centrifugal governor of any suitable construction in such a manner that as the shaft is rotated the governor will be rotated at a proportionate speed, and as the speed is accelerated the sleeve will be raised, while if the speed is diminished the sleeve will be slid downward upon the shaft. The upper end of the sliding rod is provided with two or more laterally-projecting lugs or arms, F, which slide in longitudinal slots G in the upper portion of the shaft, and two or more short arms, H, are hinged to the ends of the lugs and to the inner short arms of two or more bell-cranks, I, which are hinged upon downward-projecting lugs J, projecting from the under side of a circular plate, K, or disk, between which and a similar disk, L, both fastened upon the shaft, the vanes M are pivoted. These vanes are rectangular, and pivoted upon bolts or pins at the upper and lower corners of

the same side, and a series of horizontal plates, N, are fastened to the outer sides of the vanes projecting from near the outer edges of the same, and the outer ends of these plates are perforated for the reception of the ends of a number of arms, O, which are hinged to the ends of the plates and to the inner portions of the same near the edge, which will be to the rear when the mill is revolved. In this manner the several vanes are connected, so that when one of them is opened or closed the remaining vanes will be opened or closed correspondingly, and two arms, P, are hinged to the inner side of two diametrically-opposite vanes with their outer ends, while their inner ends are hinged to the ends of the outer longer arms of the bell-cranks I, and it will be seen that in this manner, as the vanes and the governor with them are rotated, any increase or decrease in the speed of the vanes will cause the governor to move the sliding sleeve, which in turn will move the sliding rod, the bell-cranks by means of the hinged arms, and the vanes through the arms hinged to the bell-cranks, thus regulating the speed of the mill as the vanes are folded by any increase of the speed, and extended by a decrease of the speed. A number of stationary auxiliary vanes, Q, are fastened inside the outer hinged vanes, and serve to utilize the wind passing through the mill, at the same time that they serve as braces or supports for the two disks, between which the vanes are pivoted. It will be seen that these auxiliary fixed vanes are arranged at right angles to one another, and in such a manner that the wind which enters into the mill on its left side through the open or partially-open movable vanes will at all times strike against these vanes, and thus propel the wheel in the direction of the arrow, whereas the movable vanes on the other side, or to the right of the central shaft, are always necessarily in such position as to prevent the wind from entering into the body of the mill, thus deflecting the wind from the fixed vanes Q on that side of the machine.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The herein-described windmill, consisting of the hollow vertical shaft having the longitudinal slots at its upper and lower portions, the

circular disks or plates fastened upon the shaft, and connected and braced by the stationary inner vanes, the pivoted vanes, the horizontal plates fastened upon the outer sides of the vanes, the connecting-rods hinged to the inner ends of the horizontal plates, and to the outer ends of the horizontal plates to the rear of the plates to which they are hinged with their forward ends, the arms hinged to the vanes and bell-cranks, the bell-cranks, the arms hinged to the bell-cranks and the lugs upon the sliding rod, the sliding rod having the laterally-projecting lugs upon its upper end and slid-

ing in the shaft, and the sleeve sliding upon the lower portion of the hollow shaft fastened to the lower end of the sliding rod and connected to a speed-governor, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

ALBERTIS MARTIN.

Witnesses:

EVAN THOMAS,

JAMES A. McDONALD.