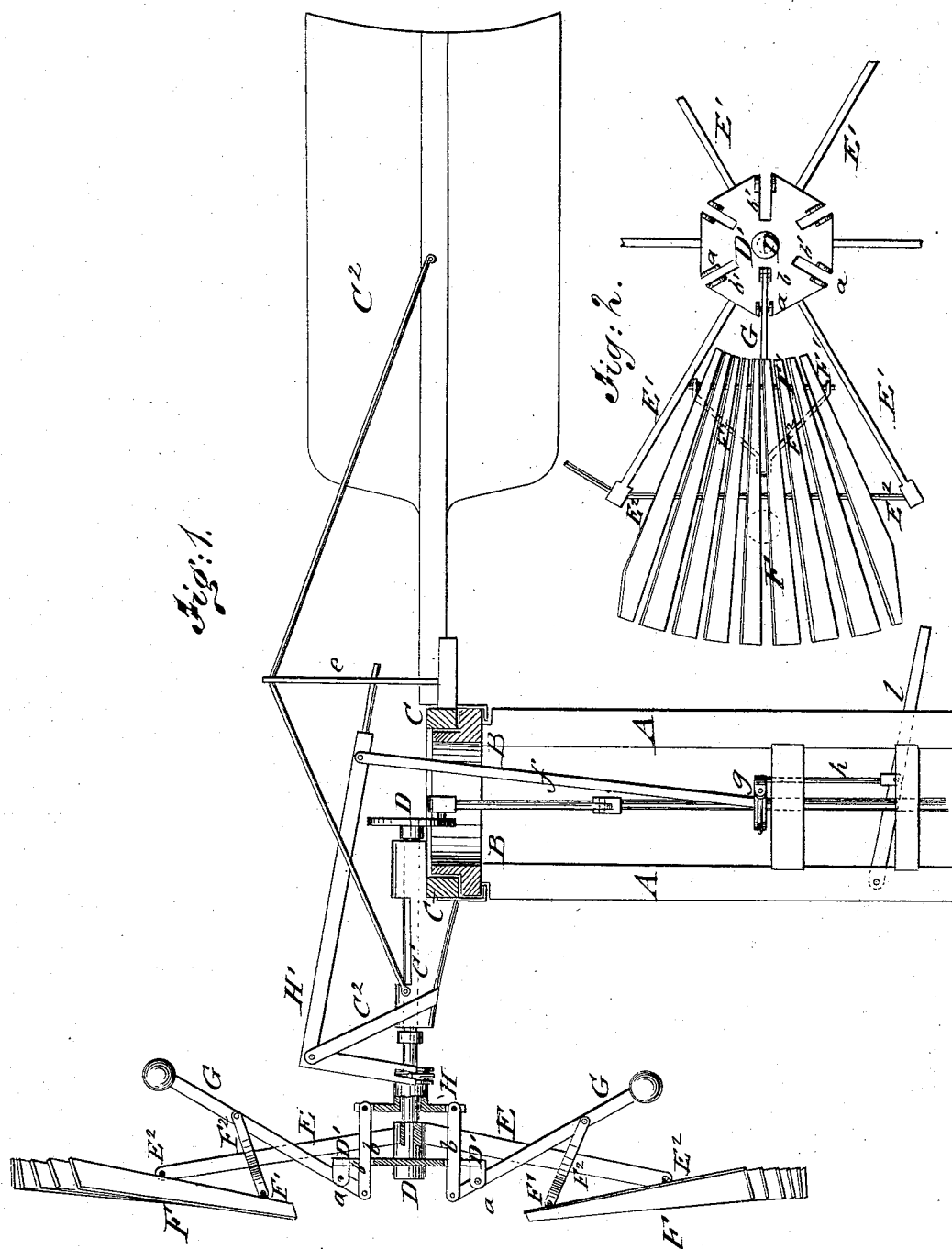


H. J. WOLCOTT.

Wind-Mills.

No. 157,260.

Patented Nov. 24, 1874.



WITNESSES:

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HENRY J. WOLCOTT, OF ALBION, MICHIGAN.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **157,260**, dated November 24, 1874; application filed October 3, 1874.

To all whom it may concern:

Be it known that I, HENRY J. WOLCOTT, of Albion, in the county of Calhoun, in the State of Michigan, have invented a new and Improved Windmill, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a sectional side elevation of my improved windmill, and Fig. 2 a detail front view of an adjustable wheel-section.

Similar letters of reference indicate corresponding parts.

The invention is an improvement in windmills whose pivoted wheel-sections are automatically adjusted or controlled in position by means of weighted levers.

The improvement relates to a slotted disk, which is attached to sleeve or tube, which slides on the crank-shaft, and acts as a guide for the connecting-rods of the levers which operate said sections, as hereinafter shown and described.

In the drawing, A represents the main shaft-supporting frame, with top bed plate B, on which the turn-table C, with main bearings C¹ and rear guide-vane C², swings in the customary manner in windmills. The rotating main shaft D is provided near its front end with a stationary spider-frame, E, having a suitable number of arms, E¹, according to the size of the wheel, that are braced by end connecting-rods E². To each rod E² are attached a suitable number of wings, in such a manner that they form a wheel-section, F, which swings readily on rod E² toward and away from spider-frame E. Near the inner ends of each wheel-section F is attached a second wing-stiffening rod, F¹, being placed parallel to the outer rod E², and connected, by pivoted end rods F², with the regulating weighted levers G; which are fulcrumed to pivot-bearings *a* of a disk or plate, D¹, at the end of main shaft D, in front of the spider-frame E attached thereto. The balance-weight is applied to the outer ends of regulating-levers G, while their inner ends are

connected, by pivoted rods *b*, through radial slots *b'* of plate D¹, to a sleeve, H, that slides on main shaft D back of spider-frame E. The sliding sleeve H may be carried forward and backward on shaft D by means of a swivel at the end of one arm of bell-crank lever H', which is fulcrumed to support C² of the shaft-bearings C¹, and guided with the end of its rear extending arm in upright guide-rods *e* of turn-table C. The rear arm of bell-crank lever H' connects again, by pivot-rods *f*, swivel-joint *g*, and lower rod *h*, with a regulating-lever, *l*, at the base of the mill-supporting frame, for producing, by the raising or lowering of the same, the corresponding raising or lowering of the rear arm of elbow-lever H, and the sliding action of the sleeve, and thereby the adjustment of the wheel-sections in forward and backward directions.

The increased velocity of the wind produces a greater speed of the wheel, and carries thereby, by centrifugal power, the weighted regulating-levers from their inclined positions toward a plane under right angles to the main shaft, throwing thereby the wheel-sections into a more inclined position to the main shaft or the direction of the wind, so as to retard the speed of the wheel, and produce, by the self-adjustment of the sections, a uniform speed of the same under varying velocities of the wind. In a similar manner may the speed be regulated by the lever-connections from the base of the mill, and thereby the speed controlled in a neat and convenient manner.

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

The disk D¹, having pivot-bearings *a* and radial slots *b'*, the levers G, bars *b*, and sliding tube H, all combined as shown and described.

HENRY J. WOLCOTT.

Witnesses:

JAMES A. ALLEN,
Dr. HENRY VAN OSTRAND.