

M. D. THAYER.
Windmill.

No. 229,774.

Patented July 6, 1880.

Fig. 1.

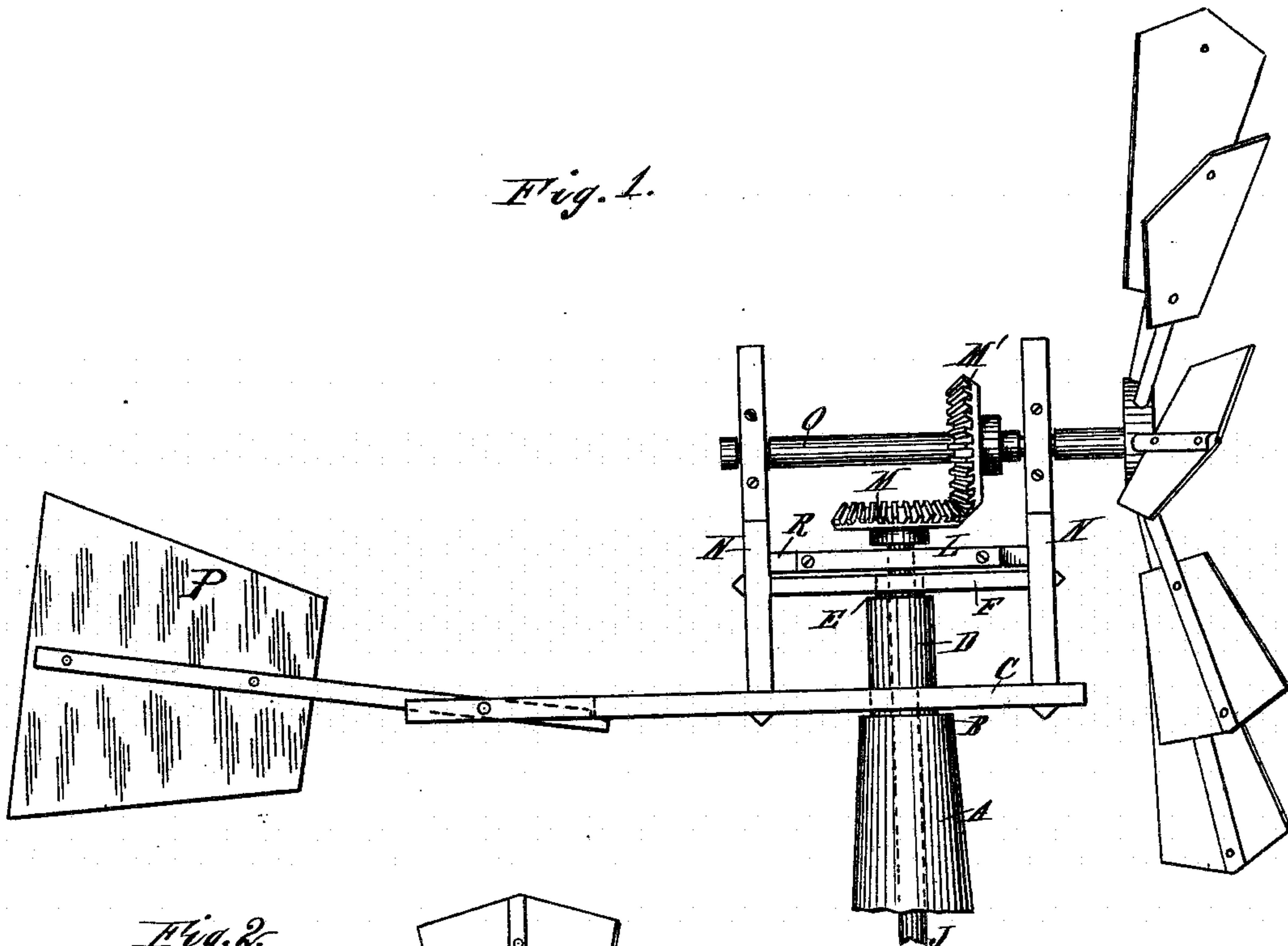
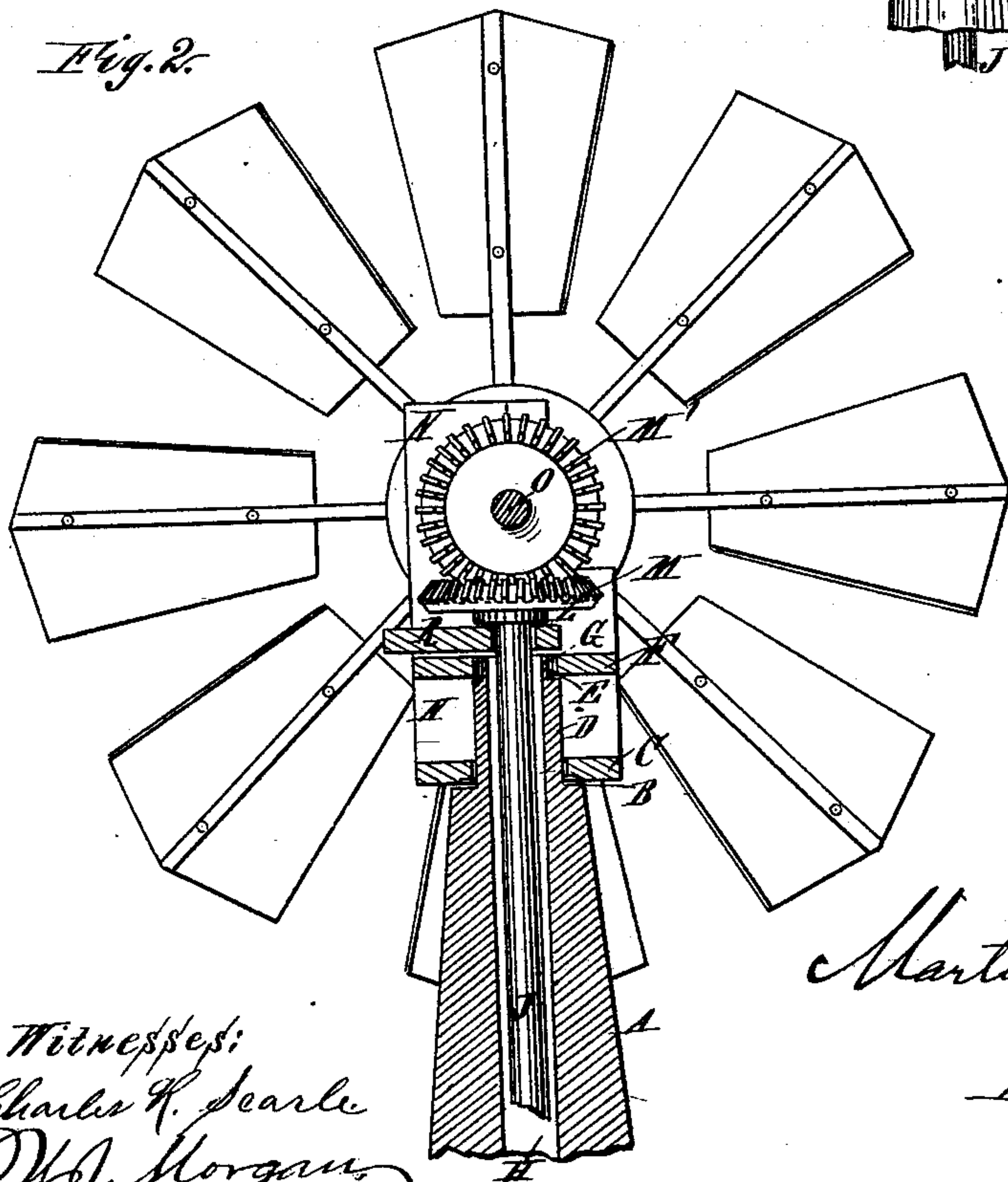


Fig. 2.



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UNITED STATES PATENT OFFICE.

MARTIN D. THAYER, OF LIVONIA, NEW YORK.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 229,774, dated July 6, 1880.

Application filed January 6, 1880.

To all whom it may concern:

Be it known that I, MARTIN D. THAYER, of Livonia, in the county of Livingston and State of New York, have invented a new and useful Improvement in Windmills, which is fully described in the following specification.

In the windmill which is the subject of my invention the wind-wheel is carried on a horizontal shaft, from which the power is transmitted to a vertical shaft by a pair of bevel-wheels, the said horizontal shaft being mounted on a frame, which also carries the tail or regulating vane, and is itself mounted on a pivotal cone-support for turning with the wind as it shifts around.

The invention consists of the particular contrivance of this frame and its pivotal cone-support with reference to each other, also to the gearing of the wheel-shaft with the vertical shaft and to the supporting-arm of the tail or regulating vane.

Figure 1 is a side elevation of a windmill constructed according to my invention, and Fig. 2 is a sectional elevation taken through the pivotal support of the revolving frame and parallel with the plane of the wind-wheel.

A represents the lower portion of the pivotal support for the wheel-carrying frame, to be erected upon a tripod or any other tower of approved form. It has a shoulder at B, to form the pivotal bearing for the base bar or beam C of the said wheel-frame, which bar has a vertical hole of the size of the upper section, D, of support A, through which said section passes, for securing the bar and forming the pivot around which said bar revolves while resting on the shoulder B.

At the upper end of section D is another shoulder, E, whereon the upper bar, F, of the wheel-frame similarly rests, said bar having a vertical hole for the top pivot, G, of the frame-support. This frame-support has a hole, H, through its center from end to end, in which the vertical shaft J is fitted, and said shaft has its bearings at the upper end in the cross-bar K and cap L, fitted above and resting on bar F, with the hub of wheel M resting on it for the vertical support of the shaft while it rests on the top of pivot G, corresponding in effect to a third shoulder for the vertical support of the frame.

The bars F and K are connected to the up-rights N, mounted on opposite sides of cone A D upon the base C, and forming the bearings for the wind-wheel shaft O above the top of shaft J, and gearing therewith by its wheel M' and the wheel M on the upper end of the shaft J, with which it works, and transmits the power all the same whatever the direction of the wind may be, the said gears affording no obstruction to the shifting of the wind-wheel with the wind. This vertical shaft J will be hollow in the practical machine, for a cord by which to regulate the vanes of the wind-wheel, to hang down to the reach of the attendant. Now, it is important that this frame or head and its pivotal supports, which are for supporting the overhanging wheel and the regulating-vane P substantially and permanently, and at the same time turning about as the wind shifts without interfering with the operations of the transmitting-gears, shall be contrived and arranged in the best conditions for durability and for the best results in operation, and yet be of such simple construction that it may be fitted together out of a few pieces of wood and with the ordinary skill and tools of wood-workers, all of which it is believed are secured by the construction and arrangement above described.

The object is to avoid the complexity of arrangement commonly found in these mills of later construction, involving many parts and expensive fittings in metal.

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

The combination, in a windmill in which the horizontal shaft of the wheel is geared to a vertical transmitting-shaft by a pair of bevel-wheels, of the hollow pivotal supports A D, surrounding said shaft and having the shoulders B E and top G, with the wheel and regulating-vane, supporting-frame, consisting of the base C, up-rights N, cross-bar F, and the bearing K L, the latter resting on top G, bar F on shoulder E, and bar C on shoulder B, all substantially as described.

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Witnesses:

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