

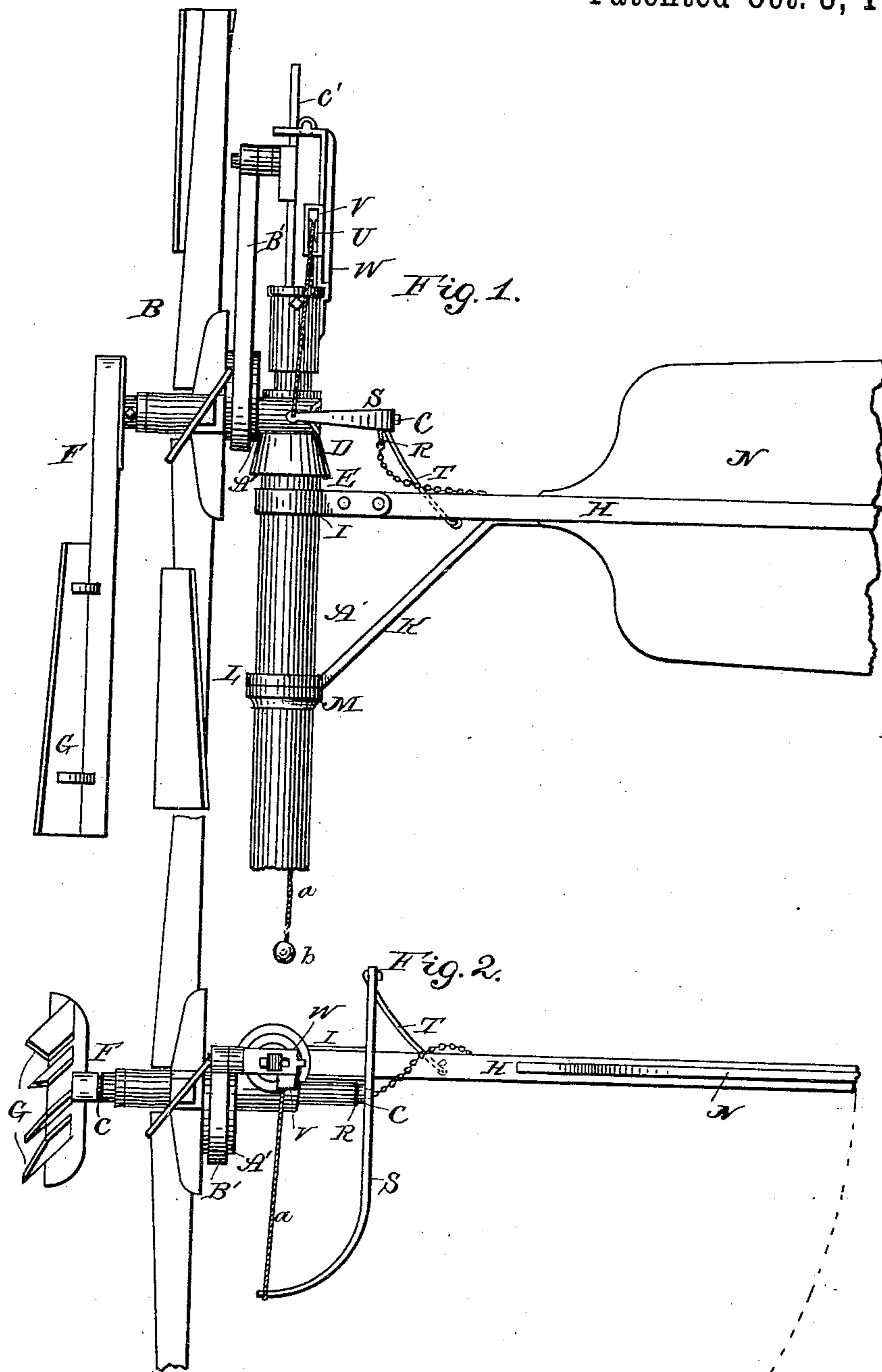
(No Model.)

E. M. SCHROCK.

WINDMILL.

No. 265,545.

Patented Oct. 3, 1882.



Witnesses:

J. W. Garner

W. S. Haines

Inventor:

Emanuel M. Schrock

per H. J. Ennis atty.

# UNITED STATES PATENT OFFICE.

EMANUEL M. SCHROCK, OF HENRY, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
THEODORE BICKERMAN, OF SAME PLACE.

## WINDMILL.

SPECIFICATION forming part of Letters Patent No. 265,545, dated October 3, 1882.

Application filed July 8, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EMANUEL M. SCHROCK, a citizen of the United States, residing at Henry, in the county of Marshall and State of Illinois, have invented certain new and useful Improvements in Windmills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in windmills; and it has for its objects to provide for automatically setting the sails thereof to the wind according to its strength or power, as more fully hereinafter specified. These objects I attain by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation, showing the wind-wheel set full to the wind; and Fig. 2 represents a top plan view.

The letter A indicates a hollow standard, which supports the various parts of the mill.

B represents a wind-wheel, which may be of any approved construction, and which is mounted on a shaft, C, journaled in a horizontal bearing on the hollow tube D, which is shouldered at E, the lower part extending downward into the tube A, the shoulder resting and adapted to rotate upon the top of the said tube A. To the forward end of the said shaft is secured a bar, F, having a series of inclined wings or blades, G, for the purpose more fully hereinafter specified.

The letter H indicates a beam having a collar, I, attached to one end, which collar sets over the upper end of the tube, the beam being provided with an inclined brace-bar, K, which is provided with an eye, L, which sets over the tube A and bears upon a collar or shoulder, M, on the said tube, supporting the beam in such manner that it may turn freely. The beam is provided with a blade, N, and is connected by means of a chain secured by a link, R, loosely to the rear end of the shaft C. To the rear extremity of said shaft is rigidly secured an arm or lever, S, which is connected to the beam H by means of the link T at one end, the other end of said lever having attached to it a rope, *a*, passing over a pulley, U, secured in a box, V, attached to the stand-

ard W, secured to upper part of the tube D, the rope *a* passing down into the tube and being provided with a counter-balance, *b*, at its end.

The series of blades G on the vertical bar F are for the purpose of catching the wind, which, when it is light or normal, does not move the bar F from its vertical position; but as the wind increases in force the blades G, with the bar F, are moved correspondingly out of the vertical line, and the spindle C, which passes through the central shaft of the wind-wheel B, and has on its inner end the bent lever S, is turned, so that the link F on the straight end of S causes the wind-wheel B to be bodily deflected from its position, according to the absolute force of the wind, and whenever the wind moderates the counter-weight *b* pulls the wheel back again to its normal position.

The letter A' indicates an eccentric mounted on the hub of the wind-wheel, and B' an eccentric-strap connecting with a pin on the pump-rod C', which extends down through the tubes A D, the upper end passing through a slot in the horizontal portion of the standard W, which is provided with a friction-roller, against which the pump-rod works.

It will be seen that as thus constructed, when the wind is light, the parts will assume a normal or nearly normal position by means of the gravity of the bar F and blades G, so as to present the wind-wheel full, or nearly so, to the wind, and that as the force of the wind increases the parts will be shifted automatically by the action of the wind on the blades G, as before described, so as to present the said wheel at a greater or less angle to the wind, thus securing uniformity in its operation.

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

1. The combination, with the wind-wheel mounted on a horizontal shaft journaled in a bearing in a hollow tube adapted to rotate in a supporting-tube, of the beam provided with inclined blades, and the beam swiveled to the supporting-tube and provided with a vertical blade, the said beam being connected to the horizontal shaft by means of a link and lever, the lever being provided with a rope passing

over a pulley and down into the hollow tubes, its end having a counter-balance, the whole arranged to operate substantially as specified.

- 5 2. In combination with the wind-wheel and mechanism for automatically regulating its position to the power of the wind, the eccentric, eccentric-strap, pump-rod, and standard and friction-roller, all arranged to operate substantially as set forth.
- 10 3. In a windmill, the pendent bar F, having a series of blades, G, and spindle C, combined

with the wind-wheel, substantially as and for the purpose described.

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

EMANUEL M. SCHROCK.

Witnesses:

J. W. COOK,

THEO. BICKERMAN.