

J. E. CHAPIN.

Wind-Mills.

No. 148,927.

Patented March 24, 1874.

Fig. 1.

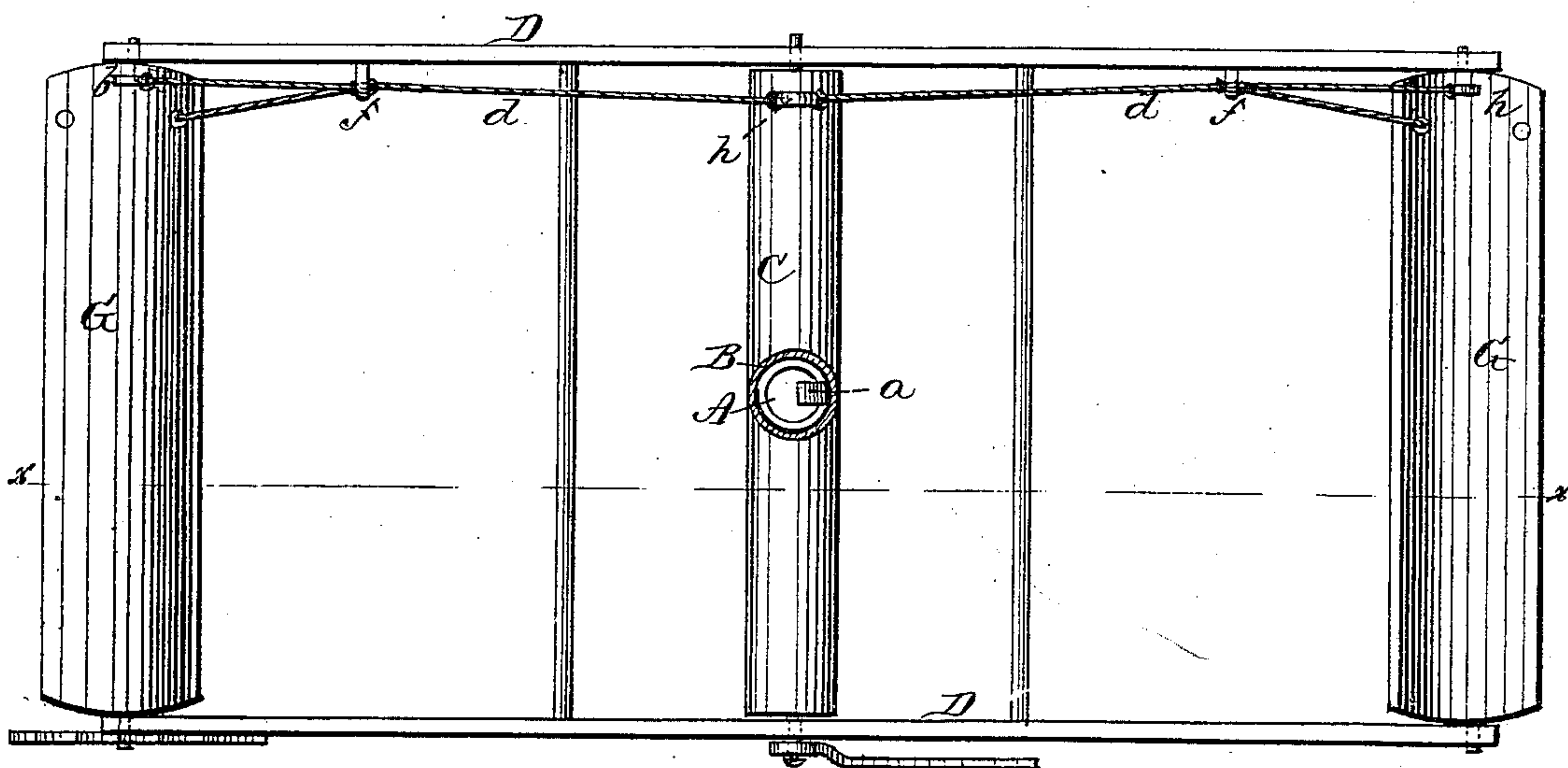
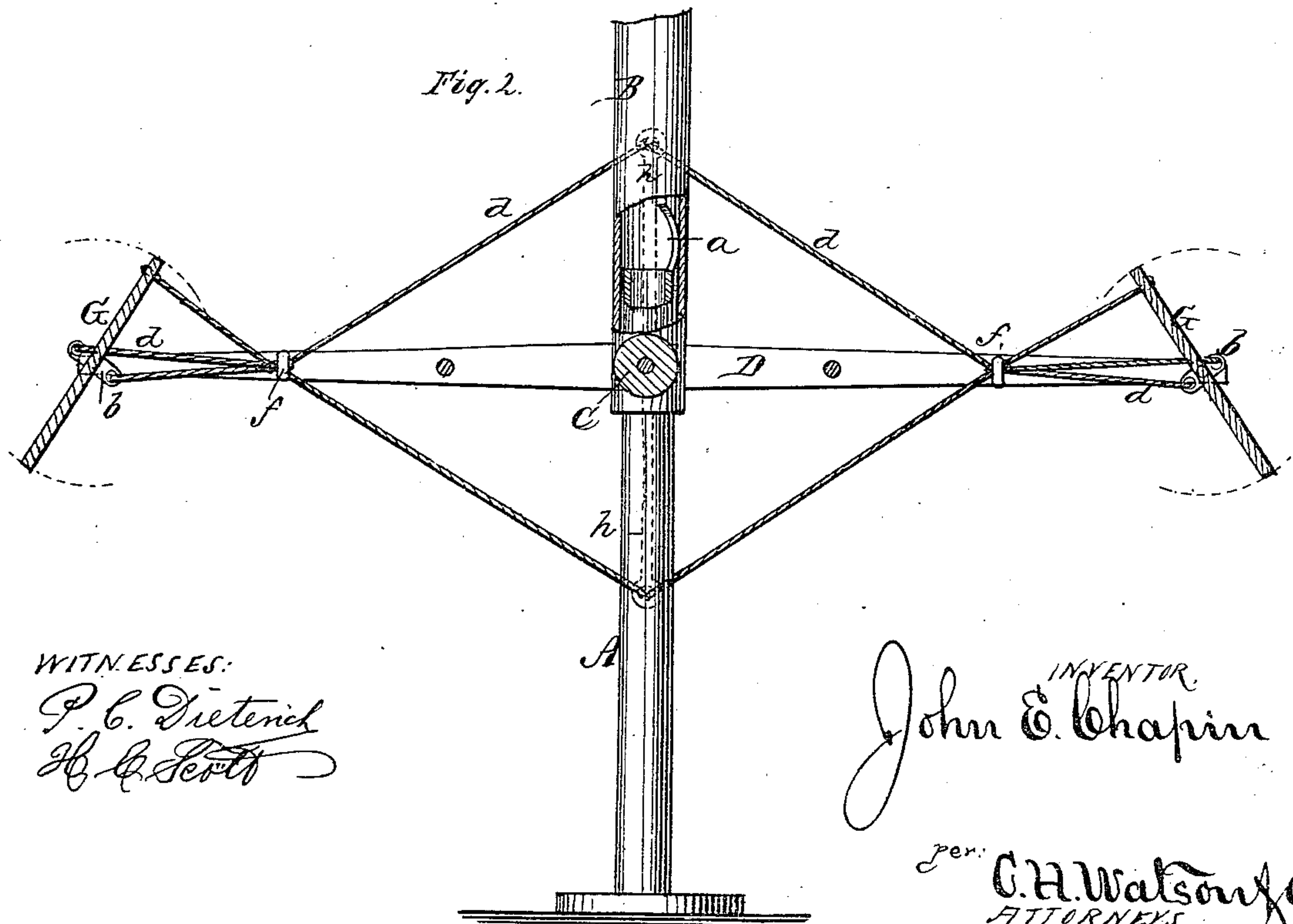


Fig. 2.



WITNESSES:

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JOHN E. CHAPIN, OF OQUAWKA, ILLINOIS.

## IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 148,927, dated March 24, 1874; application filed February 24, 1874.

*To all whom it may concern:*

Be it known that I, JOHN E. CHAPIN, of Oquawka, in the county of Henderson and State of Illinois, have invented certain new and useful Improvements in Oscillating Windmill; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in an oscillating windmill, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view, and Fig. 2 a longitudinal section, of a windmill illustrating my invention.

A represents a vertical post, of any suitable dimensions, upon which slides a tube, B, said tube being raised and lowered at will, and held at any desired height by a spring, *a*, or any other suitable means. To the vertical tube B is secured a horizontal cylinder, C; or, rather, the tube B passes through the center of said cylinder, and is secured to it. To each end of the cylinder C is pivoted an arm or lever, D, which is as evenly balanced as possible. Between the ends of the arms D D are pivoted suitable vanes or wings G G. Each of these vanes or wings is at or near one end provided with a short arm, *b*, extending at right angles on both sides thereof. From each end of each arm *b* passes a cord, *d*, through an eye or loop, *f*, on the side of the arm D, and one of said cords from each vane extends, and is connected, to an upward-projecting rod, *h*, upon the cylinder C, while the other is connected to a downward-projecting arm on the same. These vanes or wings, with their cords, are so arranged that, by the oscillation of the arms or levers D D, the cords *d d* will

change the position of the vanes in opposite directions, one vane being always in the wind and the other out. The wind, acting upon the vane which is in the wind, rocks or oscillates the arms D D in one direction, and, as they complete their stroke, this vane is turned out of the wind, and at the same time the other vane, which was out of the wind, will be turned in the wind, and be acted upon to rock the arms in the opposite direction, and so on alternately.

A windmill of this construction may be connected with a pump or other reciprocating machinery to run the same.

Cords may also connect with the edges of the vanes or wings to facilitate their movement.

A full-sized windmill may be constructed with a single oscillating or vibrating arm, which may carry a single pair of oscillating vanes or sails; or may have a system of arms carrying an indefinite number of sails, which may be turned into proper positions by means of cords, rods, or chains, arranged in suitable manner.

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

1. One or more oscillating arms or levers, D, provided with two or more oscillating vanes or sails, G, said vanes or sails being connected and operated by cords or rods *d*, substantially as and for the purpose herein described.

2. The tube B, post A, and spring *a*, in combination with arms or levers D, vanes or sails G, and cords or rods *d*, all arranged for operation as and for the purpose herein specified.

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

JOHN E. CHAPIN.

Witnesses:

CYRUS CHAPIN,

G. F. WM. FROELICH.