(No Model.)

W. N. TRUMBLE.

WINDMILL.

No. 276,939. Patented May 1, 1883.

Fig. 1.

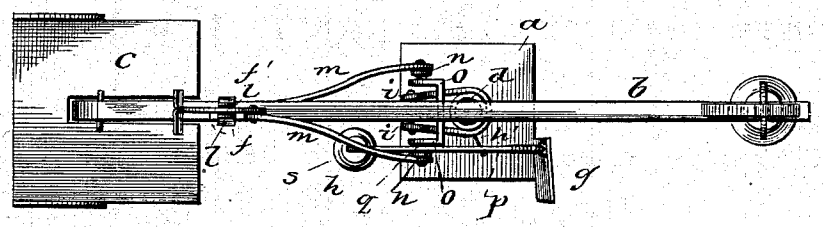
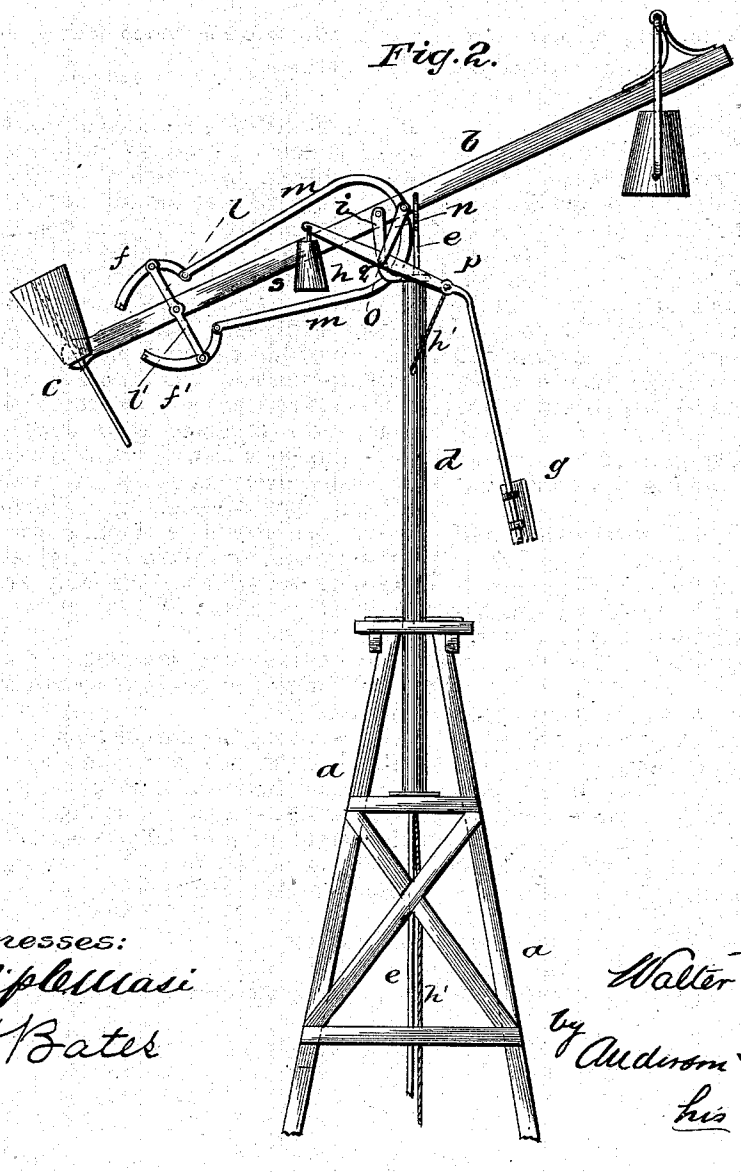


Fig. 2.



Witnesses:
Philip Cassasi
E. H. Bates

Inventor:
Walter N. Trumble,
by Anderson & Smith
his Attorneys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

WALTER N. TRUMBLE, OF GREENWOOD, NEBRASKA.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 276,939, dated May 1, 1883.

Application filed March 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, WALTER N. TRUMBLE, a citizen of the United States, and a resident at Greenwood, in the county of Cass and State of Nebraska, have invented certain new and useful Improvements in Windmills; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top or plan view of my windmill, and Fig. 2 is a side view of the same.

This invention has relation to windmills, and is intended as an improvement on my former Patent No. 258,826, of May 30, 1882; and it consists in the construction and novel arrangement of devices hereinafter fully described, and particularly pointed out in the claim appended.

Referring by letter to the accompanying drawings, *a* designates the tower, and *b* the vertically-vibrating lever, carrying the vertically-vibrating sail *c*. *d* is the rotary hollow stem, and *e* the rod connecting the lever *b* with the plunger-rod of the pump, as in my former patent. In this instance I provide the lever *b* with a swinging weight, which, I find, acts more readily under the wind, and I provide reversing-stops *f f'*, controlled by a small sail, *g*, and a balance-weight, *h*, so that the vibratory movement of the lever can be automatically regulated by the action of the wind upon the small sail *g*, as well as by the cord *h'*, connected thereto, by which the vibratory sail may be regulated at the will of the operator. The lever *b* is pivoted in bearings *i* and the connecting-rod *e* is pivoted thereto, as shown. The reversing-stops *f f'* are pivoted in vertical arms *l l'* near the end of the lever *b*, and to each of these a curved lever is pivoted. The curved lever *m* is pivoted to the arm *n* of a vibratory crank, *o*, and the lever *p* is pivoted to the lower end, at *q*, of the same double crank, and is provided at its upper end with a swinging weight, *s*, and at its lower end with the small governing-sail *g*. When the wind is strong upon the small governing-sail *g* the reversing-stops will be closed down upon the vibratory sail, and when it is lighter the balance-weight *s* will open the stops and permit the wind to strike the vibratory sail with greater force.

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

In a wind-engine, the combination, with the vertically-vibrating lever carrying the vibratory sail, of the swinging weight at its rear end, the reversing-stops, automatic sail, and balance-weight, substantially as specified.

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

WALTER N. TRUMBLE.

Witnesses:

J. M. MASON,

G. L. PHILIPS.