

No. 612,464.

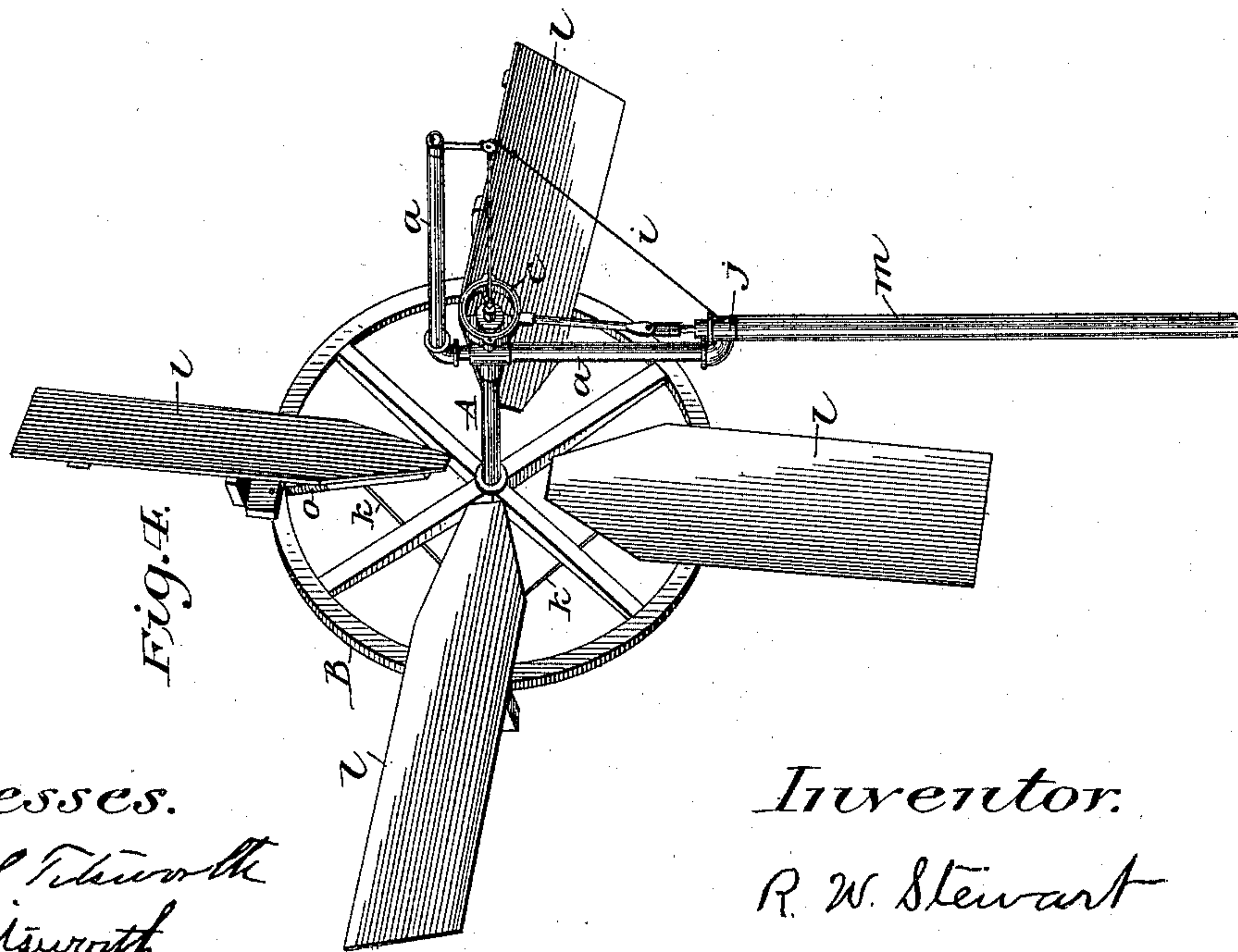
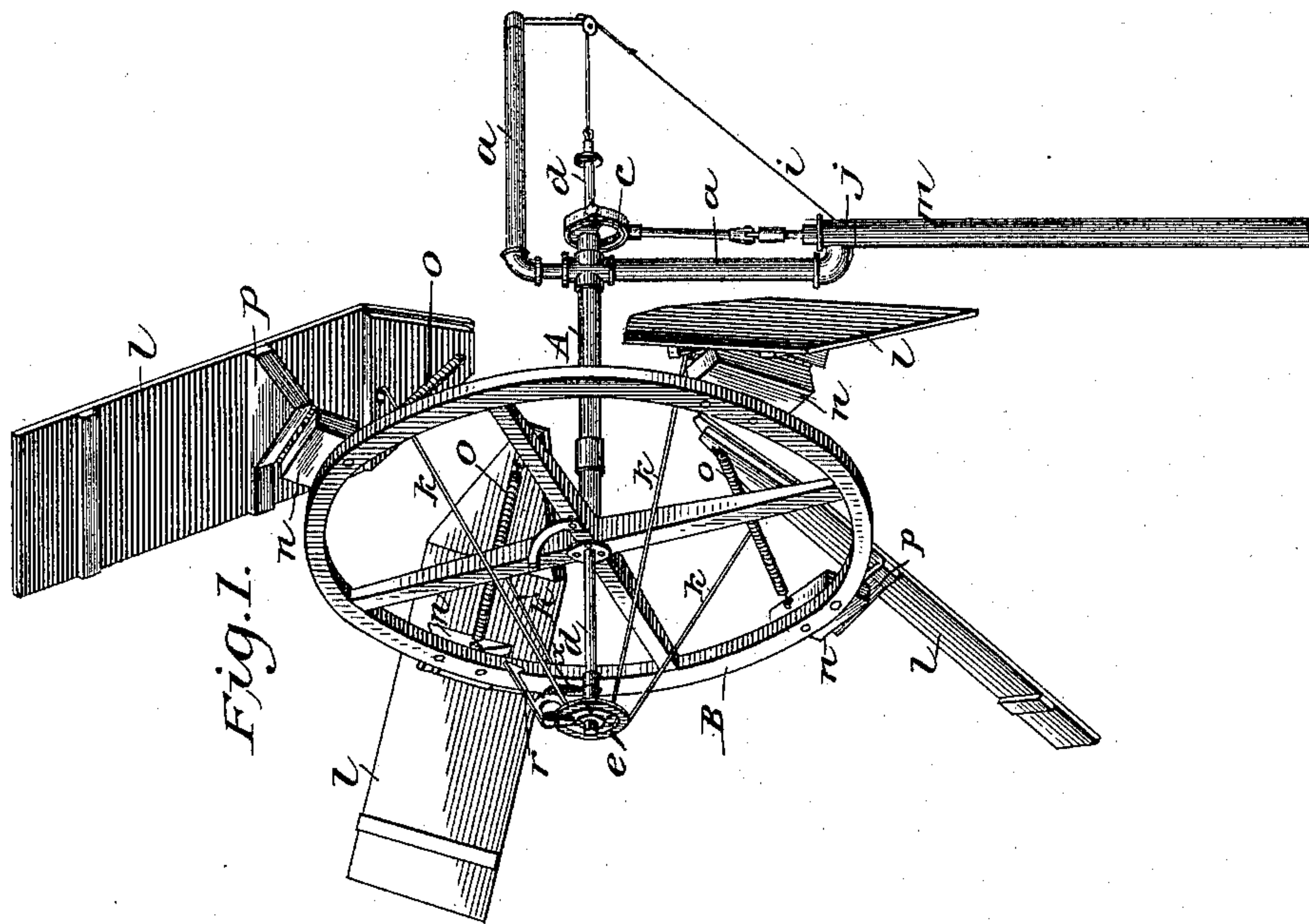
Patented Oct. 18, 1898.

R. W. STEWART.
WINDMILL.

(Application filed July 22, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.

Wm. S. Feltworth
R. L. Feltworth

Inventor.

R. W. Stewart

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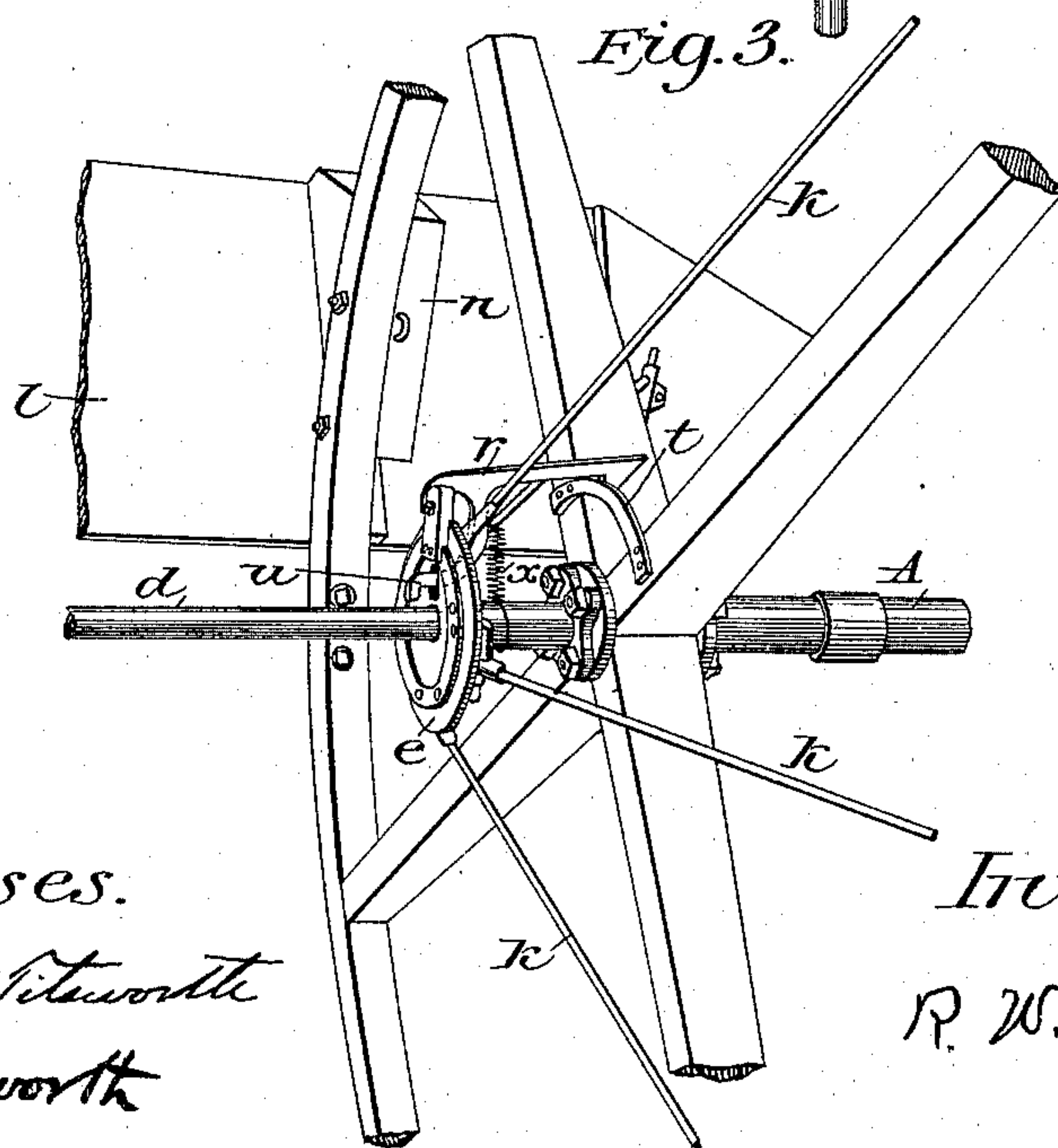
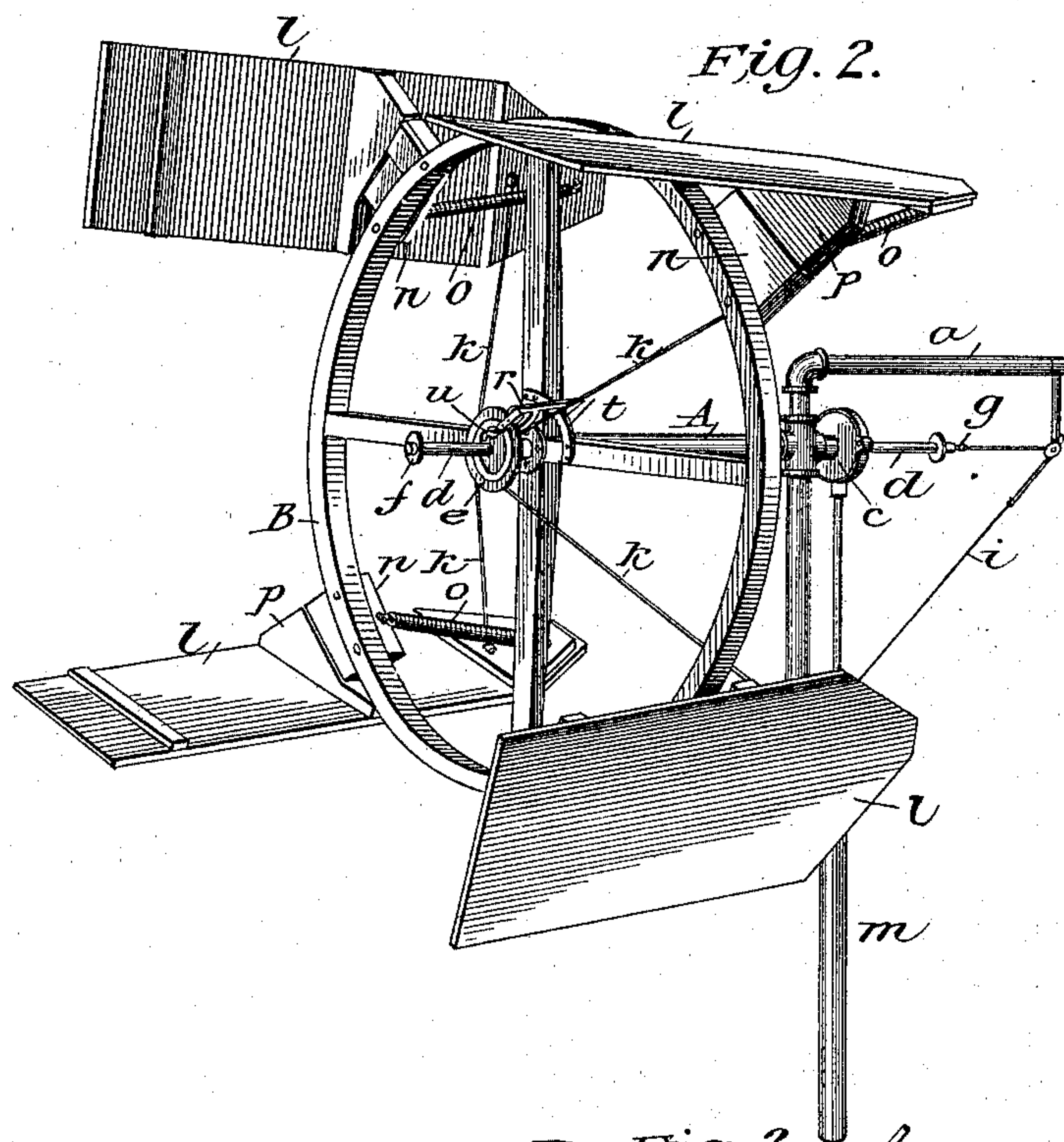
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Witnesses.
Henry S. Titmuth
R. L. Titmuth

Inventor.
R. W. Stewart

UNITED STATES PATENT OFFICE.

ROBERT WILLIAM STEWART, OF MOUNT VICTORY, OHIO.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 612,464, dated October 18, 1898.

Application filed July 22, 1897. Serial No. 645,634. (No model.)

To all whom it may concern:

Be it known that I, ROBERT WILLIAM STEWART, a citizen of the United States, residing at Mount Victory, in the county of Hardin and State of Ohio, have invented a new and useful Windmill, of which the following is a specification.

My invention relates to improvements in windmills in which the entire machine, with all its working parts, rotates around a central point in the tower.

The objects of my improvements are, first, to provide a frame which will readily adjust itself to the direction of the wind; second, to provide self-regulating sails; third, to provide an easy method of control, and, fourth, to provide a safety storm locking device. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figures I and II are views of the entire machine in different positions; Fig. III, a sectional view of the storm locking device, and Fig. IV a perspective in full sail.

Similar letters refer to similar parts throughout the several views.

All reference is to Fig. I unless otherwise specified.

A *a a* constitute the hollow frame, which by a suitable collar rests upon the top of the pipe *m*. A hollow extension of the frame passes down into *m* below *j*, maintaining it in place. Thus the entire machine rests upon and rotates in the pipe *m*, the pipe *m* being secured to the tower. In the hollow frame A is a hollow shaft connecting the wheel B and the eccentric *c*. By means of this shaft the power received by the wheel B is transmitted to *c*. Passing through and extending beyond this hollow shaft is a rod or pipe *d*, upon one end of which is a brace-bearing slide *e*, loosely placed, a nut or cap *f*, Fig. II, keeping it in place. On the other end is a swivel *g*, Fig. II. A chain or cord over the pulley *h* connects this to the wire *i*, which wire enters the frame at *j*, passing to the ground for controlling the mill. Drawing upon this wire carries the rod *d*, with the brace-bearing slide *e*, toward the center of the wheel B, causing the braces *k k k k*, Fig. II, to act upon the sails *l l l l*, Fig. II, changing the sails from right angles to parallel with the frame A, their ends to the wind, and the mill out of sail. Releasing the wire *i* permits the coil-springs *o o o*,

Fig. II, which are attached inside of the blocks *n* to the wheel B and to the inner ends of the sails *l*, to draw in the ends of the sails and replace them in working position, as in Fig. IV. The sail-bearing wheel B being at a distance from the center of rotation in the pipe *m* permits the wind to maintain it in working position without a vane.

The sails (varying in number and design, as desired) are secured to the angle-brackets *p p p* and the angle-brackets hinged to the blocks *n*. The outer ends of the sails are slightly longer than the inner ends. The wind acting on the longer ends drives them in advance of the shorter ends and exposes less surface to the action of the wind, and so automatically regulates its speed. Fig. IV represents the mill in a light breeze, Fig. I in a light wind, and Fig. II in a wind-storm.

The storm-lock is operated by the last-described action of the sails. Said action of the sails through the braces *k*, Fig. III, carries the brace-bearing slide *e* along the rod *d* toward the center of the wheel B, leaving *d* extended. The hook *r* fastens over the catch *t* and is thus maintained by the coil-spring *x*. Drawing the wire *i* slides the rod *d*, brings the cap *f*, Fig. II, against the projection *u* of the hook *r*, overcomes the spring *x*, and raises the hook *r* from the catch *t*, when the springs *o* drive the locking device, together with the rod *d*, away and set the mill in working position.

I am aware that prior to my invention windmills have been made rotating with the wind with self-regulating sails and stopping devices. I therefore do not claim such a combination broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a wind-wheel, the combination with the blades of the braces *k*, the brace-bearing slide *e*, the rod *d*, carrying the head *f*, the catch *t* and the hook *r* attached to the said slide, and carrying the projection *u*, as and for the purpose set forth.

2. In a wind-wheel, the brace-bearing slide *e*, the locking devices, the sliding rod *d* and wire *i* for locking or unlocking the slide, as and for the purpose set forth.

ROBERT WILLIAM STEWART.

Witnesses:

HARRY S. TITSWORTH,
EDWARD WAGNER.