H. F. HODGES.
Wind-Wheels.

No. 207,659. Patented Sept. 3, 1878.

Fig. 1.

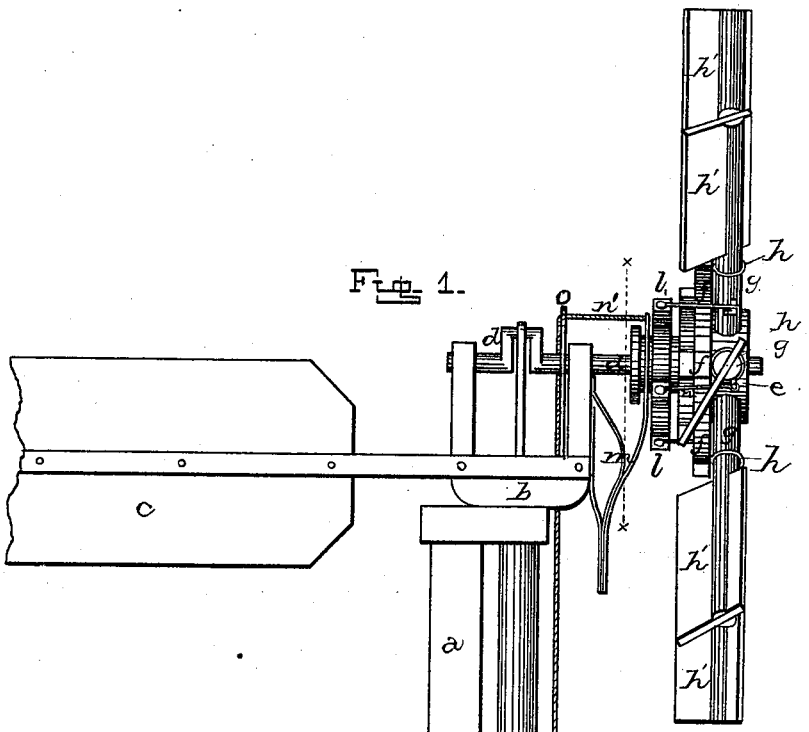
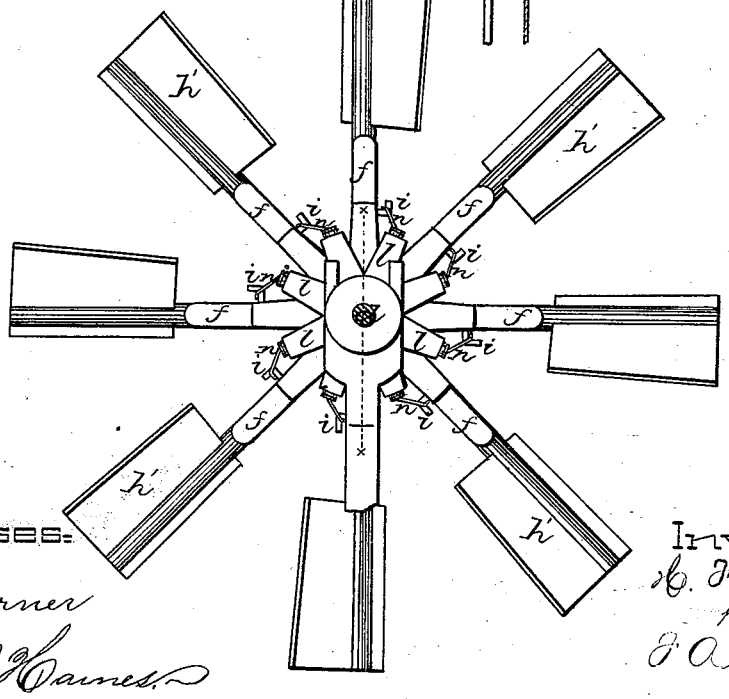


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

HENRY F. HODGES, OF WALNUT, ILLINOIS.

IMPROVEMENT IN WIND-WHEELS.

Specification forming part of Letters Patent No. **207,659**, dated September 3, 1878; application filed July 23, 1878.

To all whom it may concern:

Be it known that I, HENRY F. HODGES, of Walnut, in the county of Bureau and State of Illinois, have invented certain new and useful Improvements in Wind-Wheels; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in windmills; and it consists in the peculiar arrangement and combination of parts whereby the fans of the wheel can be thrown in and out of the wind at the will of the operator, or will operate automatically in a gale, as will be more fully described hereinafter.

The accompanying drawings represent my invention.

a represents the post, on which the whole mill is placed; *b*, the turn-table, and *c* the vane, which is rigidly secured to the table. Journaled in the top of the table is the wheel-shaft *d*, upon the outer end of which is secured the hub *e*, from which radiate the rigid arms or braces *f*. Pivoted upon the hub, just in front of the arms or braces, are the fan-rods *g*, which can turn partially around, and which are securely held in position by means of the loops *h* from the arms *f*. To the outer ends of the rods *g* are secured the fans *h'*, which are made to project backward at a slight angle, and which are fastened to the rods so as to project considerably more beyond the rear than the front edge of the rods. By this arrangement a greater leverage is given to one side of the fan than the other, so that in a gale of wind the fans will automatically turn backward, and remain in this position until after the force of the wind has subsided, when they will spring back into position again. Secured to one side of each of the fan-rods *g* is a suitable arm, *i*, by means of which all of the rods are connected by the rods *n* with the spider *l*, which spider moves freely back and forth on the shaft *d*. Connected to the spring *m* is a rope or chain, *n'*, which passes back through the guide *o* to the ground. The upper end of the spring is bifurcated and catches behind a flange formed on the spider, so that when the spring is drawn backward by the rope the spider is drawn backward with it, and in moving backward the spider draws all of the fan-rods around with it, so as to turn the fans out of the wind. As soon as the rope is released the spring instantly throws the spider forward, and thus turns all of the fans back into the wind again.

The operator can stop the mill at any time by drawing on the rope, or in case the wind blows too hard at any time, the mill will stop itself.

Nearly every part of this mill will be constructed of wood, and as the parts are all very simple, the mill can be erected at a very slight expense.

Having thus described my invention, I claim—

The combination of the shaft *d*, hub *e*, braces *f*, rods *g*, fans *h*, connecting-rods *n*, arms *i*, spider *l*, and a spring, *m*, and rope *n'*, the spring being secured at one end to the turn-table, and having its other end forked, so as to catch over the rear end of the spider, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of July, 1878.

HENRY F. HODGES.

Witnesses:
J. W. STRAYER,
A. L. WILSON.