

No. 814,283.

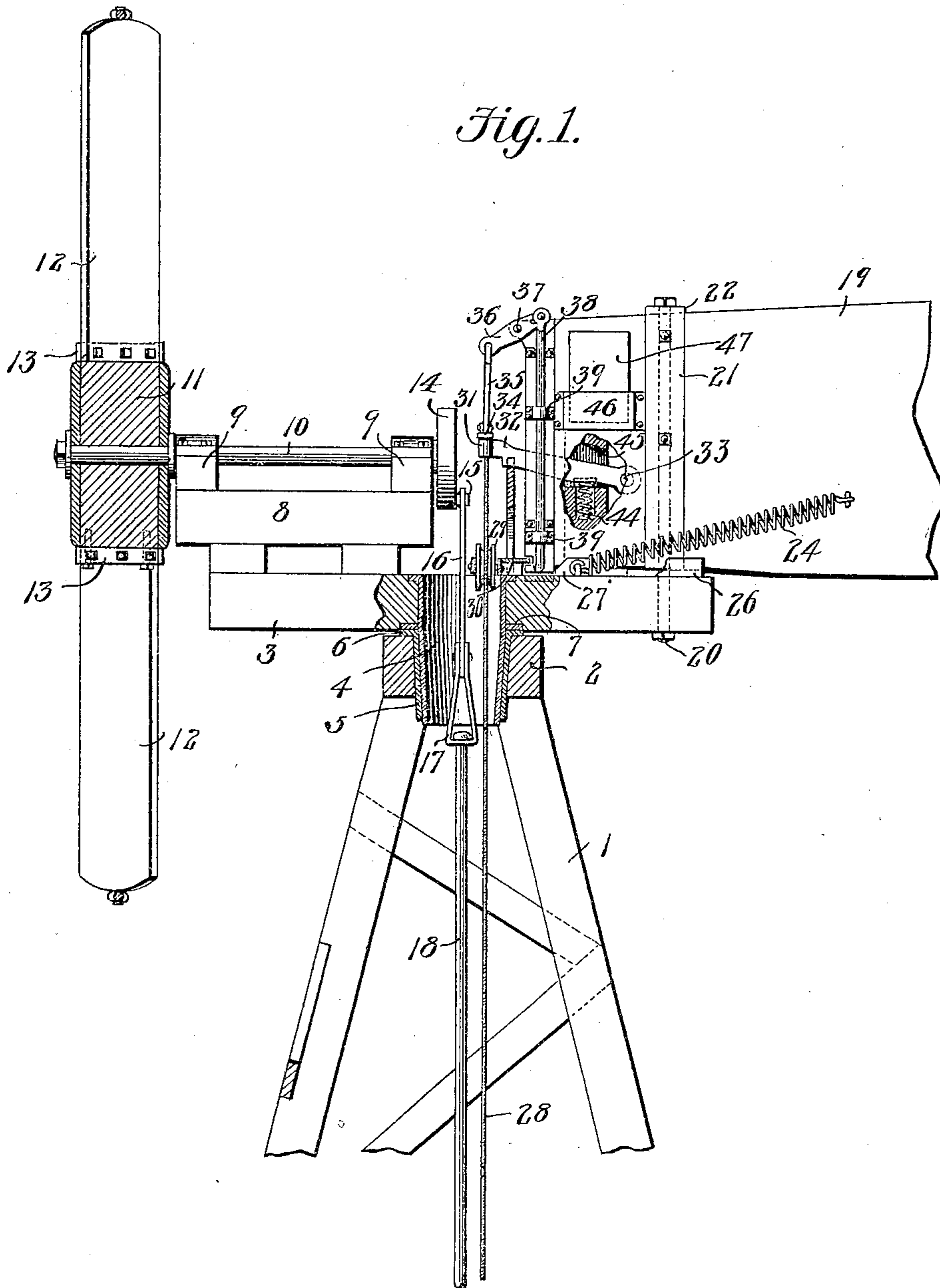
PATENTED MAR. 6, 1906.

A. GEOFFROY.
WINDMILL.

APPLICATION FILED OCT. 23, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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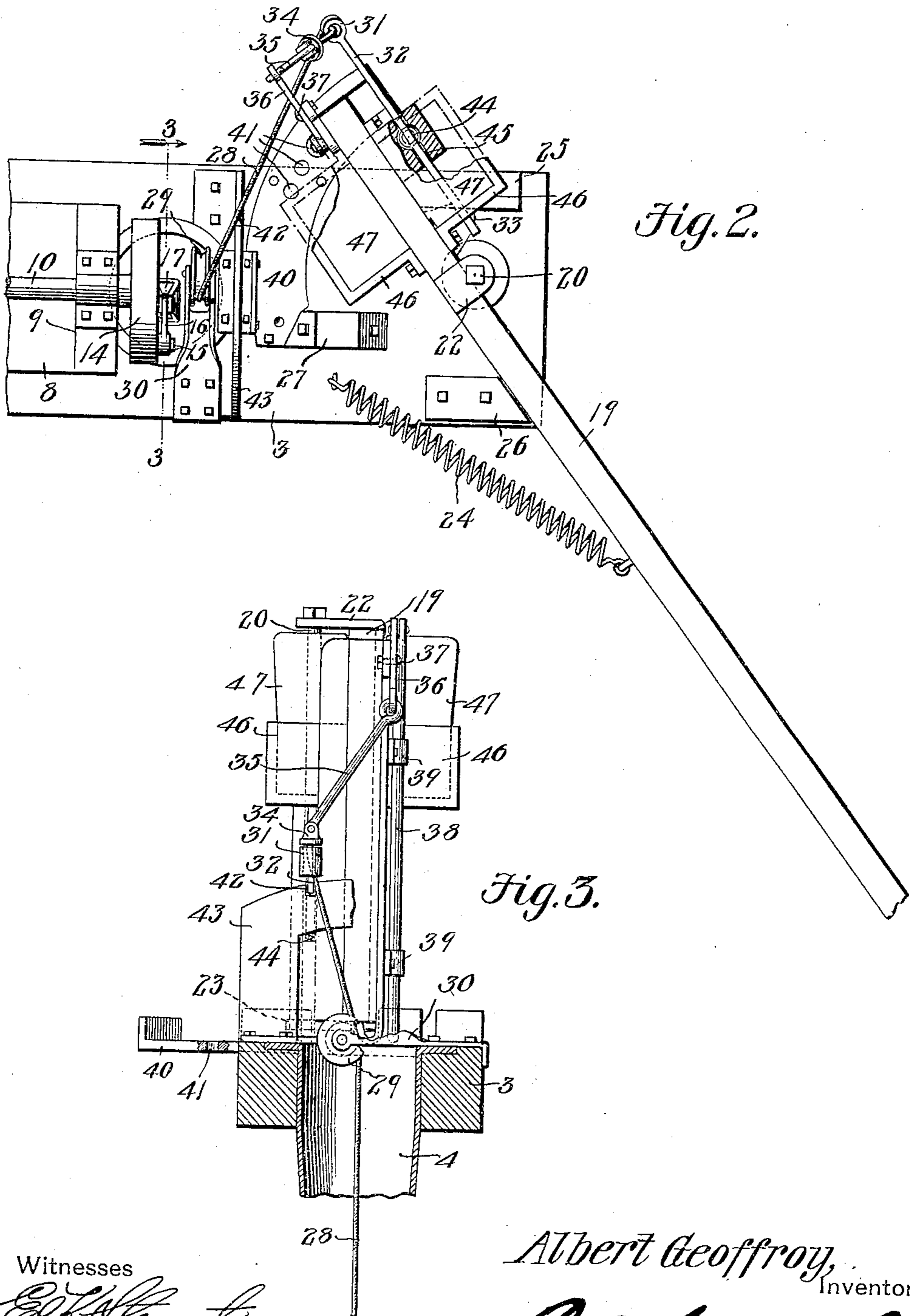


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT GEOFFROY, OF ERATH, LOUISIANA.

WINDMILL.

No. 814,283.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed October 23, 1905. Serial No. 284,031.

To all whom it may concern:

Be it known that I, ALBERT GEOFFROY, a citizen of the United States, residing at Erath, in the parish of Vermilion and State of Louisiana, have invented a new and useful Windmill, of which the following is a specification.

This invention relates to windmills, and has for its object to provide for conveniently throwing the wheel into and out of operation. In this connection it is proposed to provide for shifting the vane with respect to the direction of the wind, so as to throw the wheel into and out of the wind for starting and stopping the mill. It is also designed to provide a novel mounting of the vane, so as to swing upon a vertical axis, and to provide for holding or locking the vane in different tilted positions, so as to hold the wheel into the wind for running the wheel at its greatest capacity, to hold the wheel out of the wind when it is desired to stop the wheel, and to hold the wheel partially in the wind when it is desired to have the mill run at a slow rate of speed.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a windmill of the present invention, parts being broken away to show the construction of the wheel and the mounting of the turn-table. Fig. 2 is a detail top plan view upon an enlarged scale. Fig. 3 is a cross-sectional view on the line 3 3 of Fig. 2.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

For the support of the operating parts of the present invention there is an ordinary or preferred form of tower 1, having a stationary head 2, upon which is mounted a turn-table 3. The turn-table is pierced centrally by a tubular open-ended post 4, which rotatably fits in an opening in the head 2 of the tower, which opening is lined by a metallic bushing 5. By preference the bushing and the post are tapered downwardly in order that the post may settle in the bushing to take up wear and prevent lateral play of the

post within the head of the tower. The top of the bushing is provided with an external annular flange 6, resting upon the top of the head, and an annular wear-plate 7 is provided upon the under side of the turn-table, so as to travel upon the flanges 6, and thereby insure a free rotation of the turn-table.

Upon one end of the turn-table there is an elevated seat 8, carrying a pair of bearings 9 for the horizontal shaft 10, which projects in front of the turn-table and has the windmill mounted upon its projected end portion. The wheel consists of a hub 11, fixed upon the forward end of the shaft, and an annular series of plates 12, disposed obliquely across the hub and bolted or otherwise secured to the cleats 13, secured to the periphery of the hub and disposed obliquely thereacross. Upon the rear end of the shaft 10 there is a crank-disk 14, from the pin 15 of which there depends a link 16, extending downwardly through the tubular post 4 and having a stirrup 17 hung therefrom. Any ordinary pump-rod 18 has its upper end swiveled upon the stirrup.

The vane 19 is of any appropriate form and is disposed in alinement with the shaft 10 when the wheel is in operation. This vane is pivotally carried by a rod 20, rising from the rear end portion of the turn-table in one side of the longitudinal axis of the shaft 10. A metallic strip or plate 21 is secured transversely across one face of the vane adjacent its forward end with the opposite ends of the strip bent across the top and bottom edges of the beam and extending beyond the same to form bearing-ears 22 and 23, which are pierced by the bearing-standard 20, around which the vane is designed to swing. Normally the vane is under the tension of a helical spring 24, which has its rear end secured to one side of the vane opposite the standard 20 and its other end suitably secured to the top of the turn-table, the tendency of the spring being to swing the vane into a position obliquely across the turn-table, as indicated in Fig. 2 of the drawings. Suitable stops 25 and 26 are provided upon the top of the turn-table at opposite sides of the standard 20 in position to engage opposite sides of the vane, and thereby limit the swinging movement of the latter in one direction. Another stop 27 is provided upon the top of the turn-table in position to engage the vane when the latter is in longitudinal alinement with the shaft 10.

For holding the vane in alinement with the shaft 10 there is a cable 28, which passes downwardly through the tubular post 4 and around a guide-pulley 29, disposed within the open top of the post and carried by a bracket 30, provided upon the top of the turn-table. From the pulley 29 the cable extends upwardly through a tubular guide 31, carried by the forward free end of a vertically-swinging latch 32, which has its rear end fulcrumed upon the vane, as shown at 33. The upper end of the cable 28 is connected to a stop 34, from which pivotally rises a link 35, which is in turn pivotally connected to the forward end of a lever 36, which is fulcrumed upon the top of the front of the vane, as at 37. An upright bolt 38 hangs loosely from the rear end of the lever 36 and works in guides 39, provided upon one side of the vane. The lower end of the bolt 39 travels over a latch-plate or rack 40, which is provided with a series of seats or openings 41, disposed upon an arc struck from the standard 20 as a center. The bolt 38 is designed to successively engage with the seats or openings 41, so as to lock the vane in different adjusted positions, and is capable of being withdrawn from the latch-plate by pulling down upon the cable 28.

The latch 32 is designed to be held in a seat or notch 42 in the top edge of a keeper 43, rising from the turn-table, whereby the vane is locked in longitudinal alinement with the shaft 10, it of course being necessary to secure the lower end portion of the cable in any appropriate manner.

As best shown in Figs. 1 and 2, it will be noted that the latch 32 is under an upward tension by means of a spring 44, situated in a guide or case 45, carried by the vane through which the latch projects. When the cable 28 is released, the spring 44 automatically lifts the latch 32 out of engagement with its keeper, whereupon the spring 24 shifts the vane upon the standard 20 as a pivotal support, whereby the vane is disposed transversely across the direction of the wind, which results in a shifting of the turn-table 3 to bring the wind-wheel edgewise to the wind, and thereby out of operation. The vane may be held at different inclinations by drawing down upon the cable 28, so as to enter the bolt 38 into any of the seats 41 of the latch-plate 40, whereby the wheel may be held partially out of the wind, so as to keep the same in operation, but at a slow rate of speed.

To balance the weight of the rear portion of the vane which extends in rear of the standard 20, suitable pockets 46 are provided upon the front of the vane at opposite sides thereof for the reception of weights 47.

From the foregoing description it will be seen that the windmill of the present inven-

tion includes comparatively few parts and the running of the same is smooth and regular. Moreover, the shifting of the vane may be effectually controlled from the ground, so as to enable the convenient adjustment thereof to throw the wheel into and out of operation.

Having thus described the invention, what is claimed is—

1. In a windmill, the combination with a turn-table having a hollow post upon which it rotates, and a vane pivoted upon the turn-table in rear of the post, a vertically-movable locking-bolt carried by the vane and having a series of engagements with the turn-table, a lever fulcrumed upon the vane and connected to the bolt, a guide carried by the turn-table and overhanging the top of the post, and a bolt-operating cable connected to the lever and passing downwardly through the post in engagement with the guide.

2. In a windmill, the combination with a turn-table, a wind-wheel thereon, and a vane pivotally mounted on the turn-table, of means tending to yieldably maintain the vane out of alinement with the wheel, a keeper upon the turn-table, a latch carried by the vane for engagement with the keeper to hold the vane in alinement with the wheel, tension means tending to disengage the latch from the keeper, and means controlled from the ground for holding the latch in engagement with the keeper.

3. In a windmill, the combination with a turn-table, of a vane pivotally mounted thereon, a locking-bolt carried by the vane for engagement with the turn-table, a keeper upon the turn-table, a latch upon the vane for engagement with the keeper, and means operable from the ground and common to the bolt and the latch for controlling the same.

4. In a windmill, the combination with a turn-table, of a vane pivoted thereon, a locking-bolt carried by the vane for engagement with the turn-table, a lever fulcrumed upon the vane and connected to the bolt, a keeper upon the turn-table, a pivotal latch upon the vane for engagement with the keeper, tension means tending to normally hold the latch out of engagement with the keeper, said latch being provided with a cable-guide, an operating-cable running through the guide, and a link connected to the lever and the cable and bearing upon the top of the latch.

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

ALBERT GEOFFROY.

Witnesses:

A. O. LANDRY,
S. REX LE BLANC.