

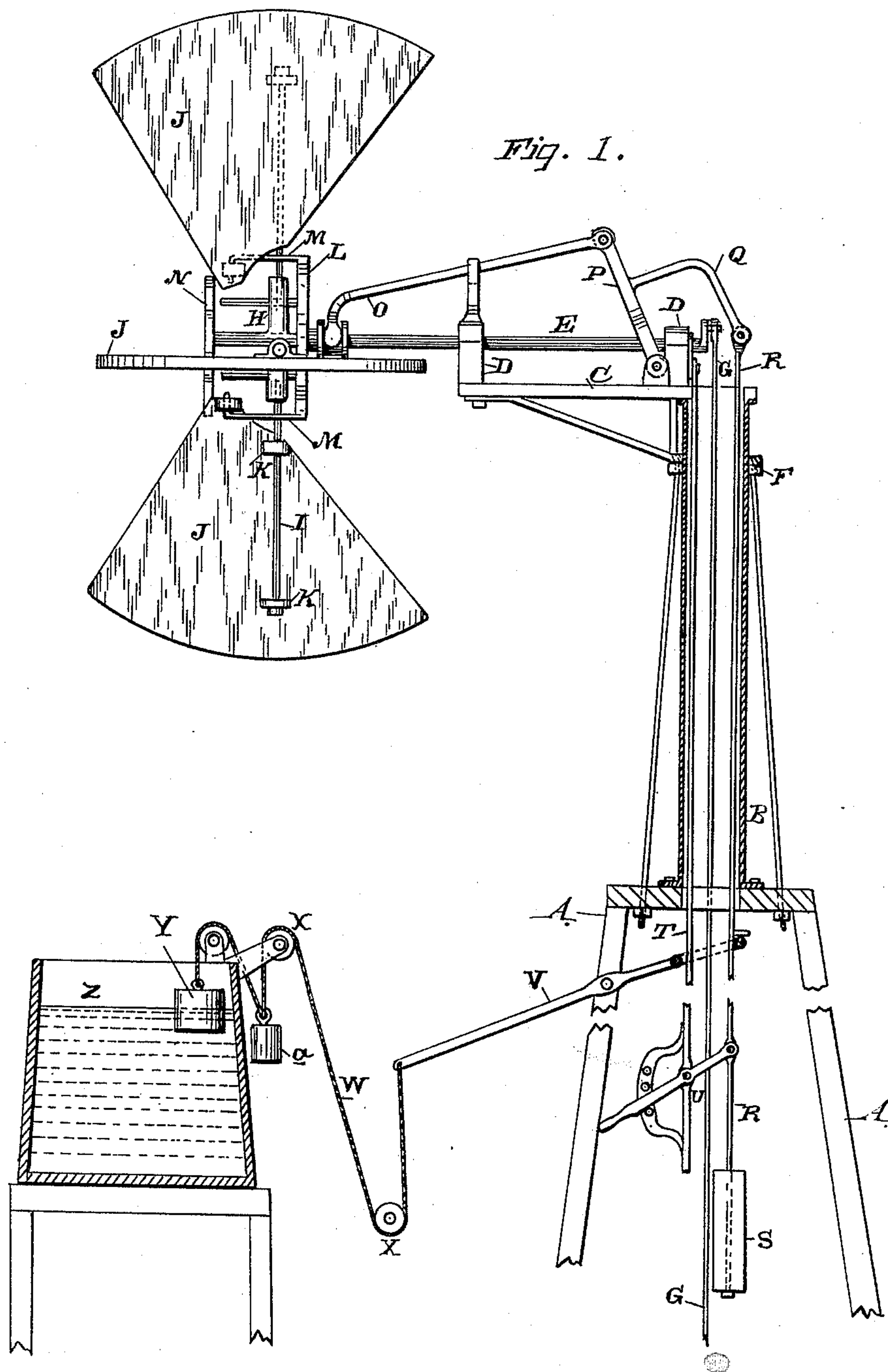
(No Model.)

2 Sheets—Sheet 1.

O. W. PARKER.
WINDMILL.

No. 432,146.

Patented July 15, 1890.



Witnesses,
Geo. H. Strong
J. H. Morse

Inventor,
Orrin W. Parker
By Dewey & Co.
attys

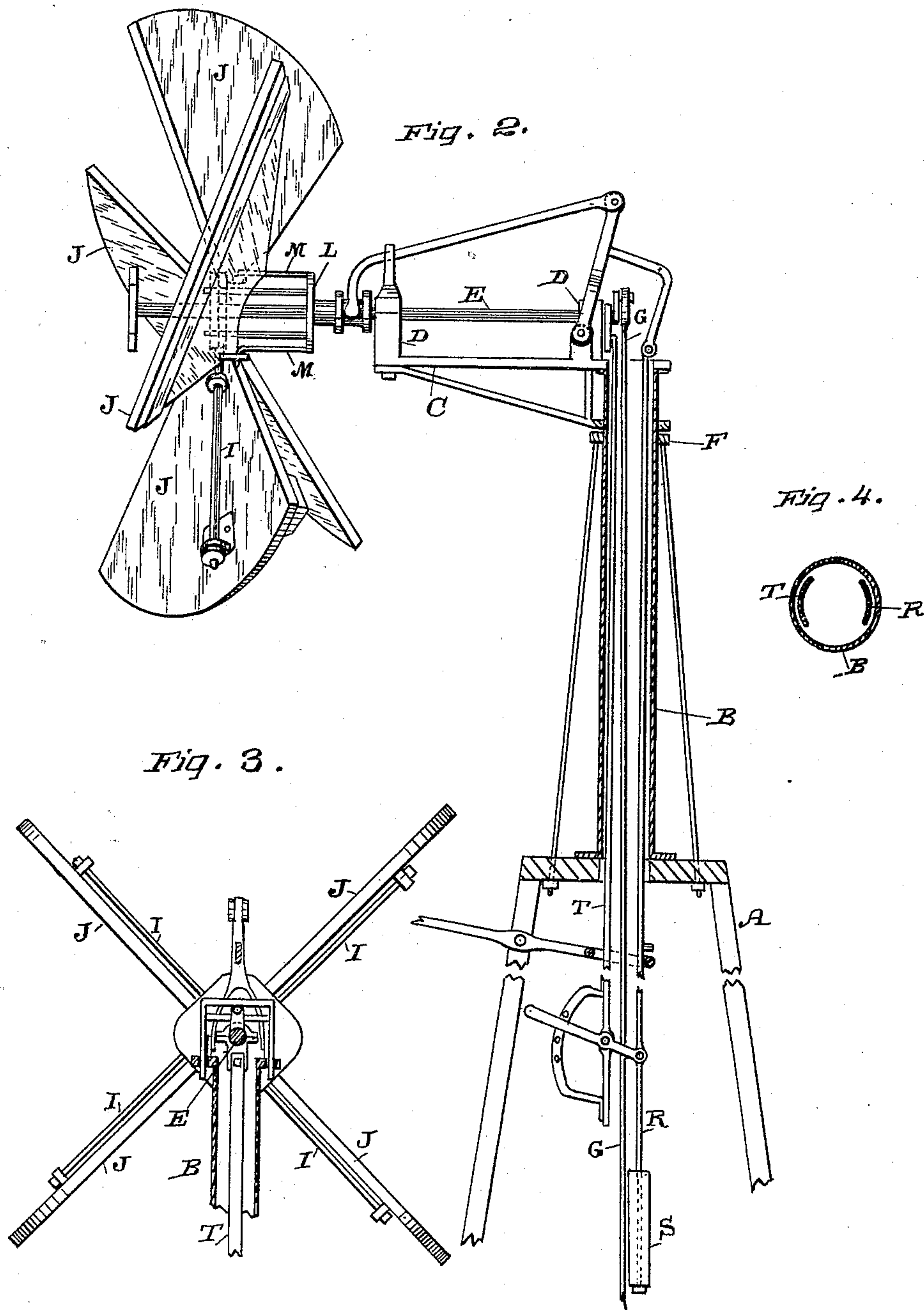
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UNITED STATES PATENT OFFICE.

ORRIN W. PARKER, OF OAKLAND, CALIFORNIA.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 432,146, dated July 15, 1890.

Application filed September 24, 1889. Serial No. 324,924. (No model.)

To all whom it may concern:

Be it known that I, ORRIN W. PARKER, a citizen of the United States, residing at Oakland, Alameda county, State of California, have invented an Improvement in Windmills; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in windmills; and it consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a wheel, showing the vanes in position to stop the mill and the means whereby this result may be produced by the action of a float in the tank. Fig. 2, Sheet 2, is a side elevation showing the vanes in position to rotate the wheel. Fig. 3 is a rear view showing the vanes thrown out of the wind. Fig. 4 is a horizontal section taken through the tubular support and the segmental rods which connect the upper and lower portions through said tube.

A is the supporting-frame of the mill, having the tubular standard B fixed upon a top and suitably braced. C is the wheel-casting, having journal-boxes D upon it, in which the horizontal shaft E of the wheel turns. The frame C is fitted to swivel or turn upon the upper part of the tube B, being supported upon a collar or flange, as shown at F.

The shaft E has a crank fixed upon the end just above the tube B, and a pitman G, connecting with said crank, extends down through the tube and connects with the pumping apparatus below. On the opposite end of the shaft E is fixed a hub or support H, having suitable radial boxes or supports, within which are fixed the radial arms or shafts I, corresponding in number with the number of vanes J of which the wheel is to be composed, and these vanes are provided with lugs or boxes K, by which they are attached to the shafts I, so that they may turn around upon these shafts and either present their faces angularly to the wind, so as to be propelled by its action upon them, or they may present their edges to the wind, so that no rotary action will take place.

I prefer to make as few vanes as possible, so as to present as great an area as possible

of each vane to the action of the wind, and also to reduce the mechanism necessary to operate the vanes. The shafts I are connected with the vanes at one side of the central line, so that the tendency of the wind blowing upon the vanes will be to hold them at the proper angle to allow the wheel to be rotated.

Upon the shaft E is a sliding hub or plate L, which is connected by rods or links M with the inner corners or angles of the vanes J at points most distant from the shafts I, and when the sliding hub L is moved in one direction it turns the vanes about their shafts I, so that they stand in planes parallel with the line of the shaft E, or with their edges toward the wind. When moved in the opposite direction, the vanes are thrown into the angular position, which allows the wind to act upon them.

N is a cross or stop plate fixed upon the outer end of the shaft E, which acts to stop the vanes when they are turned into a position which throws the wheel out of the wind. The hub of the plate L has a groove or channel formed around it, into which the arms of the clutch-rod O fit, so that by the movement of this clutch-rod the plate L may be moved backward or forward upon the shaft E, as before described. The rear end of this clutch-rod O is connected with the end of a lever-arm P, the opposite end being fulcrumed upon the wheel-casting C, as shown. A supplemental arm Q projects from the lever-arm P, forming an angular bend, so that the outer end of the arm Q is connected with a rod R, which extends down inside of the tube B, and has a weight S attached to its lower end. This rod R is preferably made segmental in shape, having a considerable width and curved to the shape of the interior of the tube B. This form gives it considerable stiffness, which is necessary and desirable. Upon the opposite side of the tube is a second similarly-shaped segmental rod T, the upper end of which is fixed to some part of the table C, so that it will turn with it and within the tube B. To the lower end of this arm T is fulcrumed a lever U, having a handle by which it may be moved, and the opposite end of the lever is connected with the arm R, so that when the lever is moved in one direction it

will act through the rod R, the arm Q, lever P, and clutch O to slide the plate or hub L in either direction. Its object is to move this plate forward and thus turn the wheel-vanes parallel with the shaft and so that the wind will not act upon them. When this lever U is released, the weight S is sufficient to move the parts so as to again throw the vanes into the wind. If, however, the wind be very strong, it will be manifest that by reason of the vanes being journaled with the greater width upon one side of their supporting-shafts I than upon the other the action of the wind will be sufficient to overcome the weight S and to automatically turn the vanes more or less out of the wind, and thus relieve the wheel in case of too strong a wind.

In Fig. 1 I have shown a supplemental lever V, which is also connected at one end with the rod R, so as to act upon it in a similar manner with the lever U, and when its outer end is depressed the other end raises the rod R, and thus turns the wheel-vanes out of the wind. The opposite end of the lever V is connected by a cord W, passing round suitable guiding-pulleys X, with a float Y within the tank Z, so that when the tank is full the rising of the float Y will allow the weight *a* to act

through the cord W upon the lever V, and through its connections to throw the wheel-vanes out of the wind; but as the tank becomes emptied the float descending within it will raise the weight *a*, and thus allow the lever V to move, so that the vanes may be again turned into position to rotate the wheel.

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

The regulating apparatus consisting of the sliding collar connected to the vanes and its operating-rod and lever, a weighted regulating-rod R, depending from said lever, a similar rod T, hung from the wheel-casting, a hand-lever pivoted to the lower part of the rods T and R, and a lever V, pivoted to the lower part of the frame of the mill and engaging under a pin on the rod R, and the tank and its float connected, as described, to the lever V, substantially as described.

In witness whereof I have hereunto set my hand.

ORRIN W. PARKER.

Witnesses:

S. H. NOURSE,
H. C. LEE.