

1,333,675.

Fig. 1.

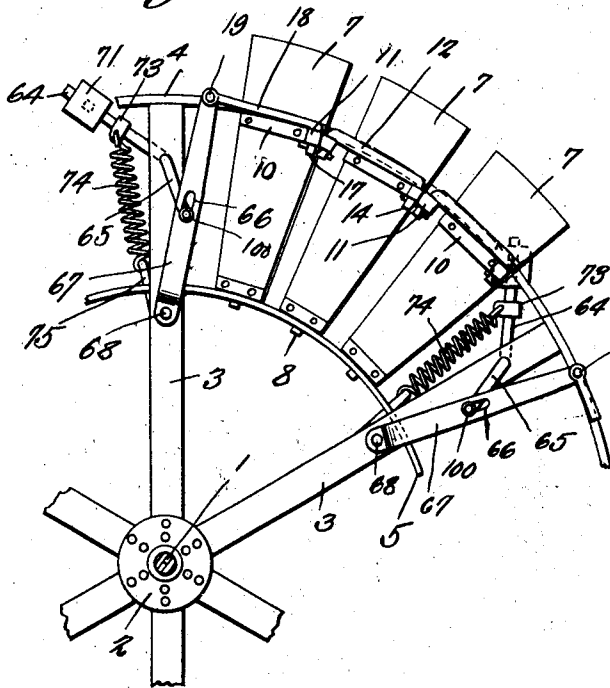
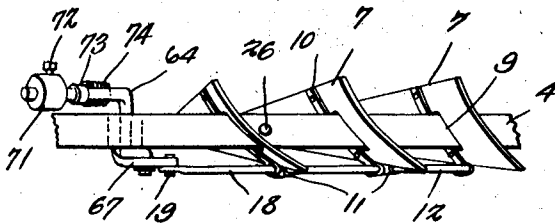


Fig. 2.

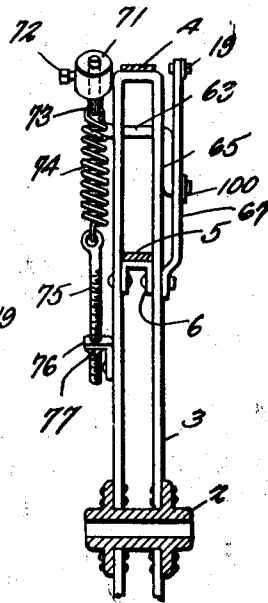
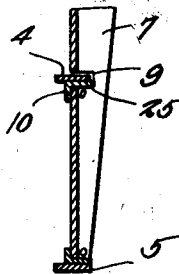


Fig. 4.

J. R. Loring

S. P. Pickett ^{Inventor,}

By *C. Knowlton*
Attorneys.

UNITED STATES PATENT OFFICE.

STERLING P. PICKETT, OF MADISON, MISSOURI.

WINDMILL-WHEEL.

1,333,675.

Specification of Letters Patent. Patented Mar. 16, 1920.

Application filed December 27, 1918. Serial No. 268,528.

To all whom it may concern:

Be it known that I, **STERLING P. PICKETT**, a citizen of the United States, residing at Madison, in the county of Monroe and State of Missouri, have invented a new and useful Windmill-Wheel, of which the following is a specification.

It is the object of this invention to provide novel but simple means whereby, in a high wind, the blades of a windmill will be caused to feather and spill the wind, the construction being such that the device will adjust itself automatically to the velocity of the wind, means being provided whereby the blades may be set to feather at any predetermined wind velocity.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description, proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows, in side elevation, a portion of a windmill wheel embodying the invention; Fig. 2 is a fragmental top plan of the wheel; Fig. 3 is a radial section of the wheel, parts appearing in elevation; and Fig. 4 is a section taken through one of the blades and attendant parts.

Referring to the drawings the numeral 1 denotes a shaft, carrying the frame of a windmill wheel, the frame comprising a hub 2 from which U-shaped spokes 3 radiate. An outer rim 4 is carried by the bends of the spokes 3, and a rim 5 is secured to brackets 6 mounted between the side portions of the spokes 3. Blades 7 are provided, the inner ends of the blades being pivoted, as shown at 8, to the inner rim 5. The blades 7 have openings 9 through which the outer rim 4 passes. An angle member 25 is secured to each blade 7 and projects into the opening 9, the angle members 25 being united by means of pivot elements 26 with the outer rim 4.

Reinforcing strips 10 are secured to the blades 7 and extend transversely thereof.

The strips 10 terminate in bearings 11, receiving, pivotally, angular fingers 14 formed at the ends of intermediate links 12. One bearing 11 on the blade 7 which is next to the spoke 3 receives pivotally a finger 17 on one end of a terminal link 18 pivoted at 19 to the outer end of a radius rod 67, the inner end of the radius rod being pivoted at 68 to one of the spokes 3.

A shaft 63 is mounted for rocking movement in the spoke 3 and includes an arm 64 and an arm 65, the arms being located on opposite sides of the spoke 3. The arm 65 terminates an extension 100 mounted for limited reciprocation in a longitudinal slot 66 formed in the radius rod 67. A weight 71 is adjustable along the arm 64 of the shaft 63 and is held in adjusted positions by a set screw 72. The arm 64 carries a hanger 73 whereunto is connected the outer end of a retractile spring 74, the inner end of the spring 74 being assembled with an eye bolt 75 mounted adjustably in a bracket 76 carried by the spoke 3. A nut 77 is threaded on the eye bolt 75 and co-operates with the bracket 76 to adjust the eye bolt 75 longitudinally, and, consequently, to vary the tension of the spring 74.

When the windmill wheel speeds up unduly, the weight 71 causes the shaft 63 to rock, the arm 65 being actuated, and the part 100 of the arm moving in the slot 66 of the radius rod 67, the radius rod 67 tilting on its fulcrum 68, and the terminal link 69 being operated to shift or feather the blades of the windwheel.

Generally considered, the construction of the device is such that it will automatically feather the blades of a wind mill wheel, and prevent the wheel from being blown to pieces or damaged, in a high gale. It is possible to vary the tension of the controlling spring, so that the blades will feather at any velocity which the judgment of the operator may dictate.

I claim:—

1. A windmill comprising a frame; a blade pivotally supported on the frame; a rock shaft disposed transversely of the frame and provided with arms; a weight on one arm; a radius rod pivoted at its inner end to the frame; means for pivotally connecting the outer end of the radius rod with the blade; and a lost motion connection between the other arm of the rock shaft and the radius rod.

2. A windmill comprising a frame; a blade
pivotally supported on the frame; a rock
shaft disposed transversely of the frame and
 journaled therein, the rock shaft having
5 arms; a radius member pivoted at its inner
end to the frame; means for pivotally con-
necting the outer end of the radius member
with the blade; a lost motion connection be-
tween one arm of the rock shaft and the
10 radius member; a weight adjustable along
the other arm of the rock shaft; means for

holding the blade in adjusted positions on
said arm; and a retractile spring having its
ends connected, respectively, to the weight-
carrying arm and to the frame.

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In testimony that I claim the foregoing
as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

STERLING P. PICKETT.

Witnesses:

BEN T. CUNNINGHAM,
VICTOR N. NOEL.