A. AYERS.

WINDMILL.

APPLICATION FILED JULY 22, 1908.

934,650. Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.

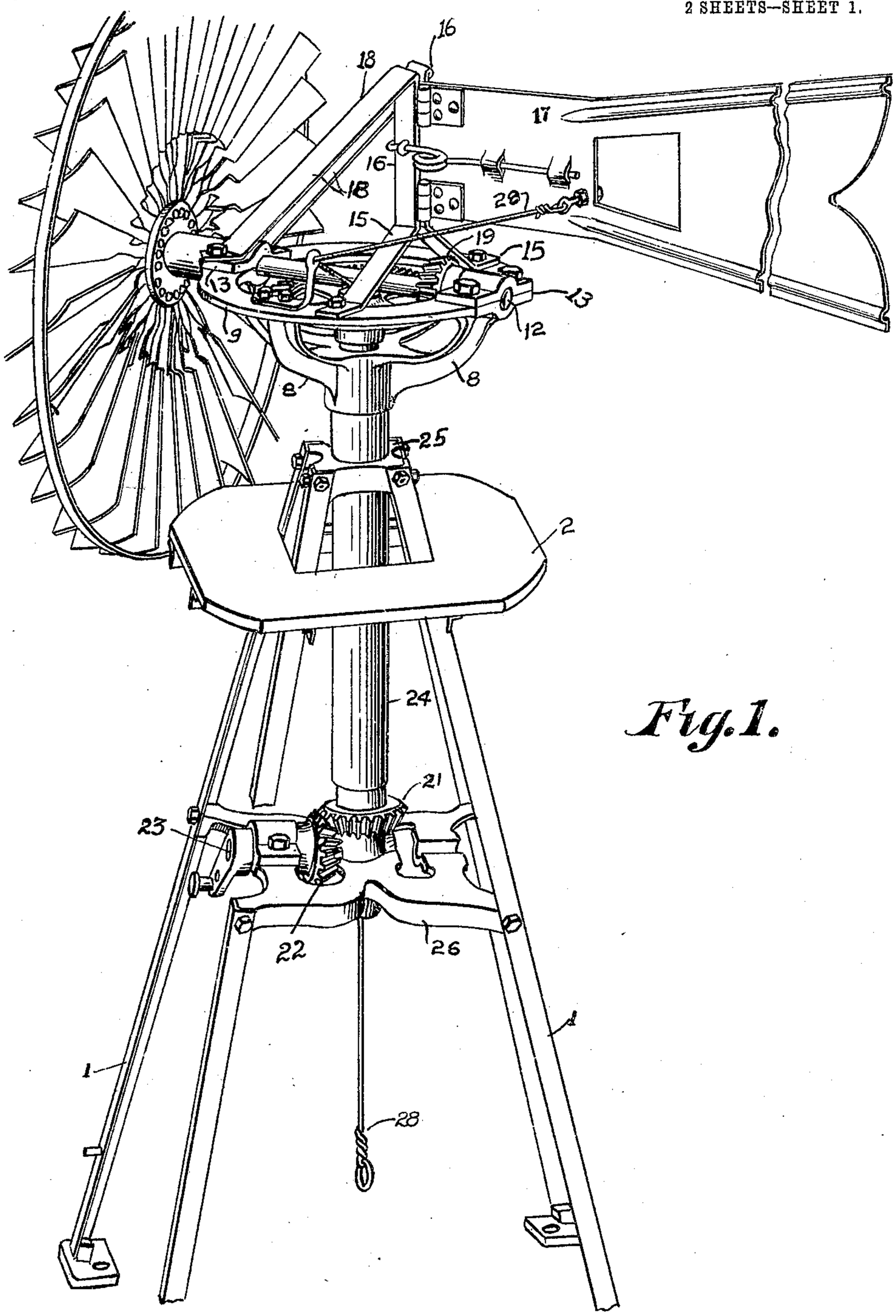

Fig. 1.

WITNESSES

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H. C. Pistetter.

INVENTOR

Alva Ayers.

BY Bond + Miller

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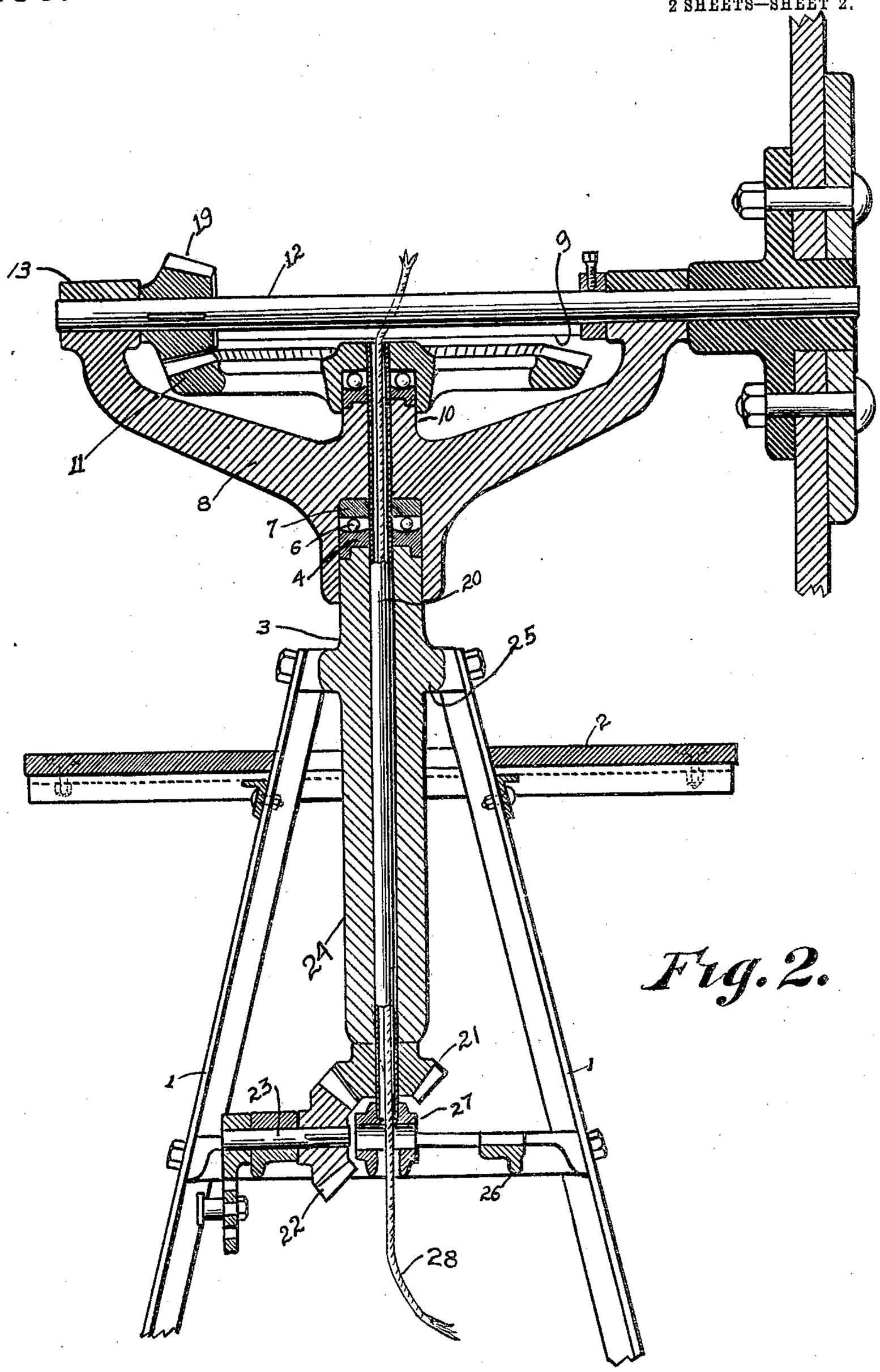

Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

ALVA AYERS, OF BARBERTON, OHIO.

WINDMILL.

934,650. Specification of Letters Patent. **Patented Sept. 21, 1909.**

Application filed July 22, 1908. Serial No. 444,704.

To all whom it may concern:

Be it known that I, ALVA AYERS, a citizen of the United States, residing at Barberton, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is an isometric view of the improved windmill showing the different parts properly connected and arranged. Fig. 2 is a partial section showing the different parts properly arranged and connected.

The present invention has relation to windmills and it consists in the different parts and combination of parts hereinafter described and particularly pointed out in the claim.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the derrick which is of the usual construction and may be of any desired height. To the derrick 1 is attached in the usual manner the platform 2. These parts within themselves are not new and form no specific part of the present invention except as they must necessarily belong to it and must necessarily be used. To the top or upper portion of the derrick is connected the fixed hollow pipe or what might be termed head 3. Upon the head is located the bearing plate 4, upon which bearing plate is located any desired number of anti-friction ball bearings 6, upon which ball bearings is located the plate 7. Upon the plate 7 is mounted the crown, which crown consists of the upward extended arms 8, and the circular plate 9, said plate being located and arranged substantially as shown in the drawings. The crown also consists of the integral centrally located head 10, upon which head is mounted the beveled gear wheel 11. Above the beveled gear wheel 11 is located the shaft 12, which shaft is journaled by means of suitable bearings and caps 13 formed in and connected to the circular plate 9.

Upon the shaft 12 is secured the wind wheel in the usual manner, which wind wheel may be of any desired construction. To the circular plate 9 are attached the brace bars 15, which brace bars are extended upwardly and constitute the vane support 16, to which the vane 17 is hinged in the usual manner. For the purpose of bracing the vane support the braces 18 are provided which braces are located substantially as shown in Fig. 1. Upon the shaft 12 is mounted the beveled gear wheel 19, which gear wheel meshes with the crown wheel or beveled gear wheel 11, thereby imparting rotary movement to said gear wheel. To this gear wheel 11 is securely attached the hollow shaft 20 and to the bottom or lower end of the hollow shaft is secured the beveled gear wheel 21, which beveled gear wheel meshes with the beveled gear wheel 22, which beveled gear wheel 22 is mounted upon the crank shaft 23 or its equivalent.

For the purpose of rigidly holding the top or upper end or portion of the hollow shaft 20 and the crown proper in fixed relative position with reference to each other the hollow stem 24 is provided, which stem is provided with the head 25 to which head the members of the top or upper ends of the derrick members 1 are connected.

For the purpose of making the derrick proper more rigid and at the same time providing a proper support for the hollow shaft 20 the bracket 26 is provided, which bracket is provided with the bearing head 27 in which bearing head the bottom or lower end of the hollow shaft 20 is journaled.

It will be understood that there is an independent rotary motion of the crown with reference to the crown or beveled gear wheel 11, by which arrangement any shifting of the wind wheel brought about by the shifting of the direction of the wind will not interfere with the rotation of the beveled gear wheel 11, which is the wheel intended to transmit the power.

For the purpose of placing the wind wheel proper in or out of wind the cord or cable 28 is provided, which extends downward so that the same can be easily reached and is connected to the vane 17 in the usual manner.

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

In a windmill of the class described, a derrick, a hollow stem connected to and supported by said derrick, a crown provided with a socket and the hollow stem seated in the socket, said crown provided with a

centrally located head above the socket and in axial alinement therewith, a wind-wheel shaft journaled at its ends in the crown and provided with a beveled gear wheel at one of its ends, a beveled gear wheel adapted to mesh with the beveled gear wheel on the wind-wheel shaft, said gear wheel rotatably mounted upon the centrally located head above the socket in the crown and rotatable independent of the rotation of the crown, a hollow shaft secured to the beveled gear wheel mounted upon the centrally located head, said hollow shaft located through the hollow stem carried by the derrick, a horizontal shaft located below the hollow stem, said horizontal shaft provided with a gear wheel, and a gear wheel secured to the shaft driven by the beveled gear wheel located upon the centrally located head of the crown, and the gear wheel upon the horizontal shaft adapted to mesh with the gear wheel at the lower end of the shaft, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

ALVA AYERS.

Witnesses:
STANLEY WILSON,
STEPHEN C. MILLER.