

(No Model.)

W. H. ALDRICH & H. M. LOURIE.

WINDMILL POWER TRANSMITTER.

No. 272,014.

Patented Feb. 13, 1883.

Fig. 1.

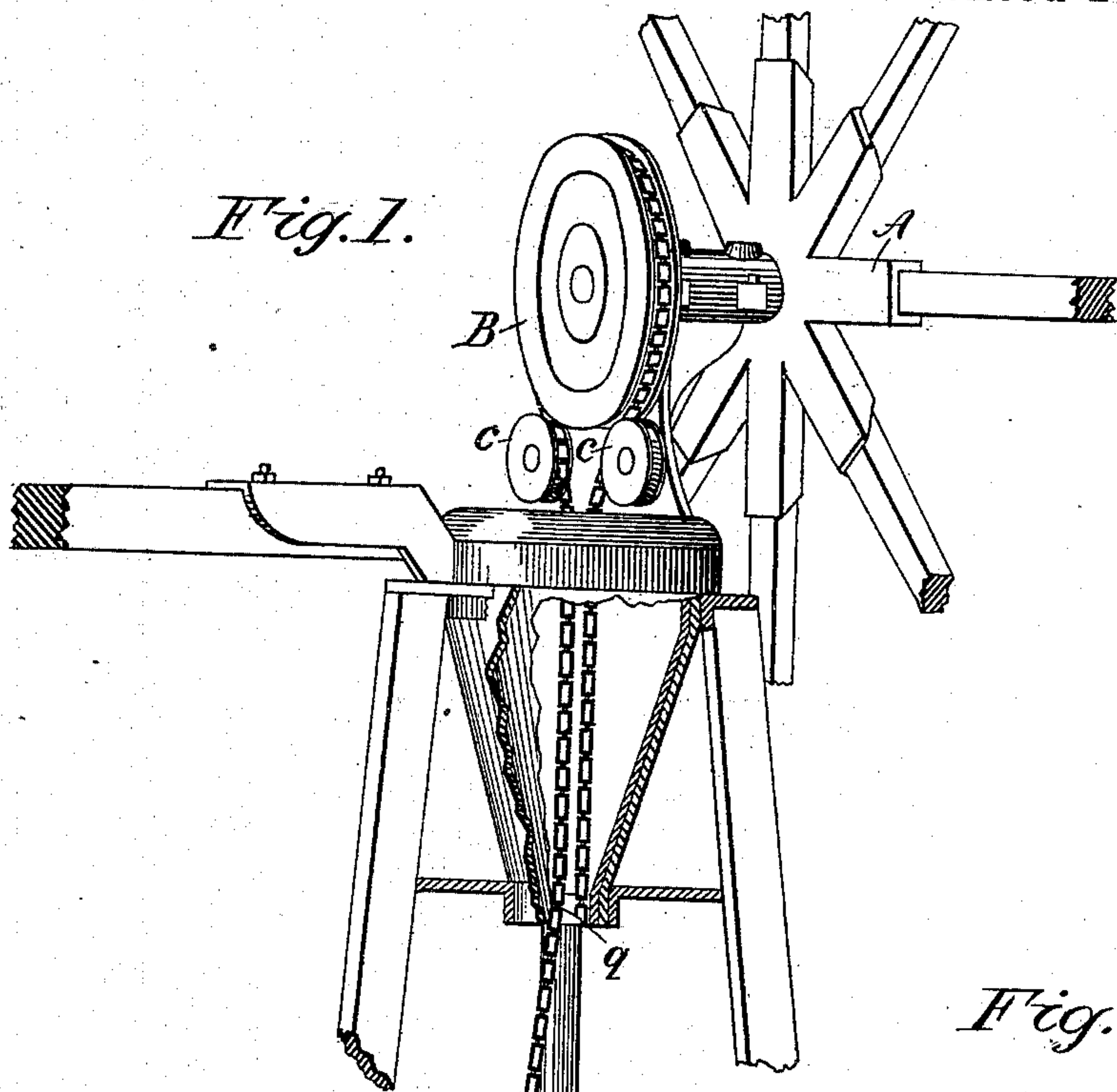


Fig. 3.

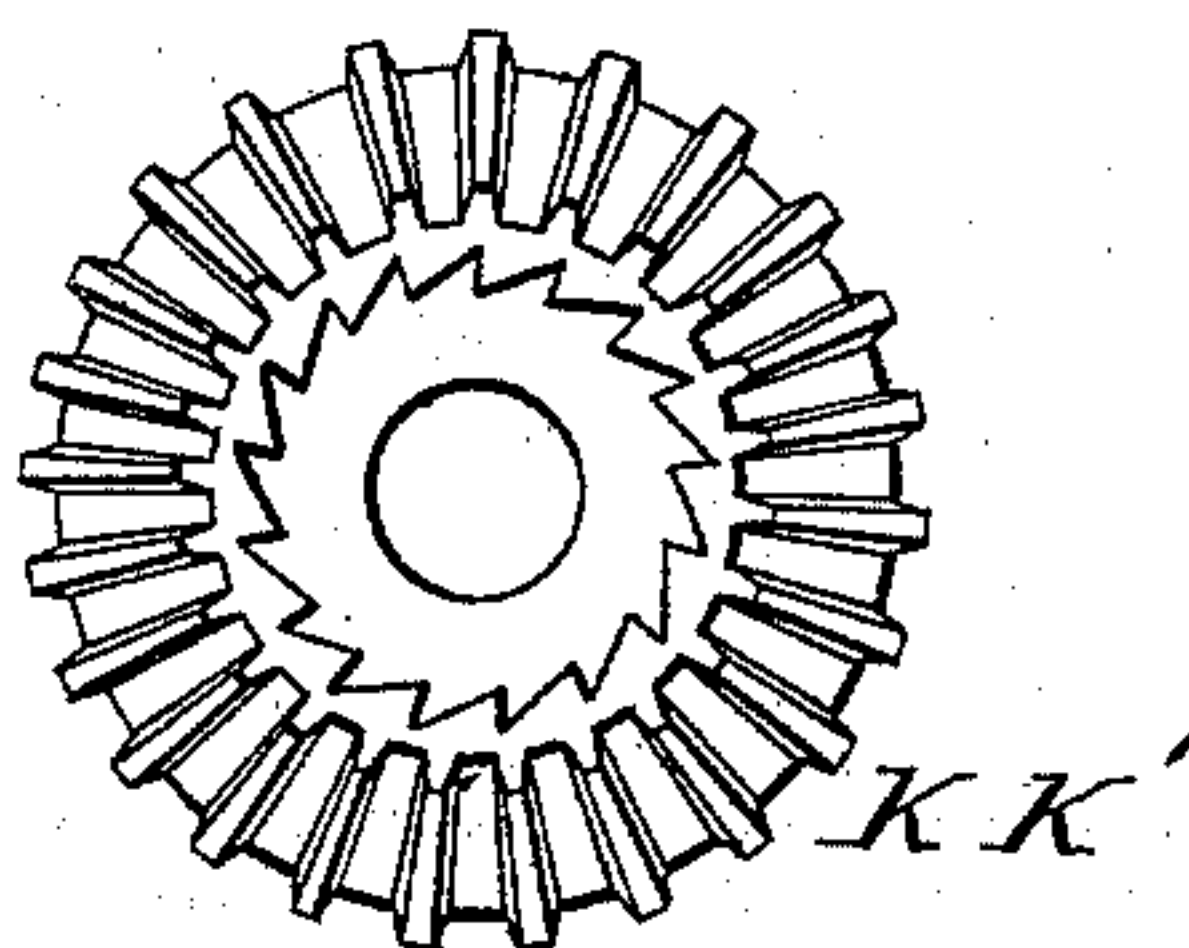
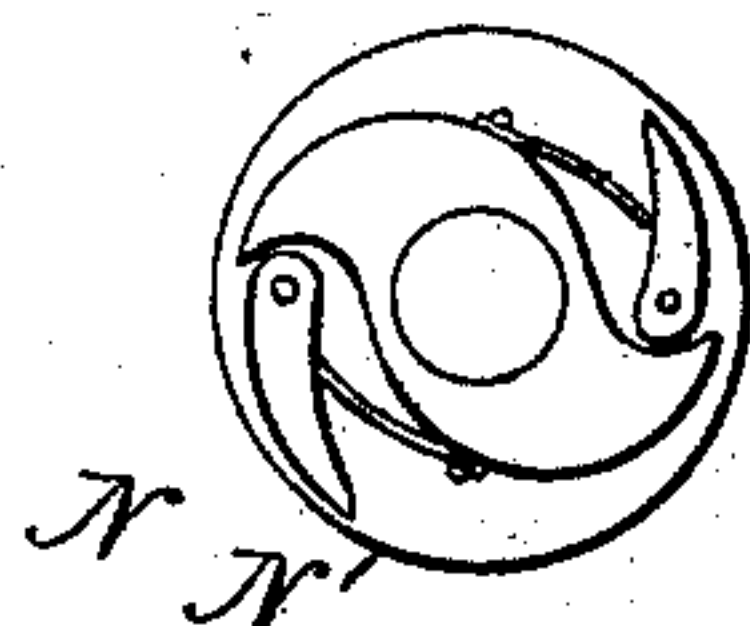


Fig. 2.

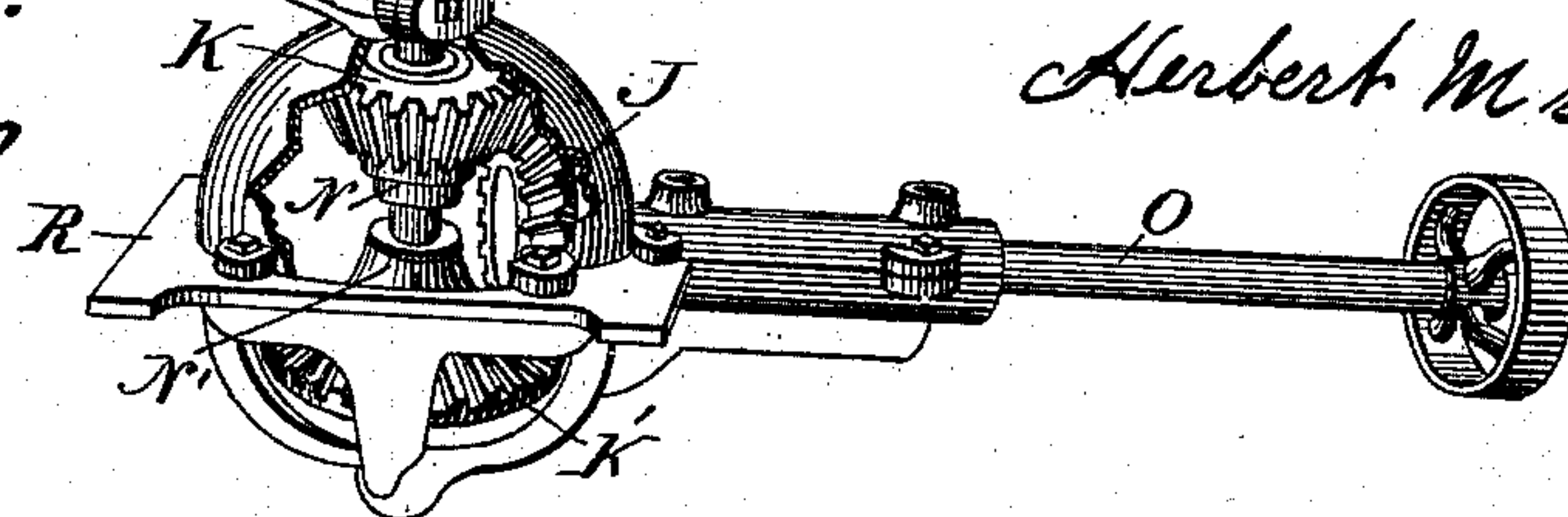


Witnesses.

E. J. Collins
F. M. Wilson

Inventor.
William H. Aldrich

Herbert M. Lourie



UNITED STATES PATENT OFFICE.

WILLIAM H. ALDRICH AND HERBERT M. LOURIE, OF KEOKUK, IOWA.

WINDMILL-POWER TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 272,014, dated February 13, 1883.

Application filed September 29, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. ALDRICH and HERBERT M. LOURIE, citizens of the United States, residing at Keokuk, in the county of Lee, State of Iowa, have invented Improvements in Windmill-Power Transmitters, (not patented in any foreign country;) and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The object of our invention is to provide certain improvements in transmitting motion from a wind-wheel to a horizontal shaft below, allowing the wind-wheel to swivel around its perpendicular center without side resistance in the gearing, thus overcoming any tendency to turn the wind-wheel out of its true angle to the wind.

Referring to the drawings which are made a part of this specification, identical parts are designated by the same letter.

Figure 1 is a plan view of wind-wheel and geared attachment below. Fig. 2 is a face view of clutch-coupling and pawls. Fig. 3 is a face view of bevel-wheel, with ratchet.

In Fig. 1, A represents the wind-wheel of a windmill; and B may be a sprocket-wheel, chain-sheave, or pulley. *c c* are guide-rollers. *d* is a chain or connecting-belt. E is a rod connecting wind-wheel pivot *q* to swinging frame F, in which is hung sprocket-wheel, sheave, or pulley *g* and bevel-wheel H. I and I' are pinions meshing into bevel-wheel H. L is a shaft, upon which and fitted loosely thereon are hollow shaft M and bevel-wheel K', and to which are keyed bevel-wheel I and clutch N'. M is a hollow shaft, fitted loosely over shaft L, and to which are keyed bevel-wheel I' and clutch N. K is a bevel-wheel fitted loosely on shaft L. Gears K and K' mesh into bevel-wheel J, which is keyed to shaft O. R is frame upon which gearing rests.

Fig. 2 represents face of clutches N and N', which by means of pawls P mesh into ratchets of bevel-wheels K and K'.

Fig. 3 represents face view of bevel-wheels K and K', representing ratchets in same.

The motion of wind-wheel A is transmitted from sprocket-sheave, wheel, or pulley B through chain or belt *d* to sprocket-sheave, or pulley *g*, which is attached to bevel-wheel H. Bevel-wheel H revolves bevel-wheels I and I' in opposite directions, turning shafts L and M also in opposite directions. Clutches N and N', being keyed to shafts M and L, respectively, communicate motion by means of pawls and ratchets to bevel-wheels K and K'. Bevel-wheels K and K' mesh into and revolve bevel-wheel J. Bevel-wheel J is keyed to shaft O, through which power may be transmitted to other machinery. The tendency of gearing to turn wind-wheel upon its pivot is overcome by bevel-wheel H meshing into bevel-wheel I at its upper side and bevel-wheel I' at its lower side. Each of these two bevel-wheels I and I' having an equal pressure in opposite directions, and both bevel-wheels being connected with bevel-wheel J by shafts, bevel-gears, and couplings, as described, a perfect motion is transmitted without side-pressure. When wind-wheel A is turned to different quarters of the wind, chain or belt *d* is prevented from twisting by rod E, connecting wheel-pivot *q* with revolving frame F. When wind-wheel A turns with the wind, bevel-wheel H in frame F turns with it around one common center without side resistance from gears, being allowed to so turn by means of pawls and ratchets in clutches N and N' and bevel-wheels K and K'.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a windmill, the combination of a chain or belt, *d*, connecting the wind-wheel with gearing below, with rod E and revolving frame F, connecting pivot *q* of windmill with gearing below, substantially as described, and for the purpose specified.

2. In a windmill, the combination of a chain or belt, *d*, rod E, and revolving frame F, with bevel-wheels I and I', K and K', shafts L and M, and bevel-wheels H and J, arranged in such a manner as to overcome all tendency of bevel-

wheels H and J to revolve around upright shafts L and M, substantially as described, and for the purpose specified.

3. In a windmill, the combination of a chain
5 or belt, d, with rod E, revolving frame F, bevel-wheels I and I', K and K', shafts L and M, and bevel-wheels H and J, with clutches N and N'

and pawls P, gearing into ratchet in bevel-wheels K and K', for the purpose specified.

W. H. ALDRICH.

HERBERT M. LOURIE.

Witnesses:

J. P. RICE,

ERNEST BRUNAT.