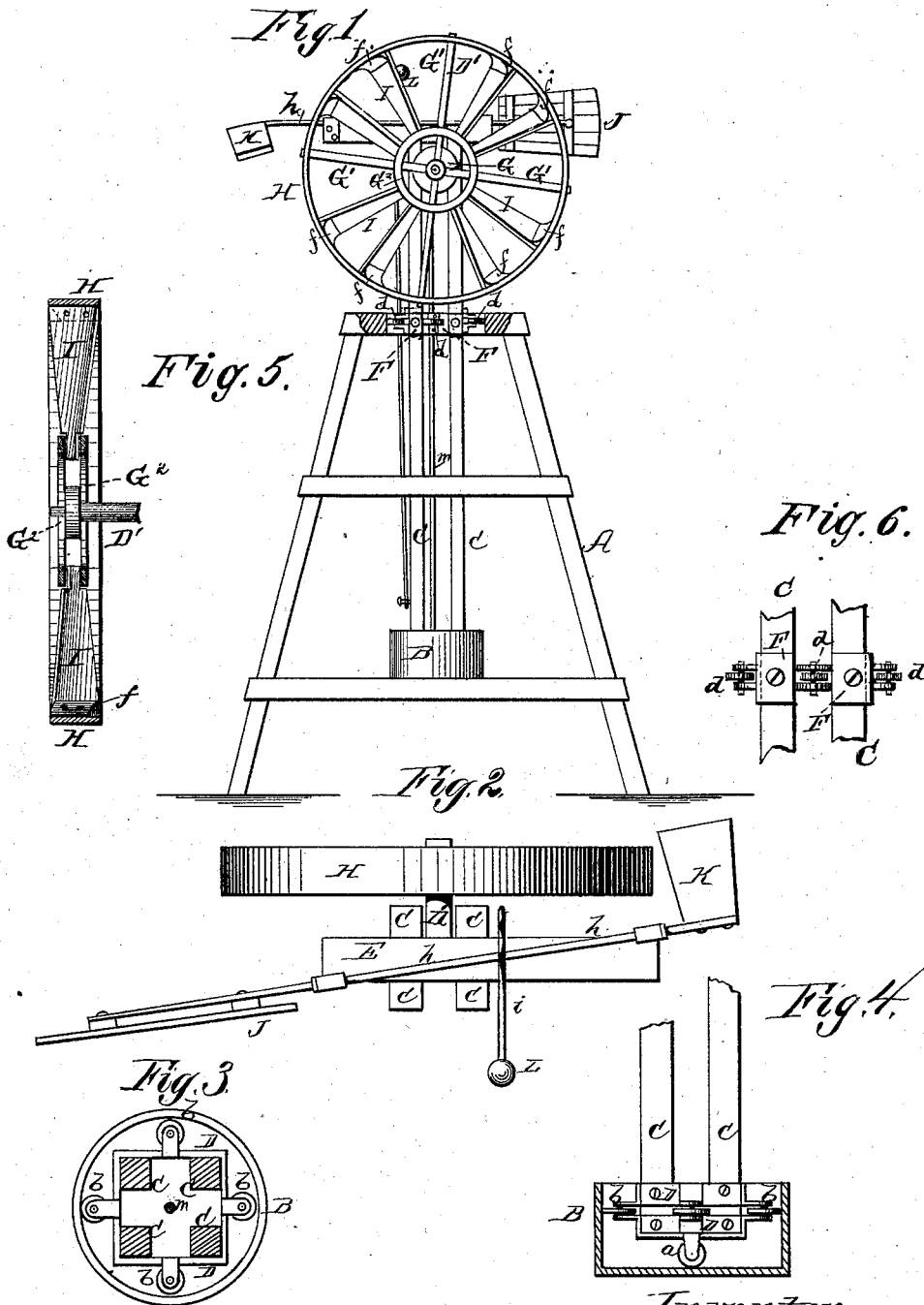


J. E. GILCHRIST
Windmill.

No. 219,248.

Patented Sept. 2, 1879.



Witnesses:
W. C. McArthur,
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Inventor,
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UNITED STATES PATENT OFFICE.

JEROME E. GILCHRIST, OF LA PORTE, ASSIGNOR TO MARY ETTA H. PAYNE,
ALBERT N. CHAMBERLAIN, AND DELOS A. DANFORTH, OF ELKHART,
INDIANA.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **219,248**, dated September 2, 1879; application filed
July 3, 1879.

To all whom it may concern:

Be it known that I, JEROME E. GILCHRIST, of La Porte, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a windmill, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, and Figs. 2, 3, 4, 5, and 6 are details, of my invention.

A represents the tower of the windmill, having in its top a circular opening, and at a suitable distance below the same, on a platform in the tower, is secured a circular step or cup, B.

The "turn-table," which carries the wind-wheel, is composed of four upright posts, C C, which are connected at their lower ends by metal bands D D, so arranged as to form bearings for two bottom rollers, *a a*, and four side rollers, *b b*. The rollers *a* rest in the step or cup B, while the side rollers *b* bear against the inside of said step or cup.

The posts C are further, at a suitable point, connected by metal bands F, which also carry side rollers, *d*, and these rollers are located within the circular opening in the top of the tower, and bear against the edges thereof.

Between the upper ends of the posts C is secured a cross-bar, E, below and at right angles to which is the crank-shaft D', arranged in suitable bearings. To one end of this crank-shaft is secured the wind-wheel, which is made of wood, and is composed of a hub, G, having four equidistant radial arms, G¹, said arms being connected by an inner band, G², and an outer rim, H. To the inside of this rim are fastened inclined blocks *f f*,

and the outer ends of the fans I are fastened to the sides of these blocks.

The inner band, G², is composed of two circles of wood, between which the inner ends of the fans are secured, so that the fans are held in position firmly at each end, making the wheel strong and durable.

In suitable bearings on top of the cross-bar E is placed an inclined shaft, *h*, carrying at one end the main vane J, and at the other end the regulating-vane K, the two vanes standing in planes at right angles to each other.

The shaft *h* is provided with an arm, *i*, provided with a weight, L, at its end, which keeps the regulating-vane K in an upright position.

When the wind increases, the vane K is thrown more or less down, which brings the vane J more or less toward a vertical position, and the wheel is turned thereby more or less out of the wind.

The shaft *h* may be turned from the ground by a cord attached to an arm on the shaft, to throw the wheel out of the wind and stop the mill.

m is the pump-rod connected to the crank-shaft D.

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

1. In a windmill, the turn-table composed of the vertical posts C C, connected by metallic bands D and F, which carry the rollers *a b d*, substantially as and for the purposes herein set forth.

2. The within-described windmill, consisting of tower A, step B, posts C C, bands D E, rollers *a b d*, bands F, cross-bar E, inclined blocks *f f*, fans I, shaft *h*, vane G K, and wind-wheel, all constructed and arranged to operate as herein set forth.

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

JEROME E. GILCHRIST.

Witnesses:

D. C. PAYNE,
J. P. LINARD.