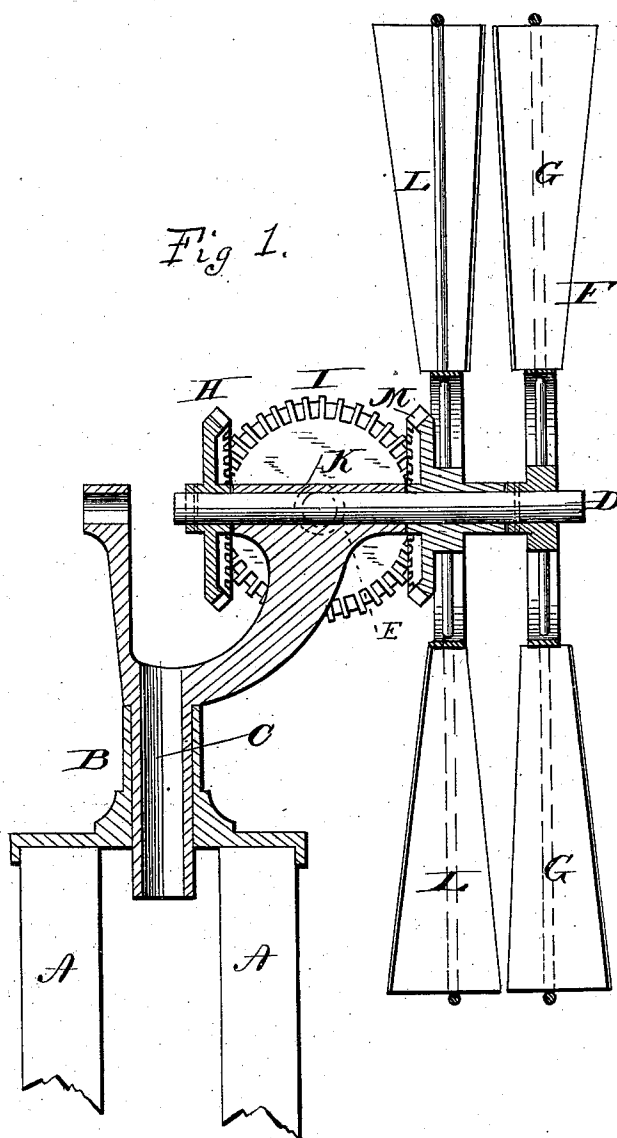


J. O. BAIRD.
Windmill.

No. 224,628.

Patented Feb. 17, 1880.



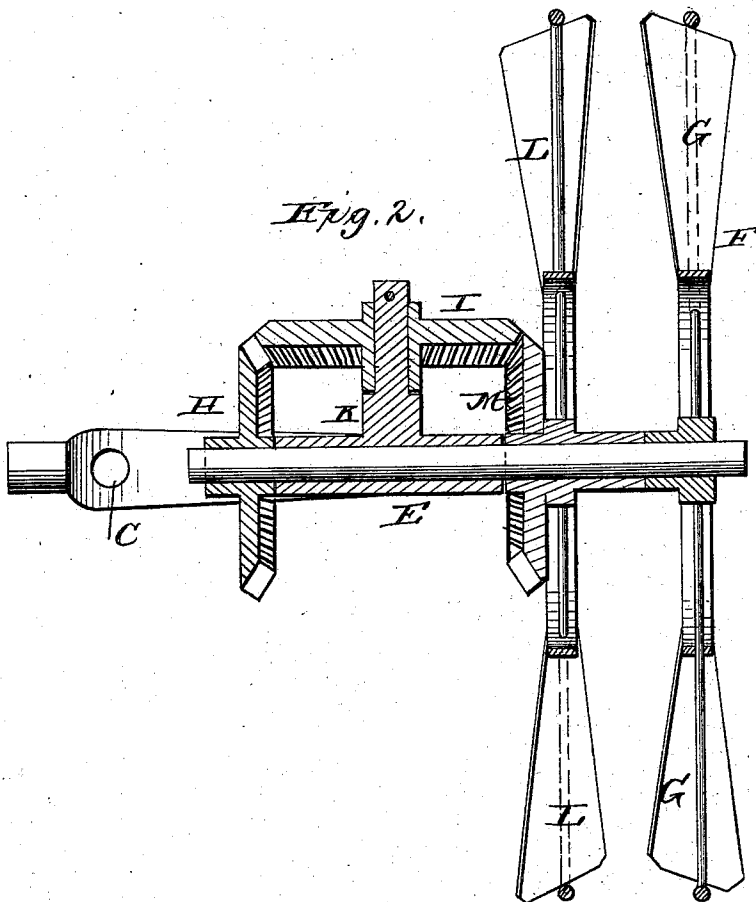
WITNESSES
A. L. Ouraud,
E. H. Bradford

INVENTOR
J. Oscar Baird
By *H. J. Curtis*
ATTORNEY

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Windmill.

No. 224,628.

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Witnesses:

H. Aubrey Foulmer
J. J. McCarthy

Inventor:

J. Oscar Baird
By H. Curtis
attor.

UNITED STATES PATENT OFFICE.

J. OSCAR BAIRD, OF VIENNA CROSS-ROADS, OHIO.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 224,628, dated February 17, 1880.

Application filed November 21, 1879.

To all whom it may concern:

Be it known that I, J. OSCAR BAIRD, of Vienna Cross-Roads, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Windmills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in windmills; and it consists of certain improvements in the same, as will be hereinafter more fully described, and particularly pointed out in the claim.

To this end the invention consists in the combination of two wheels provided with blades or vanes set in opposite directions, one wheel being rigidly secured to the driving-shaft, by means of which motion is imparted to the machinery to be driven, and the other loosely mounted on said shaft, the two wheels being connected by suitable gearing, whereby one of the wheels alone may be employed for imparting motion to the mechanism; or the two may be so geared that when rotated in opposite directions by the action of the wind they will impart motion in the same direction to the driving-shaft, and thus increase the power of the mill, as more fully hereinafter specified.

In the drawings, Figure 1 represents a vertical sectional view of my improved mill, and Fig. 2 a horizontal sectional view through the main shaft D, in which—

The letter A indicates the vertical standards or supports, carrying the bearing B for the hollow journal C, carrying the bearing for the driving-shaft D.

The letter E indicates the bearing for the driving-shaft D. Said shaft has rigidly secured near one end a wheel, F, provided with blades or vanes G, secured at an angle to the face of the same in the usual manner. The opposite end of said shaft has mounted thereon a beveled-gear wheel, H, which is secured by means of a set-screw, so as to be longitudinally adjusted to said shaft.

The letter I indicates a beveled-gear wheel mounted upon a stud or journal, K, projecting from the bearing of the driving-shaft laterally, the said gear-wheel being adapted to intermesh with the gear-wheel H when the same is properly adjusted therefor, as more fully hereinafter specified.

The letter L indicates a wind-wheel similar to the wheel F, with the exception that the blades are set at an opposite angle to the blades or vanes of said wheel F. The said wheel L is mounted loosely on the shaft D, so as to turn freely thereon.

The letter M indicates a beveled-gear wheel forming part of or rigidly secured to the wheel L, the said gear-wheel intermeshing with the gear-wheel I, so as to impart motion to the same.

The operation of my invention will be readily understood in connection with the above description. When the minimum amount of power is required the gear-wheel H is adjusted so that it will not intermesh with the gear-wheel I, when the wheel F alone will operate. When the maximum amount of power is required the wheel H is adjusted to intermesh with the gear-wheel I, when both wheels will be thrown into operation, doubling the power of the mill.

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

The tubular turn-table supported on the cap, having a rigid horizontal axle for the loose wheel I, in combination with the axle D, having the wind-wheel G at one end and the beveled-gear H at the other, and supporting the hollow shaft of the wheel L and gear M, all combined, arranged, and operating in the manner and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of October, 1879.

J. OSCAR BAIRD.

Witnesses:

EDWARD MILLER,
JOHN WILLIAM SLAGLE.