

C. GATES.
Wind-Wheel.

2 Sheets--Sheet 1.

No. 166,982.

Patented Aug. 24, 1875.

Fig. 1.

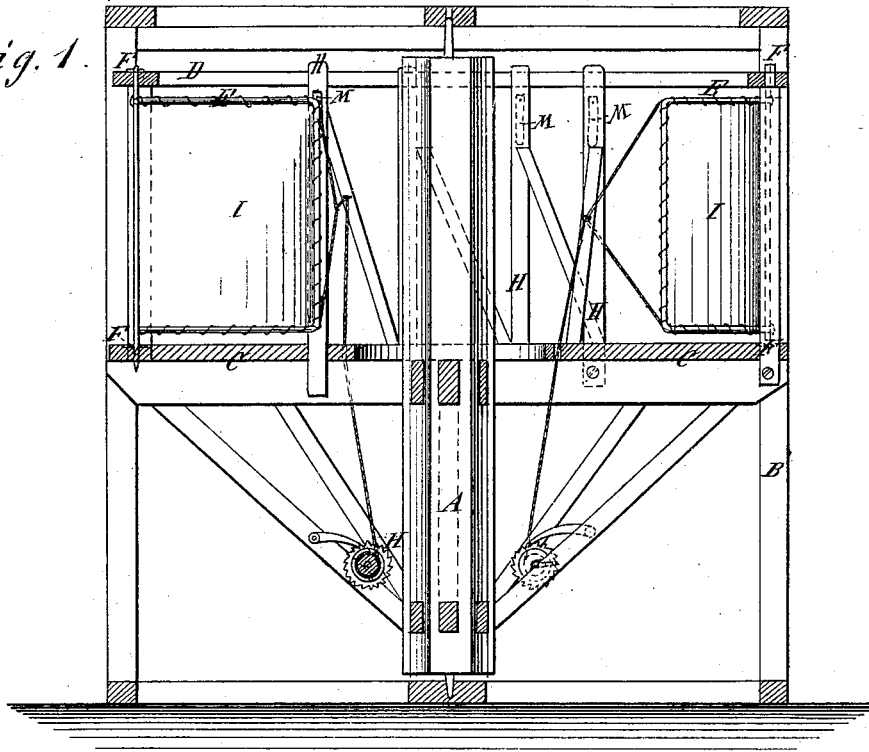
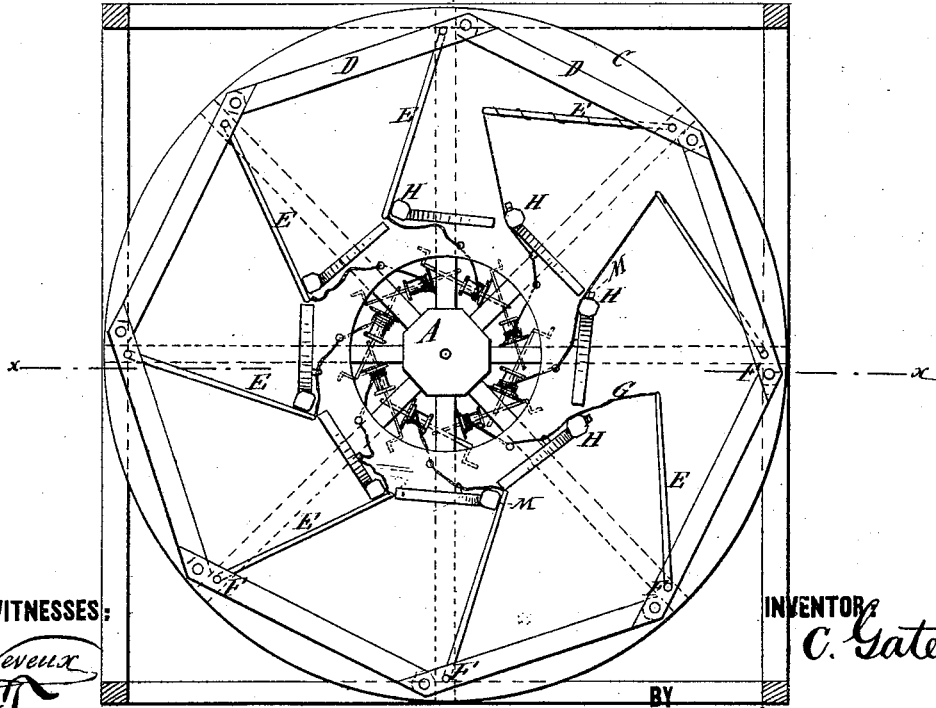


Fig. 2.



WITNESSES:

C. Neveu
A. J. Terry

INVENTOR

C. Gates

BY

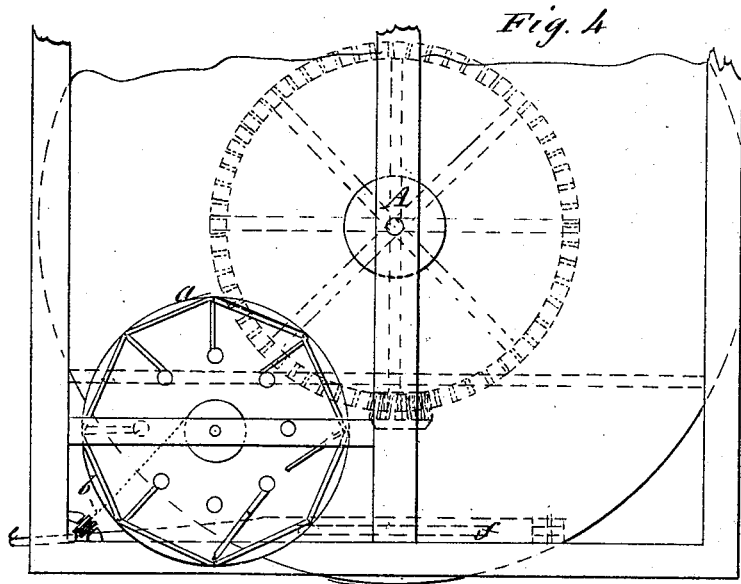
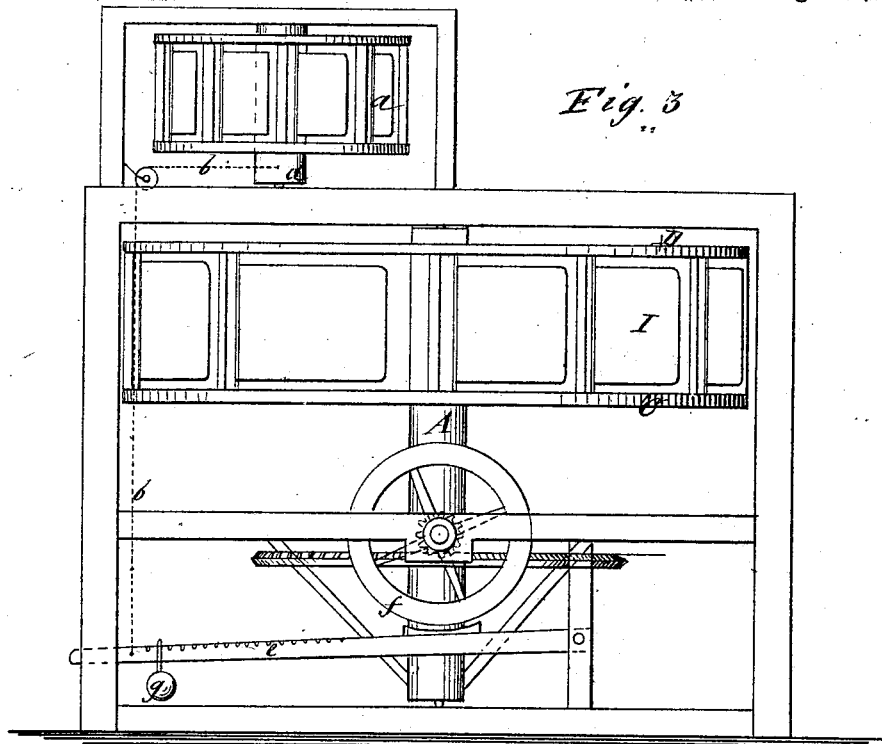
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ATTORNEYS.

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WITNESSES:

C. Newell
A. F. Terry

INVENTOR:

C. Gates

BY

Wm. L. ...

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHESLEY GATES, OF LOCUST GROVE, MISSOURI.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **166,982**, dated August 24, 1875; application filed June 26, 1875.

To all whom it may concern:

Be it known that I, CHESLEY GATES, of Locust Grove, in the county of Johnson and State of Missouri, have invented a new and Improved Wind-Wheel, of which the following is a specification:

The invention will first be described in connection with the drawing, and then pointed out in the claim.

Figure 1 is a sectional elevation of my improved wheel, and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

A is a strong upright shaft, of wood or other suitable material, mounted in a frame, B, and carrying a circular horizontal platform or frame, C, near about the middle, and another one, D, at the top, between which frames the vane-frames E are pivoted at F, so as to swing outward beyond the frames C D to take the wind, and inward to close and stop the wheel, said vane being connected at the free sides by ropes G with drums H, for drawing in the vanes to close them against the braced posts H, by which they are held, so that when closed the wind acts alike on the opposite sides of the wheel, and neutralizes at each side the effect on the other; but when they are swung outward the ropes hold the vanes, so as to be acted on by the wind on one side of the wheel, while they swing freely out of the wind on

the other side, and thus give rotary motion to the wheel. The web I of the vanes is composed of canvas stretched on the metal frame, making light, strong, and cheap vanes. The drums for opening and closing the vanes have ratchets and pawls for holding the vanes. They are arranged near the ground, so that the attendant can walk around with the wheel while turning them. M represents a spring on the posts H, to ease the shocks of the sails when they strike against the posts. The frames of the sail may be made of wood or iron, or partly of wood and partly of iron. *a* represents the small wind-wheel for regulating the speed of the large one. It is arranged where it is subject to the varying wind, and has a cord, *b*, attached to its hub *d*, and connected to the brake-lever *e*, so as to pull it against the wheel *f* with more or less force, according to the action of the wind on it. Its effect is varied by the adjustable weight *g*.

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

The combination of regulating-wheel *a*, cord *b*, lever *e*, and the wheel *f* with the power-wheel, substantially as specified.

CHESLEY GATES.

Witnesses:

ED. JONES.

WILSON CLARK.