L. F. BRAYMAN.
Wind-Engine

No. 203,884. Patented May 21, 1878.

Fig. 1

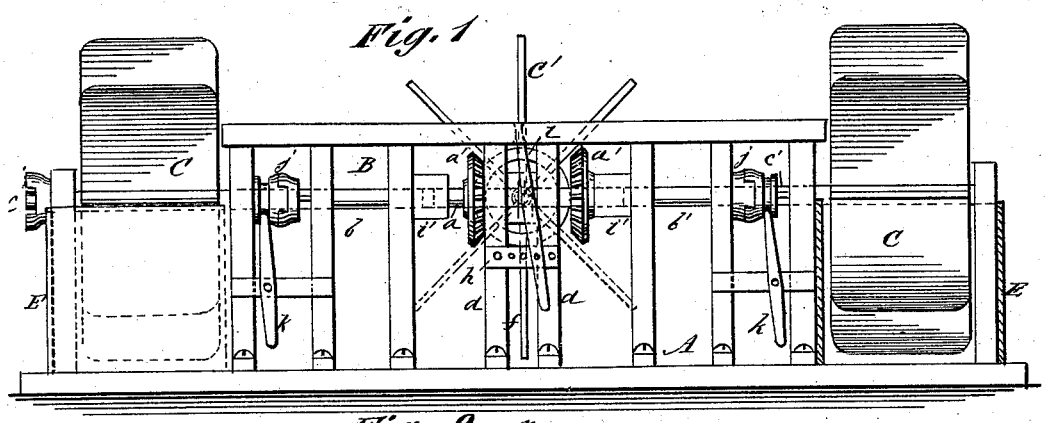


Fig. 2

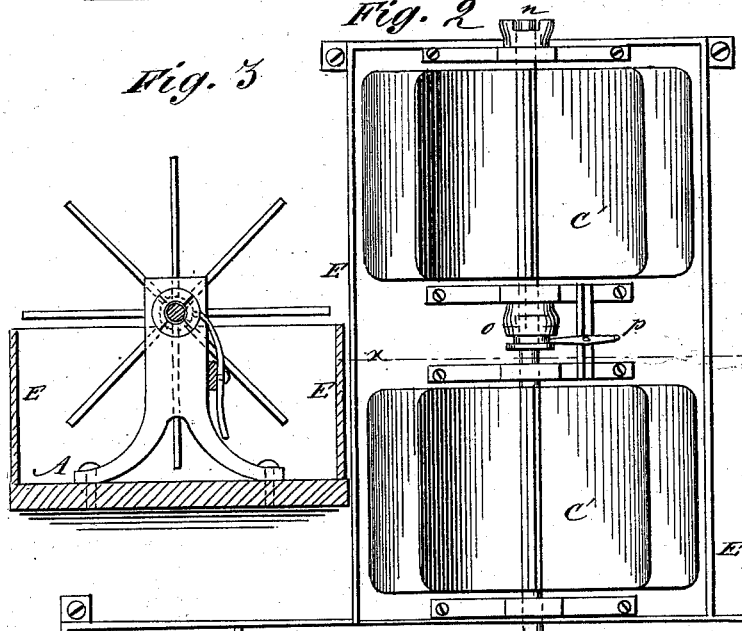
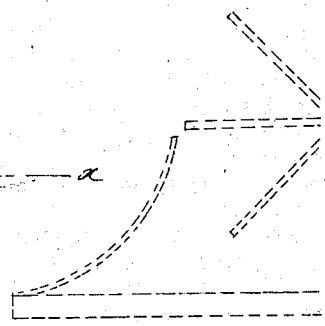
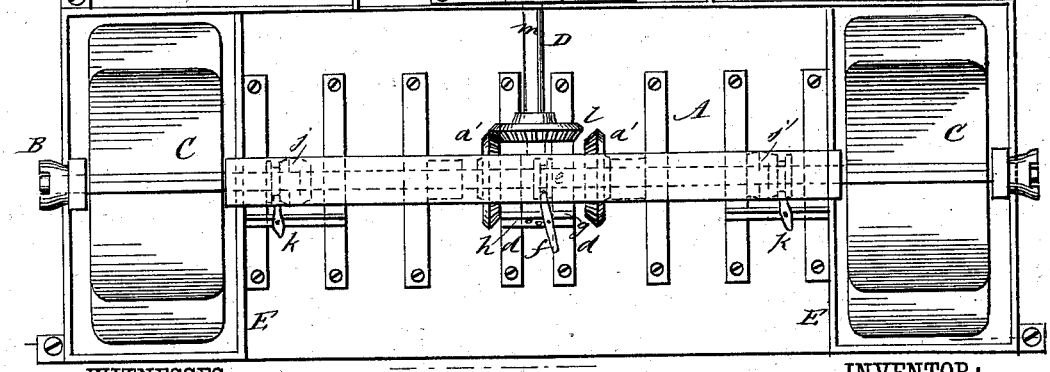


Fig. 3

Fig. 4





WITNESSES:
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UNITED STATES PATENT OFFICE.

LA FAYETTE BRAYMAN, OF GILBERT STATION, ILLINOIS.

IMPROVEMENT IN WIND-ENGINES.

Specification forming part of Letters Patent No. **203,884**, dated May 21, 1878; application filed March 26, 1878.

To all whom it may concern:

Be it known that I, LA FAYETTE BRAYMAN, of Gilbert Station, in the county of Kane and State of Illinois, have invented a new and Improved Wind-Motor, of which the following is a specification:

Figure 1 is a side elevation of my improved wind-motor. Fig. 2 is a plan view. Fig. 3 is a transverse section taken on line *x x* in Fig. 2. Fig. 4 is a detail view, showing a modified form of housing for the wheels.

The object of my invention is to provide a wind-motor for the heavier kinds of work, such as pumping large quantities of water, operating stamp-mills, and for other purposes where an inexpensive power is required.

The invention consists in two series of wind-wheels, placed on horizontal shafts which are arranged at right angles to each other, and are geared together, so that either or both series may be employed in driving machinery.

Referring to the drawing, A is a frame of any suitable construction, having sufficient strength and rigidity to support all of the working parts of the motor, and B is a shaft, composed of sections *a b b' c c'*. The middle section, *a*, is journaled in or on the posts *d* of the frame A, and carries two miter-wheels, *a'*, placed outside of the posts and facing each other. Between the posts *d* a grooved collar, *e*, is secured to the shaft-section *a*, for receiving a shifting-lever, *f*, which is pivoted on a cross-bar secured to the posts *d*, and is apertured near its lower end to receive a pin that passes through one of several holes in the bar *h*, also secured to the posts *d*.

The outer ends of the shaft-section *a* are fitted to sleeves *i i'*, secured to the inner end of the sections *b b'*. The said sleeves are squared internally, and the section *a*, which is squared at its ends, is capable of sliding longitudinally in the sleeves, but cannot turn therein. This connection may be made by a slot in the sleeve and a feather in the shaft.

The outer shaft-sections, *c c'*, are connected with the sections *b b'* by means of clutches *j*, of the ordinary kind. These clutches may be operated, so as to connect or disconnect the outer sections, by means of the clutch-levers *k*.

Upon each shaft-section *c c'* a wind-wheel, C, is mounted. These wheels consist of a number of plane vanes projecting radially from the shaft, and arranged on a plane parallel with the shaft. The lower half of each wheel is inclosed by a housing or casing, E, which prevents the wind from acting on the lower portion of the wheel.

A shaft, D, is journaled in the frame A at right angles to the shaft B, and is provided with a miter-wheel, *l*, which may engage either of the miter-wheels *a'*, or disconnect with both. The shaft D is made in two sections, *m n*, connected by a coupling, *o*, which is operated by means of the lever *p*. Upon each shaft-section *m n* is mounted a wheel, C', which is similar to the wheels C, and is housed in the same manner.

Wind blowing at right angles to the shaft D rotates the wheels C', while it does not materially affect the wheel C; and wind blowing at right angles to the shaft B rotates the wheels C, while it does not affect the wheels C'; and wind blowing at any angle but a right angle with either of the shafts will exert more or less force on both sets of wheels.

By sliding the shaft-section *a* either of the miter-wheels *a' a'* may be brought into engagement with the miter-wheel *l*, or both of them may be disengaged, so that both shafts B D will act independently.

Any number of wind-wheels may be put in each series, and any number of the series may be brought into use by using the shaft-couplings.

Instead of forming the housings with vertical sides, the sides may be made inclined and concave, as shown in Fig. 4, so as to deflect the wind in an upward direction.

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

1. Two series of stationary wind-wheels, having their axes arranged at right angles to each other, and having their shafts connected by miter-gearing, substantially as herein shown and described.

2. Two or more wind-wheels, C, mounted on a sectional shaft connected by clutch-couplings, substantially as shown and described.

LA FAYETTE BRAYMAN.

Witnesses:

EZRA RUE,

DANIEL E. MALONEY.