(No Model.)

G. E. FLETCHER.

WIND ENGINE.

No. 275,032. Patented Apr. 3, 1883.

Fig. 1.

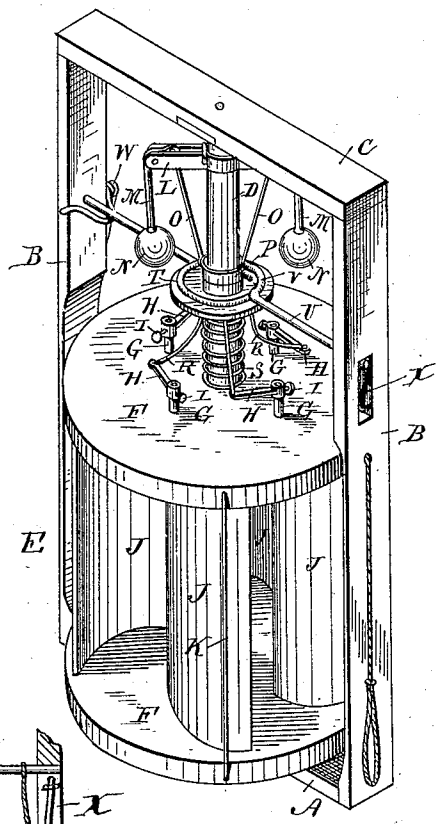


Fig. 2.

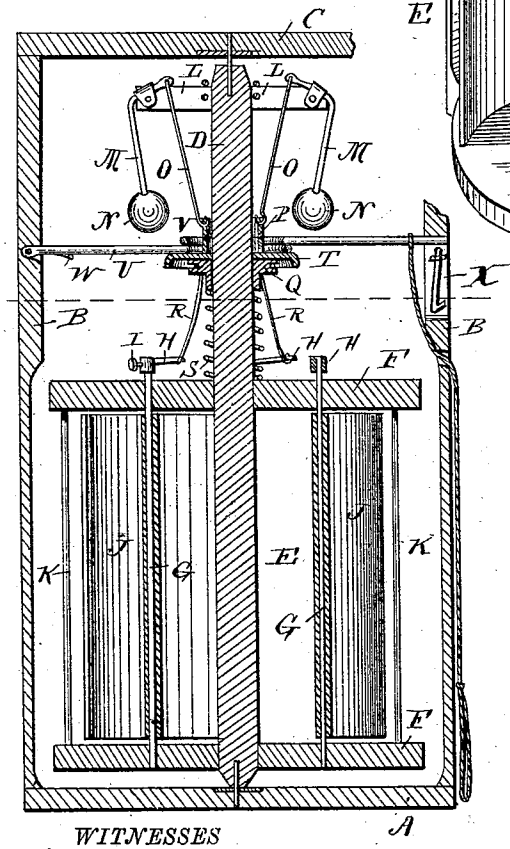
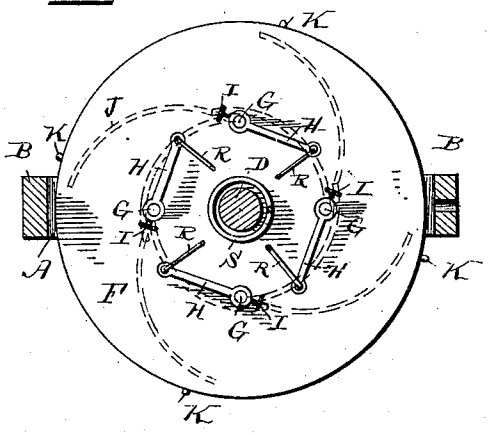


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE E. FLETCHER, OF LAMPASAS, TEXAS.

WIND-ENGINE.

SPECIFICATION forming part of Letters Patent No. 275,032, dated April 3, 1883.

Application filed November 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. FLETCHER, a citizen of the United States, residing at Lampasas, in the county of Lampasas and State of Texas, have invented a new and useful Wind-Engine, of which the following is a specification, reference being had to the accompanying drawings.

Figure 1 is a perspective view of my improved wind-engine. Fig. 2 is a vertical sectional view, and Fig. 3 is a horizontal sectional view.

The same letters refer to the same parts in all the figures.

This invention relates to wind-engines; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A a represents a sill or base, at the ends of which are secured uprights B B, connected by a cap-piece, C.

D is a vertical shaft journaled in the cap-piece C and sill A, and carrying the wind-wheel or drum E. The latter consists of two disks, F F, mounted securely upon said shaft a suitable distance apart, and connected by a series of three or more pivoted rods, G, (four of which are shown in the drawings,) arranged equidistantly from each other and from the center of the shaft. The upper ends of the rods G, which project above the upper diks, F, have crank-arms H, adjustable by set-screws I. The rods G carry the curved wings or shields J, which, by turning said rods, may be turned outwardly until their outer ends bear against the braces K, which connect the disks F F at their edges; or they may be turned inward until they are folded together, as shown in Fig. 3 of the drawings, forming a compact cylinder and excluding the wind. When the wings are partly or wholly extended, the wind, acting upon said wings, serves to revolve the wheel or drum, the speed being governed by the extent to which the wings are thrown open or extended.

The wings are automatically adjusted by a governor, the construction of which is as follows: The upper end of the shaft D is provided with laterally-extending brackets L L, having pivoted arms or bell-crank levers M, the lower ends of which are loaded with balls or weights N, while their upper inner ends are connected by pivoted rods O, with a sleeve, P, sliding vertically upon the shaft D. Q is another sleeve sliding vertically upon shaft D, and connected by hinged rods R with the cranks H of the rods G. The sleeve Q is held automatically in a raised position by a coiled spring, S, interposed between said sleeve and the upper disk, F, of the wind-wheel; but when it is lowered it serves to operate the crank-arms H and close the wings of the wheel. Now, it will be seen that when the wind-wheel revolves at a high rate of speed the governor-balls are thrown outward by the centrifugal force thus generated, and the inner upper arms of the levers M are lowered, thus forcing the sleeve P in a downward direction, when it will press upon sleeve Q, or upon a washer, T, interposed between said sleeves, forcing it downwardly and operating to close the wings, the extent of this operation being automatically governed by the rate of speed at which the wind-wheel is revolving.

U is a lever pivoted to one of the uprights, B, and having a ring, V, resting upon the washer T. The said lever is held automatically in a raised position by a spring-bracket, W. By depressing the lever U the ring V forces the sleeve Q downwardly, thus closing the wings and causing the wheel to stop. A spring-catch, X, is provided to hold the lever U depressed, when required, as in the case of a high wind, when it is desired to keep the wheel out of gear.

The operation of my invention will be readily understood. It provides a simple, durable, and powerful wind-engine, easily and automatically regulated, and not liable to get out of repair.

I claim as my invention—

1. The combination, with a suitable frame, of the shaft D, having wind wheel or drum E, provided with rods G, having wings J and arms or cranks H, and laterally-projecting brackets L, having bell-crank levers M, loaded at their lower ends, the connecting-rods O, sleeve P, washer T, spring S, and the sleeve Q, having pivoted rods R, connecting said sleeve with the arms H, as set forth.

2. The combination of the frame, the shaft D, having wind-wheel E, provided with wings J, mounted upon rods G, having crank-arms H, the sleeve Q, connecting-rods R, spring S, washer T, lever U, having ring V, and the spring-bracket W, all arranged and operating substantially as set forth.

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

GEORGE EPHRAIM FLETCHER.

Witnesses:

R. E. OWEN,

W. W. CUNNINGHAM.