L. E. STEPHENS & S. F. SHAY.

Wind-Mill.

No. 168,294. Patented Sept, 28, 1875.

Fig. 1.

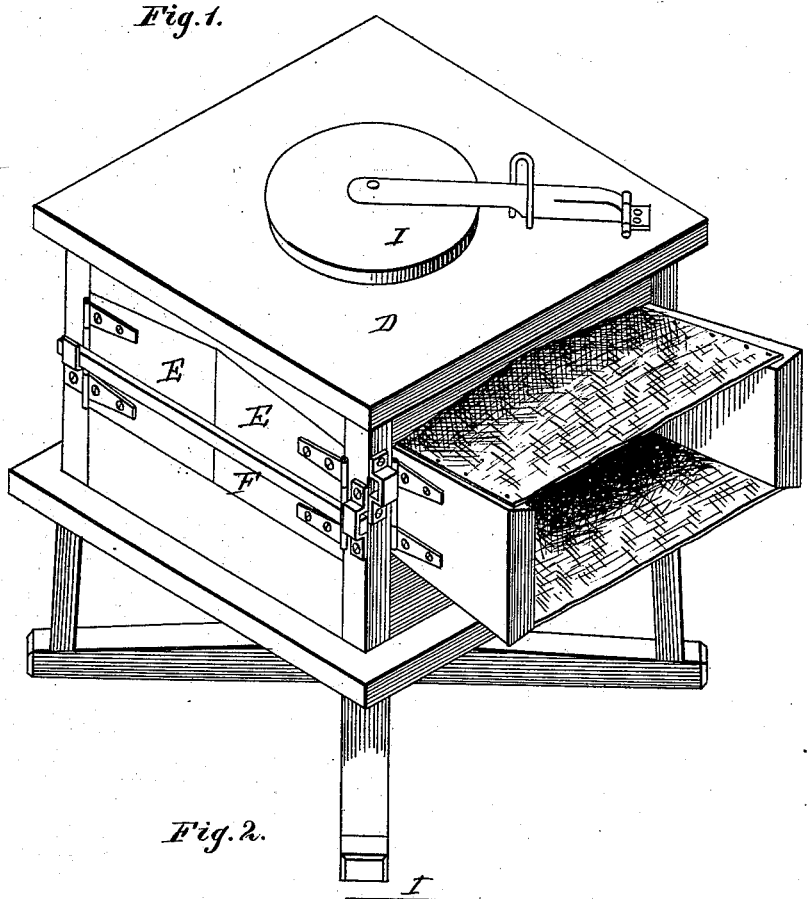
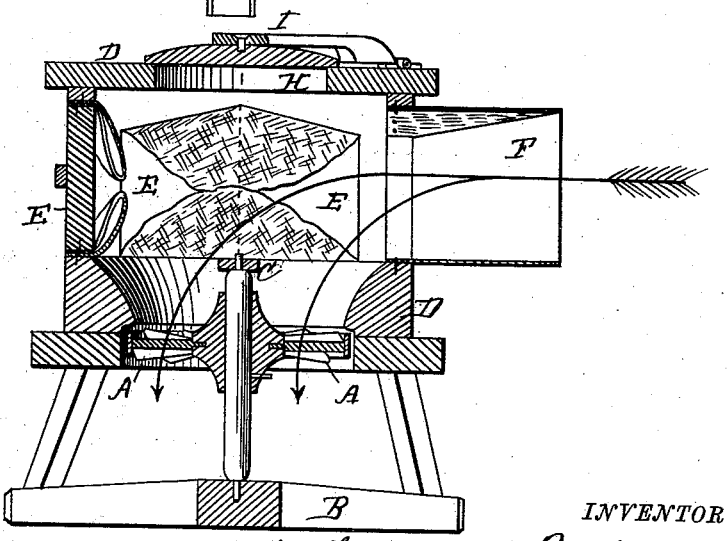


Fig. 2.



WITNESSES

Henry N. Miller

C. L. Emerson

By L. E. Stephens & S. F. Shay

Brandon & Mason

INVENTOR

Attorney S

UNITED STATES PATENT OFFICE.

LAWRENCE E. STEPHENS AND SAMUEL F. SHAY, OF TERRELL, TEXAS.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. **168,294**, dated September 28, 1875; application filed August 14, 1875.

To all whom it may concern:

Be it known that we, LAWRENCE E. STEPHENS and SAMUEL F. SHAY, of Terrell, in the county of Kaufman and in the State of Texas, have invented certain new and useful Improvements in Windmills; and 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, making a part of this specification.

This invention relates to certain improvements in windmills; and it consists in a windwheel composed of a series of inclined vanes mounted upon a vertical shaft or journal, and set in a circular opening in the lower side of a square or polygonal casing or chamber, provided with folding doors opening outward on each side, each set of which are connected at their upper and lower edges by means of a strip of canvas or other flexible material, so that when opened outward they will form a funnel-shaped mouth for the entrance of the wind to the chamber, which, finding no escape except through the vanes of the wheel, puts the same in motion. On the top of the chamber is secured a weighted valve by which the pressure upon the wheel is relieved when too great.

In the drawings, Figure 1 represents a perspective view of our improved apparatus, and Fig. 2 a sectional view of the same.

The letter A represents a wheel constructed of inclined blades or vanes, as usual, and mounted upon a vertical shaft or journal, K, having bearings in the frame-work B which supports the machine, and in a beam, C, extending across the inside of the chamber D for the purpose. Said chamber D is constructed of a square or polygonal shape, each side being provided with a pair of folding doors, E, opening outward, and confined or fastened when closed by means of a bar, F, extending across the outside. The doors of each set are connected together at their upper and lower edges by means of a strip or sheet of canvas, or other suitable flexible material, G, in such manner that when opened to the wind they will form a funnel-shaped mouth for the entrance of the same. On the top of the machine, setting over a suitable opening, H, in the chamber D, is a hinged valve, I, for the purpose of relieving the pressure upon the wheel when too great by automatically lifting and allowing a portion of the wind to escape.

In operating our apparatus one or more doors in the direction of the wind are opened, the wind being directed in the course of the arrows in Fig. 2 through the vanes of the wheel, putting it in motion. The remaining doors, or those not facing the wind, are kept securely fastened. The machinery to be driven is connected with the shaft K in any suitable manner.

Having fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. The windmill, consisting of a wheel composed of inclined vanes mounted on a vertical shaft and set in an opening in the lower part of a square or polygonal chamber provided with folding doors opening outward, and having their lower edges connected by canvas, or other flexible material, to form a funnel-shaped mouth when opened, as and for the purposes herein set forth.

2. In combination with the wheel and chamber, constructed as described, the valve on top of the chamber for relieving the pressure on the wheel, substantially as set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 3d day of July, 1875.

LAWRENCE E. STEPHENS.
SAMUEL F. SHAY.

Witnesses:
J. W. JOHNSON.
N. G. COULTER.