(No Model.)

W. C. JACOB.

WINDMILL.

No. 267,209. Patented Nov. 7, 1882.

Fig. 1,

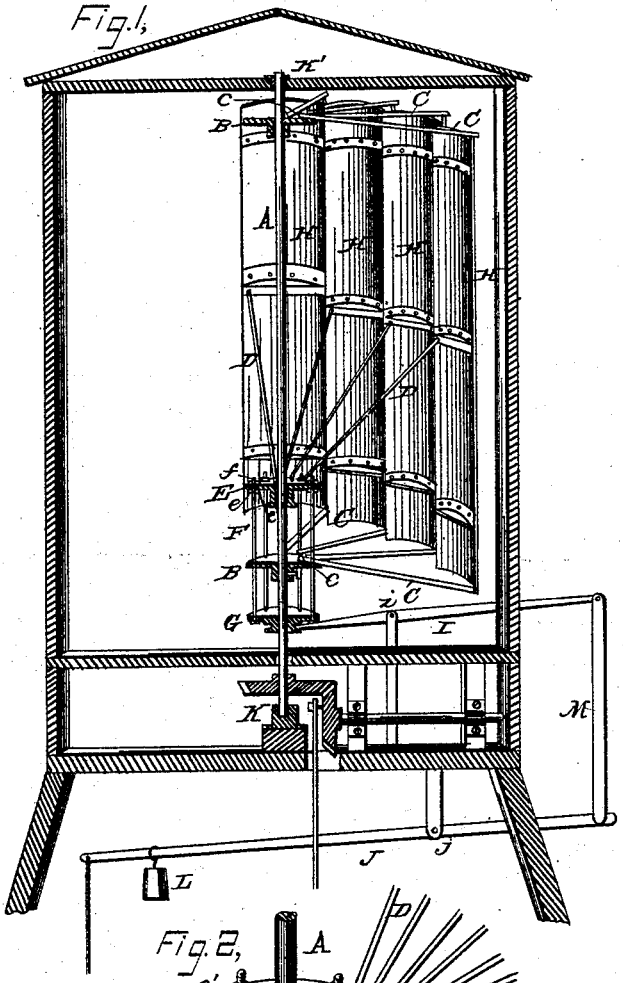
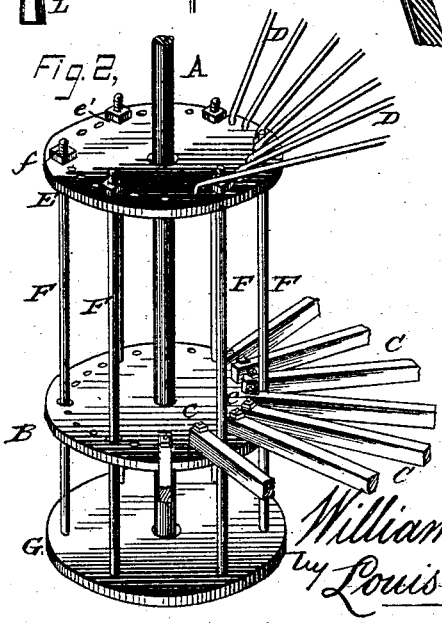


Fig. 2,



WITNESSES:

Fred. L. Dieterich.

J. G. Hinkel.

INVENTOR.

William C. Jacob

by Louis Bagger & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM C. JACOB, OF KNOXVILLE, IOWA.

WINDMILL.

SPECIFICATION forming part of Letters Patent No. 267,209, dated November 7, 1882.

Application filed September 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. JACOB, of Knoxville, in the county of Marion and State of Iowa, have invented certain new and useful Improvements in Windmills; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical sectional view of my improved horizontal windmill, and Fig. 2 is a detail view of my device for regulating the position of the vanes.

Similar letters of reference indicate corresponding parts in both the figures.

My invention has relation to horizontal windmills; and it consists in the improved construction, combination, and arrangement of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A represents the shaft of the mill, having bearings at K and K′. Fastened to the shaft at its upper and lower part are two spiders, B B, to which the arms C are fastened, extending radially around the shaft. In bearings *c* at the outer ends of these arms the vanes H are pivoted, the pivots being in the outer corners of the vanes. These vanes are concave, and are made of sheet metal, fastened to a strong metal frame, the faces of the vanes forming a circle around the shaft when they impinge upon each other, each vane forming an arc of the circle. To the inner free rims of the vanes are pivoted rods D, pivoted at their other ends to a sleeve, E, sliding up and down on the shaft A. Through this sleeve E pass rods F, screw-threaded at their upper ends, and adjustably fastened to it by nuts *f* and *e* on the upper and under sides of holes *e′* in the sleeve. The lower ends of these rods pass through holes in a grooved ring or sleeve, G, where they are fastened. Into the groove of sleeve G one end of a lever, I, extends, which is pivoted at *i* and connected by an arm, M, to lever J, upon the free end of which a weight, L, is suspended. By lowering or raising the nuts *e* and *f* in the sleeve E the vanes may be adjusted to present more or less surface to the wind, and by moving the weight L nearer to or farther away from the fulcrum *j* of lever J the mill can be adjusted to work by a stronger or lighter wind, as desired. When the wind grows stronger than the mill is adjusted to work by, the force of it exercised on the concave surfaces of the vanes will distend them, drawing the sleeves E and G higher up on the shaft by means of the arms D. The end of lever I extending into the grooved sleeve G will consequently be lifted, which, by the action of the arm M on the other lever, J, will raise the free end of said lever and the weight suspended thereon; but when the vanes are distended so that their surfaces form a closed cylinder around shaft A the wind cannot turn them, and consequently the mill can be run in the heaviest wind, and when properly adjusted will regulate itself to the force of the wind.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination, in a horizontal windmill, of shaft A, having spiders B B and radial arms C, concave vanes H, arms D, sliding sleeve E, rods F, nutted adjustably to said sleeve E at their upper ends, sliding sleeve G, lever I, connecting-rod M, and lever J, provided with the adjustable weight L, all constructed and combined to operate substantially in the manner and for the purpose herein shown and described.

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

WILLIAM C. JACOB.

Witnesses:
GEORGE W. CROZIER,
HELEN M. DONLEY.