

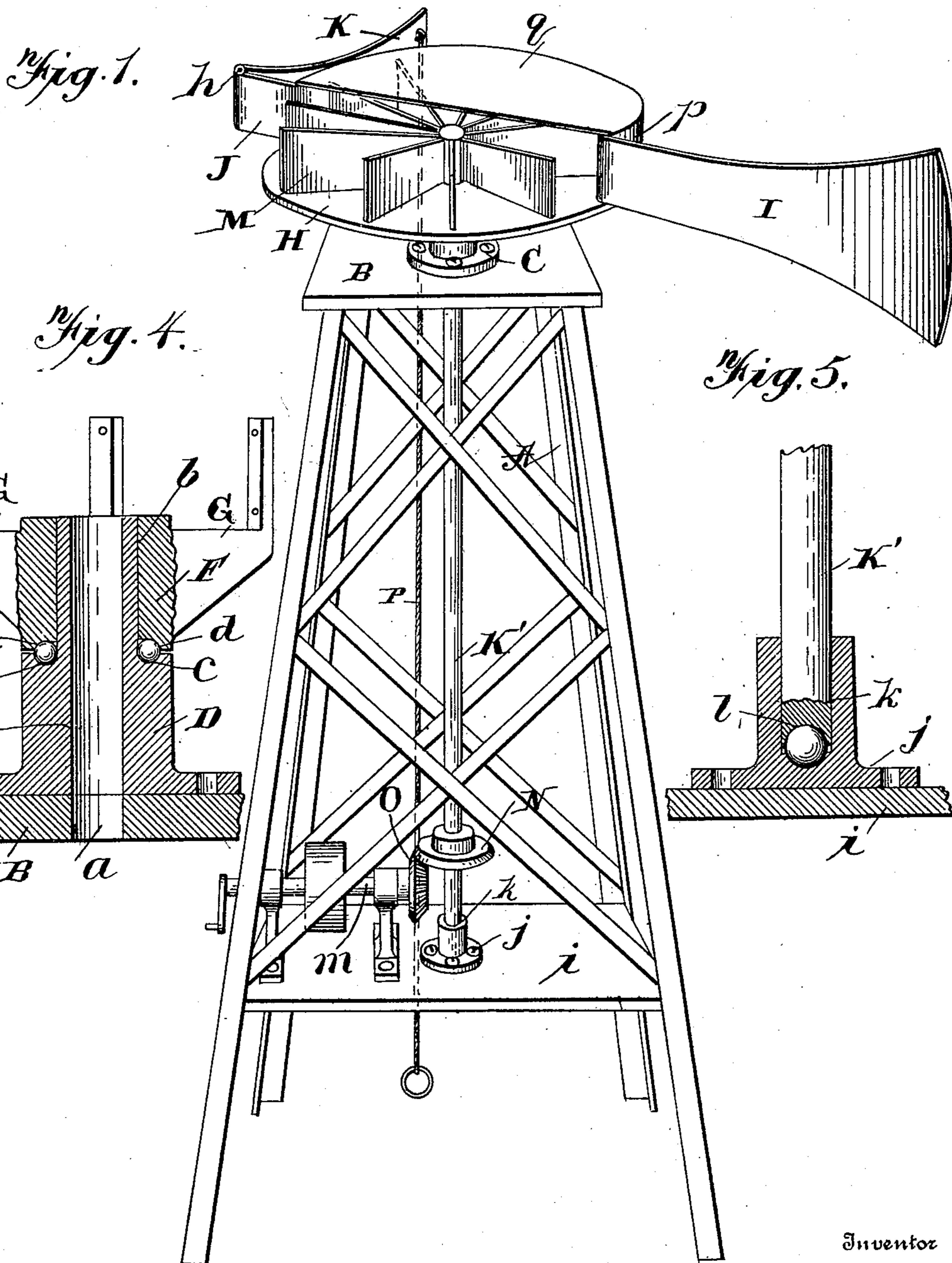
C. T. COLMAN.

WINDMILL.

(Application filed Mar. 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Inventor

C. T. Colman,

A. S. Pattison

Attorney

Witnesses

Geo. E. Brech.  
Chas. P. Wright Jr.

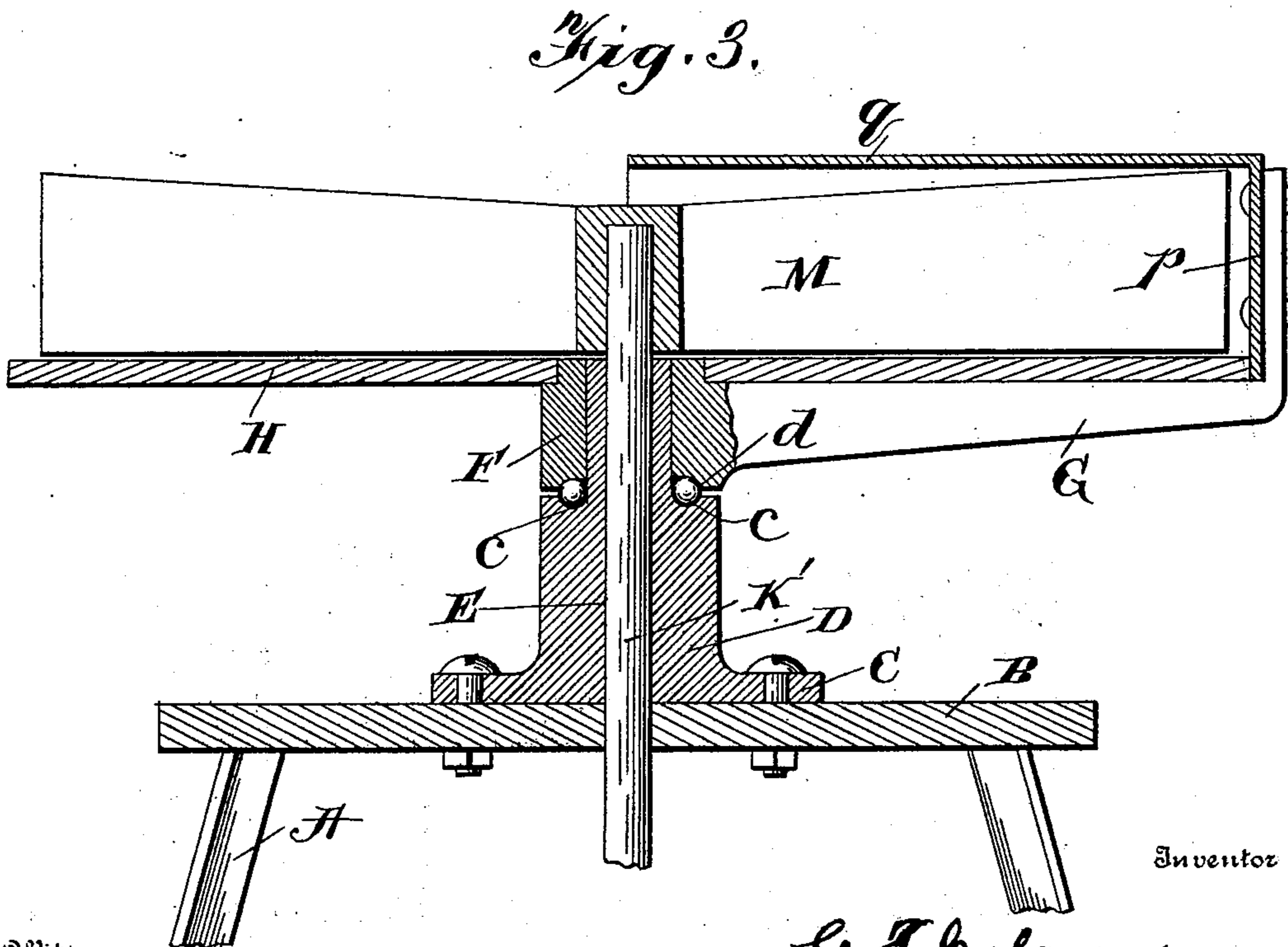
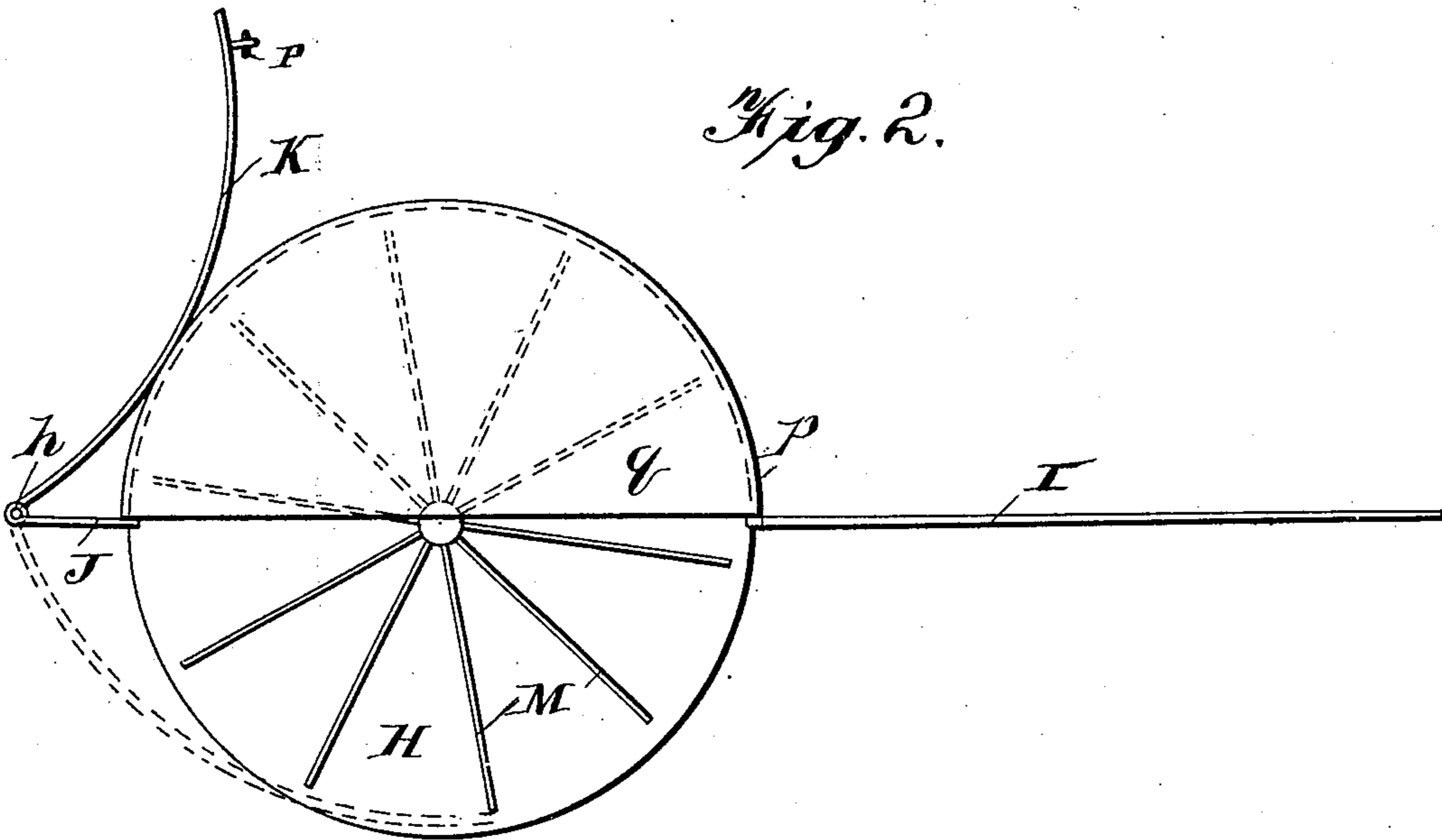
By

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2 Sheets—Sheet 2.



Inventor

C. T. Colman,  
A. S. Pattison

Attorney

Witnesses  
Geo. C. Frech,  
Charles P. Hughes

By

# UNITED STATES PATENT OFFICE.

CHARLES THOMAS COLMAN, OF ELWOOD, INDIANA.

## WINDMILL.

SPECIFICATION forming part of Letters Patent No. 679,109, dated July 23, 1901.

Application filed March 27, 1901. Serial No. 53,114. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES THOMAS COLMAN, a citizen of the United States, residing at Elwood, in the county of Madison and State of Indiana, have invented new and useful Improvements in Windmills, of which the following is a specification.

My invention relates to improvements in windmills, and relates more particularly to that class in which a shield is used to stop and start the same.

One object of my invention is to provide a horizontal windmill provided with a semicircular shield, one end of said shield carrying a stationary vane secured thereto and the forward end carrying a swinging shield adapted to shut off the wind from the wheel.

Another object of my invention is to provide a shield carrying a bearing at its central portion and mounted upon balls, whereby the wind will more effectually act thereupon.

A still further object of my present invention is to provide a simple, cheap, and durable windmill.

In the accompanying drawings, Figure 1 is a perspective view of my windmill. Fig. 2 is a top plan view. Fig. 3 is a vertical sectional view. Fig. 4 is a detached vertical sectional view of the shield-supporting plate. Fig. 5 is a vertical sectional view of the shaft-supporting bearing.

Referring now to the drawings, A represents the ordinary frame of a windmill, having at its top a platform B, which is provided with a central opening *a*. Secured to the upper portion of said platform and over said opening by means of bolts is a plate C, having an upwardly-extending portion D and an opening E extending therethrough and registering with the opening in the platform. The upper portion of said upwardly-extending portion D is cut away, as shown at *b*, and has an annular semicircular groove *c* in the horizontal portion, formed by the reducing thereof. Mounted upon said reduced portion is a sleeve F, which has radially-extending arms G, which are adapted to carry the shield, which will more fully hereinafter be described. The lower face of said sleeve is also provided with an annular recess *d*, and a series of balls are placed in the annular grooves, car-

ried by the plate D and supporting the collar, whereby the shield is rotatably mounted upon the plate D. The outer ends of said arms G on one side are provided with vertically-extending portions provided with transverse bolt-openings, and resting upon said arms is a circular plate H, having an opening *o*, adapted to fit over the upper end of the reduced upper portion of the sleeve F. Secured to the inner faces of the vertical portion of the arms G by means of bolts is a semicylindrical vertical plate *p*, which has secured to the top thereof a second horizontal semicircular plate *q*, leaving a space in which the wheel is adapted to rotate. The said shield has rigidly secured at one end a vane I, which is on a line with the straight face of the upper horizontal plate, whereby the shield is so held up into the wind that the wind is at all times adapted to come in contact with one half of the wheel, whereby it is rotated, and the other half has no resistance against the wind, as it is entirely within the shield. The opposite end of the shield has a forwardly-extending arm or plate J extending parallel on a line with the vane and having hinged at *h* a semicircular wind breaker or shield K, which is adapted to swing around in the position shown in dotted lines and to shut off the air or wind from the wheel, whereby it is stopped.

The lower portion of the frame A of the windmill is provided with a transverse brace *i*, upon which is mounted a brace *j*, having an upwardly-extending recessed portion *k*, in which a ball is loosely mounted. Within said upwardly-extending portion is a shaft K, which has a recessed lower portion *l*, which rests upon the ball and extends upwardly through the plate C and the upwardly-extending portion D and has rigidly mounted on the extreme upper end within the shield a wind-wheel M, which may be of any desired form, as this forms no part of my invention. The shaft K carries near its lower end a beveled gear N, which meshes with a second gear O, which is carried by the horizontal shaft *m*, which is rotatably mounted in journals carried by the brace or support *i*. The extreme outer end of the shaft *m* is provided with a crank, which is connected to the pumping means in any desired manner.

The swinging wind breaker or shield K

when opened catches the wind and assists in holding the shield around so that the wind will engage the wheel and is preferably swung in either position by a cable *p*, which has its  
 5 upper end secured to the outer end of the shield and extending down to the ground, and by walking around the support the shield is pulled past the center when in either position and the wind will carry it the remainder of  
 10 the way and hold it.

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

1. A windmill comprising a frame, a semi-circular shield rotatably mounted on said  
 15 frame, a wheel rotatably mounted within said shield, a vane rigidly connected to the rear edge of said shield, a vertically-arranged forwardly-extending arm rigidly connected to  
 20 the opposite edge of said shield, and a vertically-arranged semicylindrical plate hinged to said arm, whereby the wind will hold it in either position after it has passed the center thereof, substantially as described.

2. A windmill comprising a frame, a plate  
 25 mounted thereon, having an upwardly-extending reduced portion, a sleeve surrounding said reduced portion and rotatably mounted thereon, radially-extending arms carried  
 30 by said sleeve, a semicircular plate mounted on said arms, upwardly-extending portions carried by the radial arms on one side, a semicylindrical vertical plate surrounding said arms, and a semicircular horizontal plate

mounted on the ends of said arms, a shaft 35 passing through said plate and the lower portion of the shield, and a wheel on said shaft within the casing, substantially as described.

3. In a windmill, the combination with a frame, of a plate secured thereto and having 40 a reduced upper end, a sleeve surrounding said reduced upper portion, balls between the lower edge of said sleeve and the enlarged lower portion of the plate, radially-extending arms carried by the sleeve, a horizontal plate 45 mounted on said arms, a semicylindrical vertical plate carried by the horizontal plate, a second horizontal plate carried by the top of the semicylindrical plate, a shaft rotatably mounted in the plate carried by the frame, 50 and a wheel carried by said shaft within the shield, substantially as described.

4. A windmill comprising a frame, a semicircular shield rotatably mounted on said  
 55 frame, a wheel rotatably mounted within said shield, a vane rigidly connected to the rear end of said shield and a semicylindrical plate secured to the forward end of said shield, whereby the wind will hold it in either position after it has passed the center thereof, 60 substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES THOMAS COLMAN.

Witnesses:

BERT WINGATE,  
 JAMES J. DAVIS.