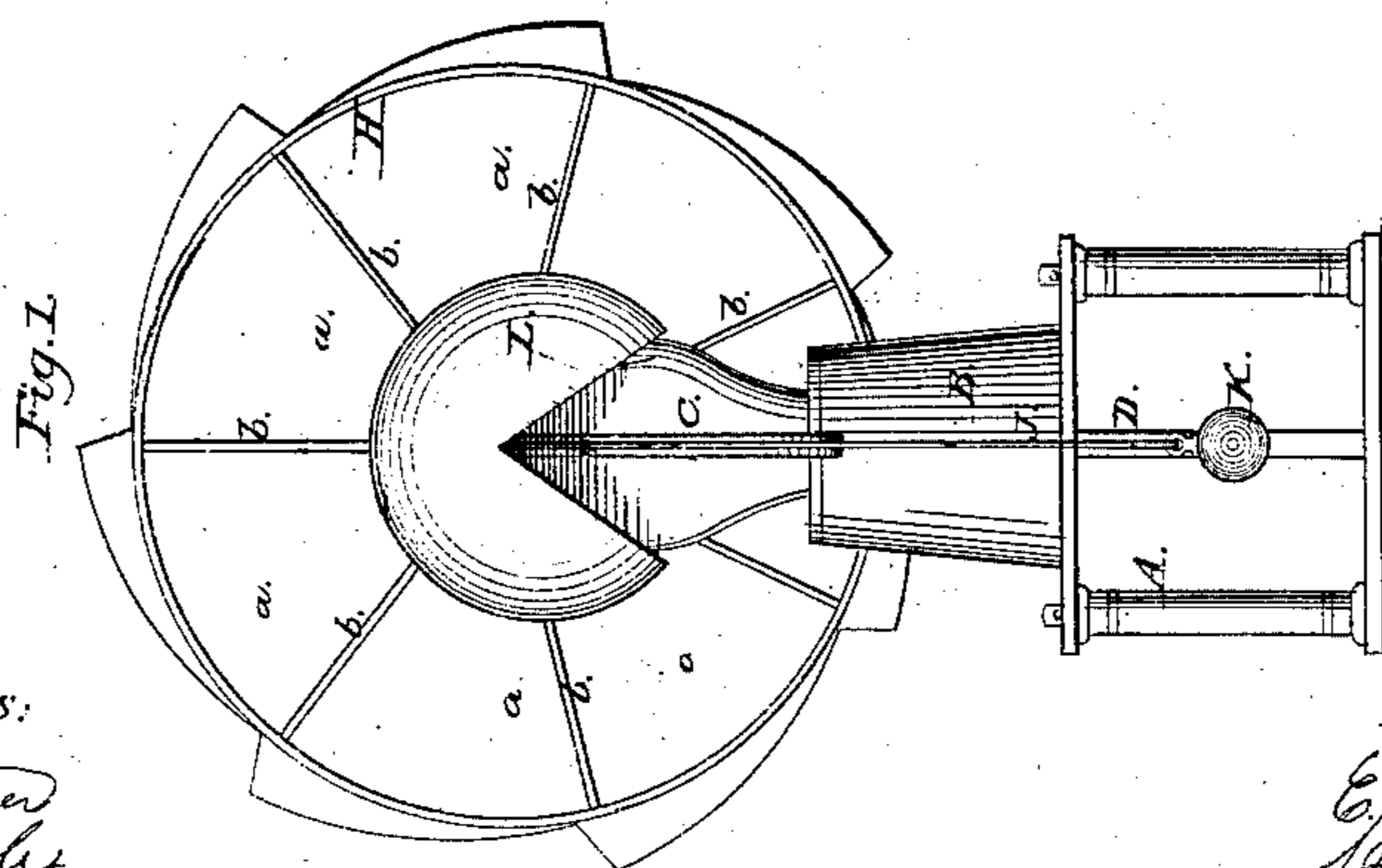
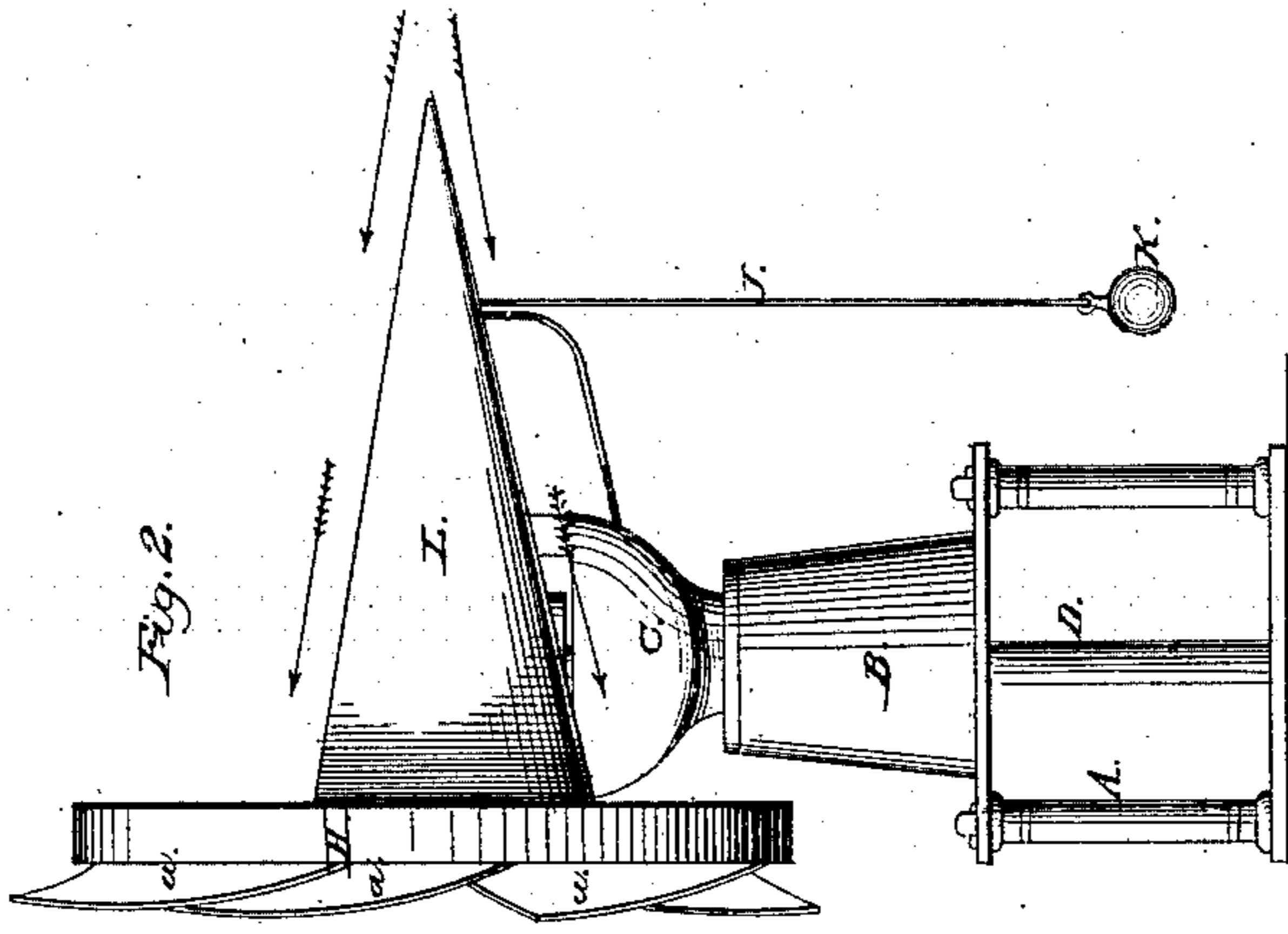
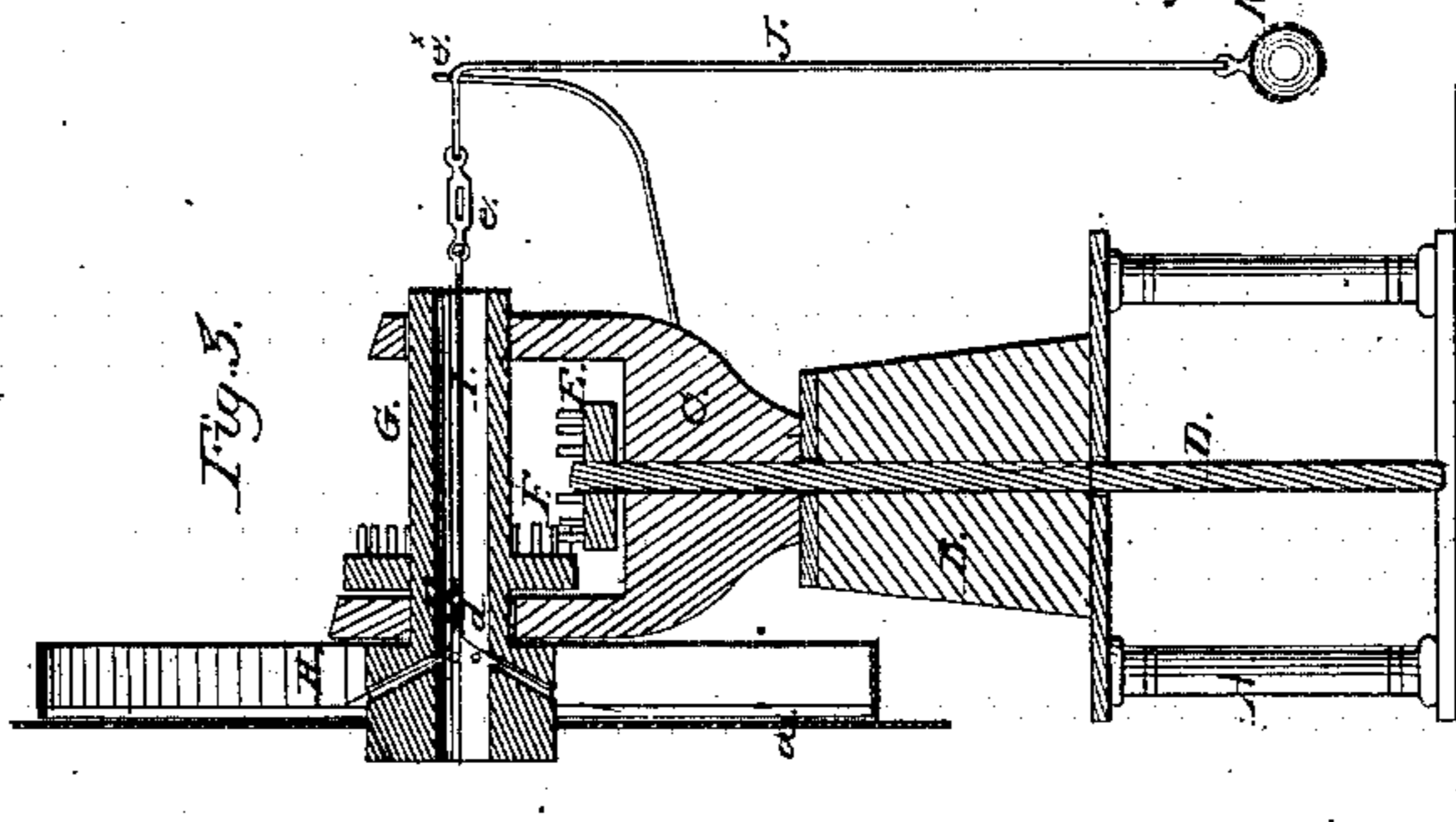


E. F. M. Fletcher, Wind Wheel.

N^o 27,951.

Patented Apr. 17, 1860.



Witnesses:
R. S. Spencer
J. W. Coombs

Inventor:
E. F. M. Fletcher
per Murray & Co.

UNITED STATES PATENT OFFICE.

E. F. M. FLETCHER, OF GEORGIA PLAINS, VERMONT, ASSIGNOR TO HIMSELF,
AND JAS. M. EDNEY, OF NEW YORK, N. Y.

IMPROVEMENT IN WINDMILLS.

Specification forming part of Letters Patent No. 27,951, dated April 17, 1860.

To all whom it may concern:

Be it known that I, E. F. M. FLETCHER, of Georgia Plains, in the county of Franklin and State of Vermont, have invented a new and useful Improvement in Wind-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a back elevation of my invention; Fig. 2, a side elevation of the same; Fig. 3, a side sectional view of the same.

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

This invention relates to an improvement in that class of wind-wheels which are commonly termed "portable," and which are more especially designed for driving light machinery.

The object of the within-described invention is to simplify and economize in the construction of such class of wind-wheels, and at the same time render the same more efficient than hitherto.

The invention consists in the employment or use of a deflecting-cone placed over the gearing and so arranged relatively with the wheel that it may serve as a vane and keep the former facing the wind, the cone serving the triple purpose of vane, cover, or protector to the gearing and deflector to cause the wind to act in the most efficient manner against the wind-wheel.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a suitable framing, on which a block B is secured, and C is a cap which is placed on the block B and allowed to turn freely thereon, a vertical shaft D serving as a center for the cap. The shaft D passes through the cap C and block B and is allowed to turn freely in both. The upper ends of the shaft D has a pinion E on it, and this pinion gears into a corresponding pinion F on a hollow shaft G, which is fitted in proper bearings on cap C. To one end of the hollow shaft G the wind-wheel H is attached. This wheel is formed of a series of sails or wings *a*, attached to radial arms *b*, the inner ends of which are fitted in the shaft G, and the outer

ends fitted in a ring or band *c*. The arms *b* are allowed to turn freely in their bearings, and to each sail or wing *a* a cord or rope *d* is attached at the lower end of the side opposite to that where the sail or wing is attached to its arm *b*. The cords or ropes of the several sails or wings are all connected within the hollow shaft G to a common cord or rope I, and this rope is connected by a swivel *e* to a rope J, which passes through a guide *e*^x and has a weight K attached to its lower end. The weight K is the exponent of the power of the wheel, for in consequence of being connected to the sails or wings, as described, the latter are rendered self-regulating and are allowed to yield or give in accordance with the gravity of the weight. This self-regulating mechanism, however, is quite common and well known, and therefore does not require a minute description.

L is a hollow cone, which may be constructed of wood or metal. This cone has a section removed or cut out from one side, so that it may be fitted horizontally over the gearing E F and on the cap C, the larger end of the cone being next the wheel, as shown clearly in Fig. 2. The point of the cone projects some distance beyond the cap C.

The cone L, it will be seen, serves as a covering or protector for the gearing E F, and it also serves to deflect the wind toward the outer part of the wheel, as indicated by the arms in Fig. 2, rendering the wind-wheel more efficient than it otherwise would be. The cone also for the above reason serves further to render the turning of the wheel quicker with the changes of the wind.

I do not claim the turning sails or wings *a* with a weight connected to them to render the wheel self-regulating, for such device has been previously used; but

I do claim as new and desire to secure by Letters Patent—

The employment or use of the cone L, applied to the revolving cap C and placed relatively with the wind-wheel H and gearing E F, to operate as and for the purpose set forth.

E. F. M. FLETCHER.

Witnesses:

CYRUS HOTCHKISS,
NORMAN E. WOOD.