A. DE GEOFROY.

FLUID PRESSURE MOTOR.

APPLICATION FILED MAR. 8, 1910.

997,802.

Patented July 11, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

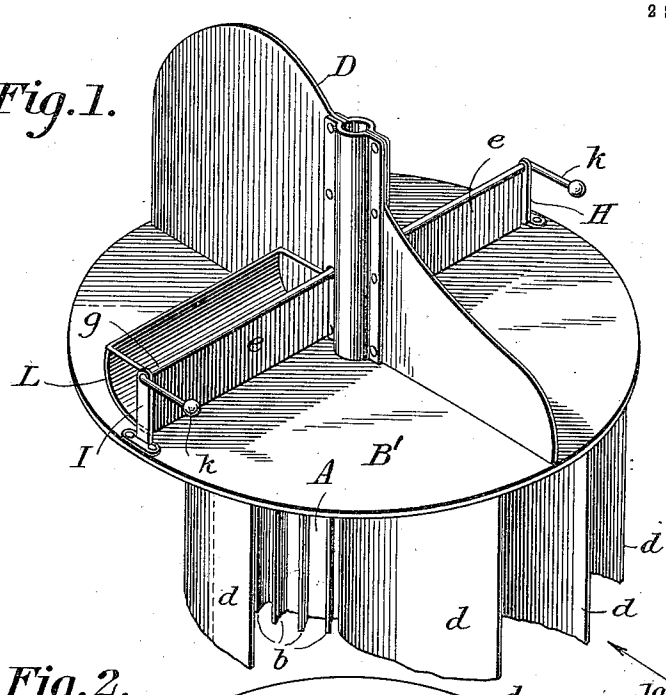
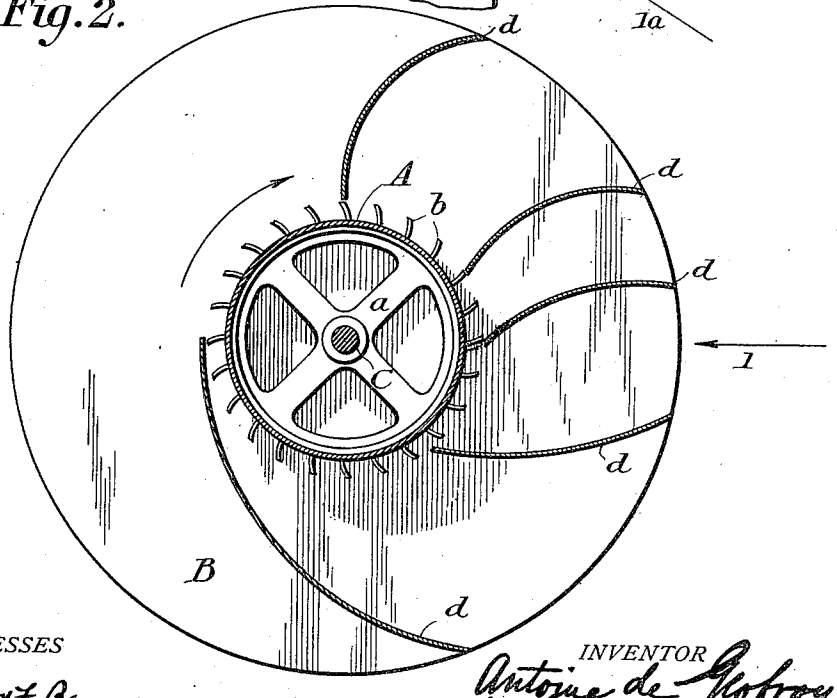


Fig. 2.



WITNESSES

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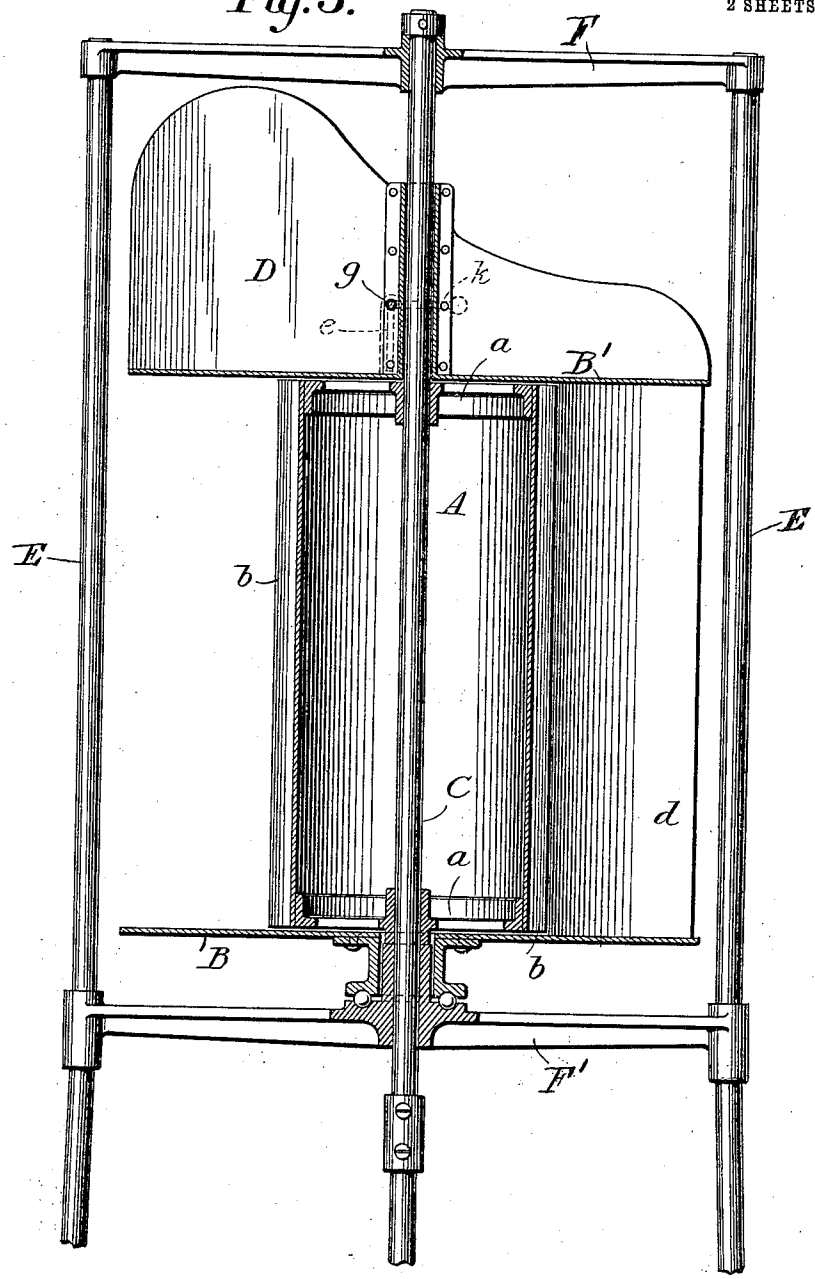
2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

ANTOINE DE GEOFROY, OF PARIS, FRANCE.

FLUID-PRESSURE MOTOR.

997,802. Specification of Letters Patent. Patented July 11, 1911.

Application filed March 8, 1910. Serial No. 547,981.

To all whom it may concern:

Be it known that I, ANTOINE DE GEOFROY, a citizen of the Republic of France, residing at Paris, France, have invented new and useful Improvements in Fluid-Pressure Motors, of which the following is a specification.

My invention relates to a motor of the class described designed to be operated by any moving fluid, and consists of the structural features and combinations hereinafter explained and more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of an upper part of my invention, and Fig. 2 is a transverse section on a line which may be at the longitudinal center of the motor which is designed to revolve upon a vertical axis. Fig. 5 is a vertical elevation mainly in section.

In carrying out my invention I provide a hollow drum A having at each end a spider *a*. Other spiders or supports may be employed if necessary in the length of the drum to insure its perfect rigidity. The perimeter of the drum A is furnished with blades *b* the number of which is to be governed by the circumstances of the case, the blades being of suitable curvature. The whole drum or structure is mounted so as to revolve upon a vertical axis C suitably supported by posts E carrying spiders F F′, a staunch framing being thus formed.

Mounted to rotate on the axis C, but independently of the movement of the drum A, are disks B B′, one above the other, the disks being separated a distance practically equal to the extreme outer length of the drum A. The disks B B′ are provided with vanes *d*, shown in cross section in Fig. 2, although their number and curvature may be varied. The vanes *d* are intended to cause a current of air, water or other motive fluid coming from the direction indicated by the arrow 1 in Fig. 2 to change its course and to effect useful work through the medium of such of the blades *b* of the drum A to which fluid is led by the vanes *d* of the disks B B′. The blades *b* of the drum A thus acted upon occupy, as will be seen by reference to the said figure, about three fourths of the entire perimeter of the drum, the latter being caused to revolve in the direction shown by the arrow 2.

On the top of the upper disk B′ is a vertically disposed vane D, Fig. 1, the object of which is to keep the system of curved vanes *d*, carried by the disks B B′, in the eye of the wind in the direction of the arrows 1, 1ª. At a right angle to the vane D is a device for causing it to deflect slightly from the direction of maximum efficiency in case the wind (or other motive force) comes too strongly for the motor. The said device consists of two metallic plates *e*, one on either side of the vane D, which plates hang from a transverse rod *g* (passing through the vane D) to which they are rigidly secured, the rod being pivoted in vertical posts H and I. The position of the plates *e* is controlled by means of the force of the fluid acting upon the plates. One of them has behind it a curved plate L in the shape of a hollow quarter cylinder which as the confronting plate is moved, is turned up presenting a curved surface to the force of the fluid, thus destroying the balance of the apparatus and causing the system of vanes to be deflected. The plates *e* are balanced by means of the arms *k* which are secured to the rod *g*.

I am aware that cylindrical wheels or drums with vanes are known, and therefore disclaim such broadly, but confine my invention to the special features and combinations herein shown and described whereby great efficiency of action is obtained by simple and reliable means.

Having thus described my invention, I claim:—

1. In a fluid pressure motor, the combination of a rotatable drum the perimeter of which is furnished with a series of curved blades rigid therewith and having substantially the length of said drum, a shaft for said drum rigidly secured thereto, disks mounted upon said shaft but having rotary movement independent of that of the drum, the disks being separated a distance practically equal to the extreme outer length of the drum, curved vanes secured between said disks, the inner edges of said vanes standing in close proximity to the outer edges of the blades of the drum, and a vane secured to the upper disk for keeping the system of curved vanes carried by said disks properly in the eye of the wind, substantially as set forth.

2. In a fluid pressure motor, the combination of a drum having a series of blades, a pair of disks, curved vanes connecting the said disks and occupying a portion of the

area thereof, a common axis for the whole, a support for said axis, a vertically disposed vane on the upper of the two disks, transverse tilting plates one at either side of said vane, and a curved deflector adapted to swing with one of said plates, substantially as set forth.

3. In a fluid pressure motor, the combination of a drum having a series of blades, a pair of disks, curved vanes connecting the said disks and occupying a portion of the area thereof, a common axis for the whole, a vertically disposed vane on the upper of the two disks, transverse tilting plates one at either side of the vane, and a curved deflector adapted to swing with one of said plates, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ANTOINE DE GEOFROY.

Witnesses:
C. B. BULL,
CHARLES LOWELL HOWARD.