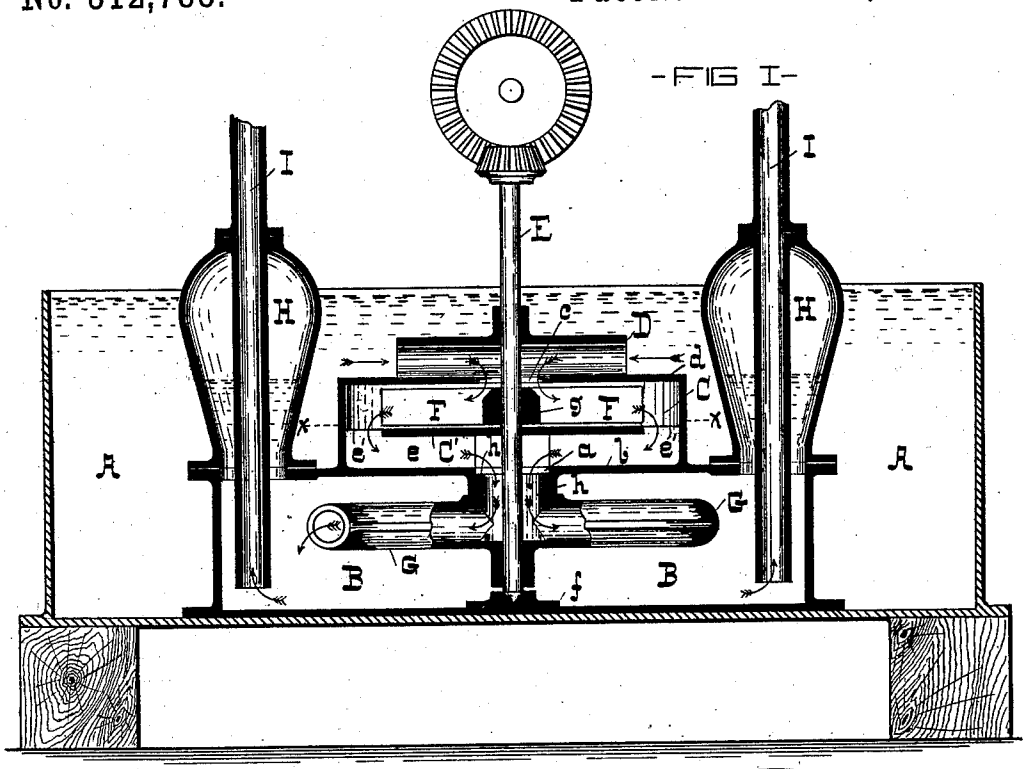
(No Model.)

G. YELLOTT.

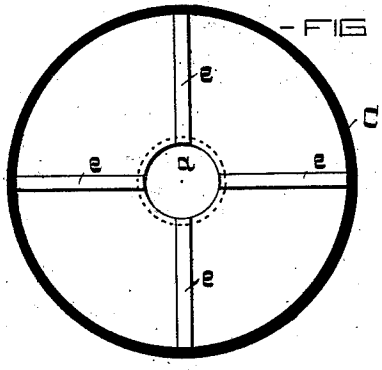
CENTRIFUGAL PUMP.

No. 312,788. Patented Feb. 24, 1885.

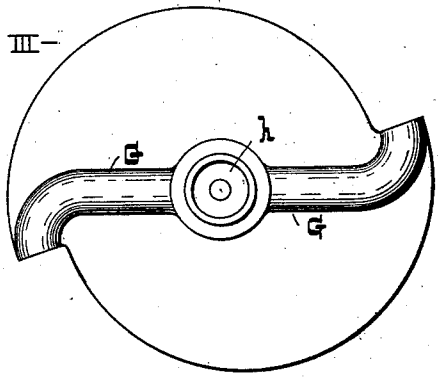
-FIG I-



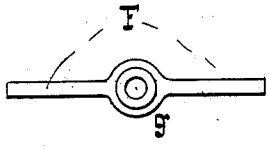
-FIG II-



-FIG III-



-FIG IV-



-WITNESSES-

Paul Fisher

Chas. B. Cassady.

-INVENTOR-

George Yellott

by G. H. & H. L. Howard

Attys.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE YELLOTT, OF TOWSON, MARYLAND.

CENTRIFUGAL PUMP.

SPECIFICATION forming part of Letters Patent No. 312,788, dated February 24, 1885.

Application filed June 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE YELLOTT, of Towson, in the county of Baltimore and State of Maryland, have invented certain Improvements in Centrifugal Pumps, of which the following is a specification.

In the drawings forming a part hereof, Figure I is a vertical section of the invention; and Figs. II, III, and IV, details of the same, as will hereinafter fully appear.

A is a tank, to which water to be elevated is introduced by any suitable means, and it is to be kept nearly or entirely filled.

B is a box of circular or polygonal shape, having a central circular aperture, *a*, in its head *b*.

C is a cylindrical chamber on the head *b* of the box B. This chamber has also a central aperture, *c*, in its head *d*, and above the aperture *c* is a cross-pipe, D, open at its ends. The chamber C has radial partitions *e*, (see particularly Fig. II,) which extend from the periphery of the chamber to the central aperture, *a*.

C′ is a plate cast with or secured to the partitions *e*, and it is of a less diameter than the interior of the chamber C, in order to obtain the annular space *e′*, which is in communication with the spaces between the radial partitions *e*.

E is a shaft, which passes loosely through the plate C′, and is supported at the lower end by a step, *f*, in the box B.

F F are vanes projecting from a central hub, *g*, secured to the shaft E at a point within the chamber C, and immediately above the plate C′ therein.

Fig. IV is a plan of the vanes.

G is a reaction-wheel fastened to the central shaft, E, having a hollow hub, *h*, which enters the central aperture, *a*, in the head *b* of the box B. The reaction-wheel consists of two pipes projecting from the central hub, *h*, with their discharge ends turned in opposite directions. (See Fig. III.)

H H are air-vessels connected to the box B, and I I are discharge-pipes which extend to near the bottom of the said box.

Supposing all the various chambers and spaces except the air-vessels to be filled with water and the pump in operation, the water on the plate C′ is made to revolve with the vanes F, and centrifugal force impels this revolving body of water to pass outward and downward through the annular space *e′* to between the partitions *e*, and finally to the interior of the reaction-wheel G, which discharges its contents to the box B. As water is driven from the plate C′ its place is supplied through the pipe D and the central aperture, *c*.

The object of the partitions *e* is to prevent water in the chamber C from acquiring a circular movement. When pressure is increased in the box B, air is compressed in the air-vessels H and a regularity of discharge through the pipe I maintained.

I do not confine myself to the use of the tank A, as the water may be supplied directly to the pipe *d*, and in some cases to the aperture *c*.

I claim as my invention—

1. In a centrifugal pump, the combination of revoluble vanes and a reaction-wheel adapted to revolve in separate chambers, having a communicating aperture to admit water forced from the said vanes to the interior of the reaction-wheel, substantially as specified.

2. The box B, having discharge-pipes I, and the revoluble reaction-wheel G, in combination with the chamber C and the vanes F, substantially as specified.

GEO. YELLOTT.

Witnesses:
W. C. MAYNADIER,
R. C. MASSENBURG.