(No Model.)

N. POWER.

FLUID EJECTOR.

No. 519,618. Patented May 8, 1894.

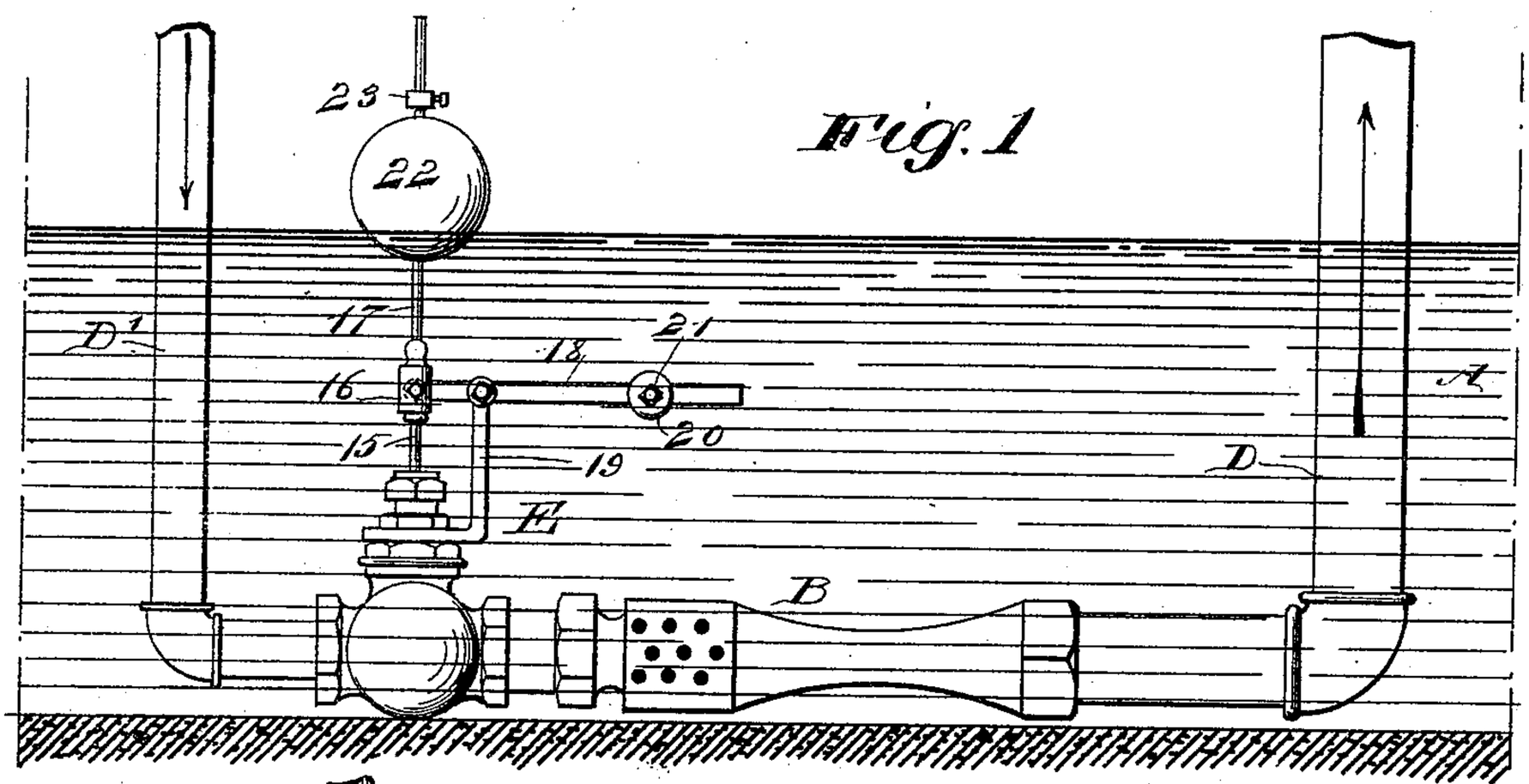

Fig. 1

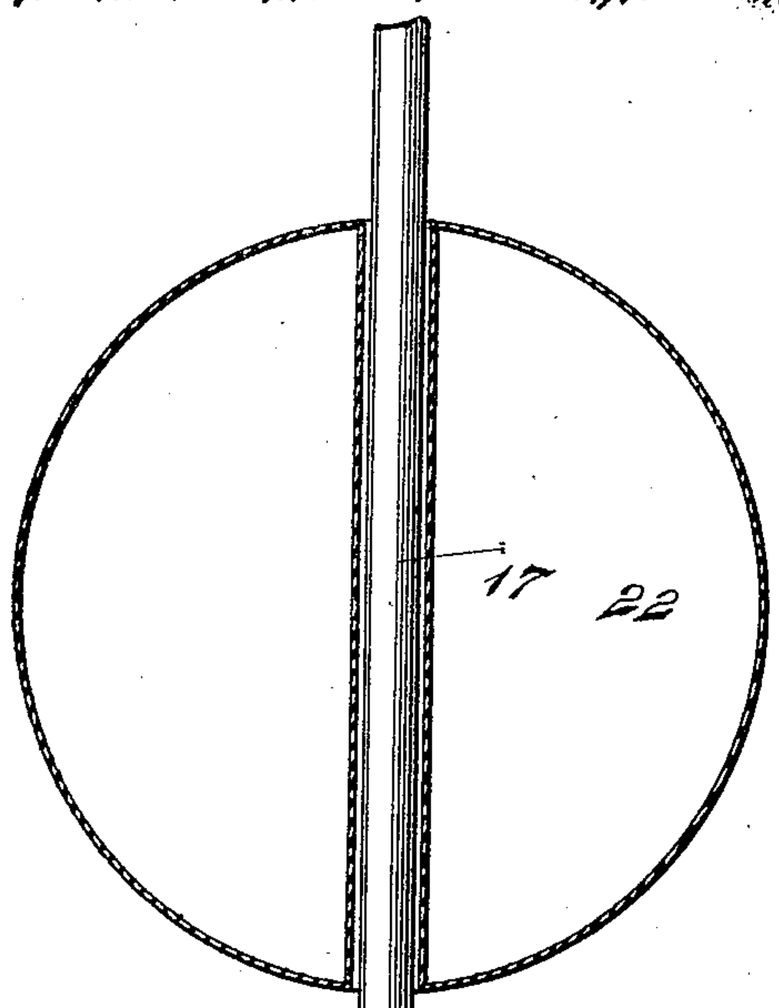

Fig. 3

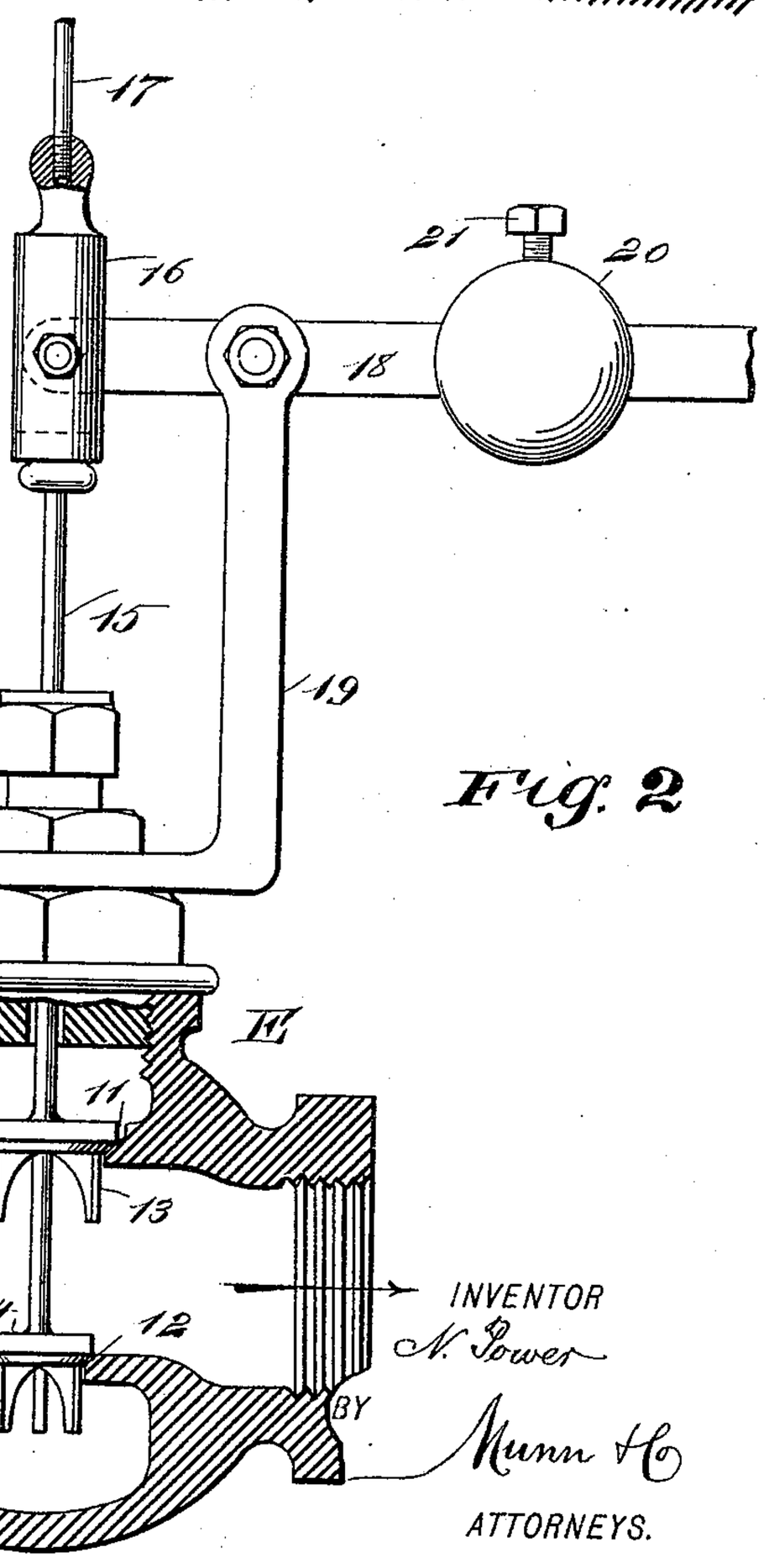

Fig. 2

WITNESSES:

John A. Berglund

C. Bedgwick

INVENTOR

N. Power

BY Munn & Co

ATTORNEYS.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NICHOLAS POWER, OF NEW YORK, N. Y., ASSIGNOR TO PHILIP BRAENDER, OF SAME PLACE.

FLUID-EJECTOR.

SPECIFICATION forming part of Letters Patent No. 519,618, dated May 8, 1894.

Application filed March 15, 1894. Serial No. 503,766. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS POWER, of New York city, in the county and State of New York, have invented a new and Improved Fluid-Ejector, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fluid ejectors, and the object of the invention is to provide an ejector which will operate automatically, and in which a perfectly balanced valve will be provided, a float being made to control the action of the valve, opening and closing the same, the valve and its stem being counterbalanced by an adjustable counterpoise weight in such manner that the valve will remain in whatever position it is placed by the float.

Another object of the invention is to construct the fluid ejector in a simple, durable and economic manner.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the ejector. Fig. 2 is a vertical section taken through the valve thereof, the said view also illustrating the counterpoise mechanism for the valve; and Fig. 3 is a sectional view of the float and the stem upon which it is located.

In carrying out the invention, the tank or well A in which the ejector is illustrated as being placed, may be constructed in any suitable manner or of any suitable material, and is similar to that which is located in cellars, &c., so that the water which may be ejected may accumulate therein. The ejector B employed may be of any of the well known types, and is connected at one end with a discharge pipe D, and at its other end with a supply or pressure pipe D′. The discharge pipe may extend to any point where the ejected fluid is to be delivered, and the supply or water pressure pipe D′ may be connected with any source of supply hydraulic or otherwise. A balance valve E, is located in the supply or pressure pipe, usually adjacent to the ejector. The said valve, as shown in Fig. 2, is provided within its chamber 10 with an upper and a lower seat 11 and 12, in which two valve disks 13 and 14 have bearing, both disks being mounted upon one stem 15. The stem extends through the body of the valve any desired distance, and is preferably made to connect in a positive manner with a block 16, which may be of cylindrical or other form, the said block being adapted to couple the valve stem 15 with a rod 17, whereby when the block is raised or lowered the valve stem will be given a like movement.

The block 16 is attached to the inner end of an arm 18, usually horizontally located, which arm is preferably fulcrumed between its center and the end pivoted to the block upon a bracket 19, supported by the casing of the valve. The arm 18 carries an adjustable weight 20, which may be fixed at any point upon the arm through the medium of a set screw 21 or its equivalant, and the said weight 20 is adapted to accurately counterbalance the valve stem block and rod 17, together with the valve disks 13 and 14.

The rod 17 coupled with the valve stem carries a float 22, mounted to freely slide thereon, as shown in Fig. 3, and the said rod is likewise provided with an adjustable collar 23, and according to the location of the collar will the float operate to unseat the valve disks.

In operation, since the valve stem, valve disks and other parts directly connected with the stem are held in perfect equipoise, the float 22 will have but little work in operating upon the valve stem to open or close the valve, closing the valve when the water lowers sufficiently to enable the float to strike the block 16, the valve being open when the float exerts upward pressure upon the collar 23. Furthermore, owing to the construction of this valve, that is, to its perfect equipoise, in whatever position the valve may be placed by the float, it will remain until the predetermined time arises at a predetermined rise or flow of water to open or to close the valve.

This invention is of exceedingly simple,

durable and economic construction, and its perfect operation is evident, as is likewise its remote liability to become disarranged.

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

1. In an apparatus for draining cellars, the combination, with a pressure pipe, a discharge pipe, and an intermediate ejector, of a balance valve located in the pressure pipe, the valve disks of which are mounted upon a stem, the said stem being connected with a float operating the valve disks, and a counterweight connected with the valve stem, whereby the stem, the parts connected therewith and the valve disks are counterbalanced, substantially as shown and described.

2. In an apparatus for draining cellars and for like purposes, the combination, with a pressure pipe, and an intermediate ejector between the two pipes and in communication with the locality to be drained, of a balance valve located in the pressure pipe, an arm fulcrumed upon a fixed support and connected with the valve stem outside of the valve casing, a weight adjustably mounted upon said arm, a float having free movement upon a continuation of the valve stem and provided with an adjustable collar, the said weight serving to accurately counterbalance the valve stem and parts directly connected therewith or carried thereby, whereby the float upon the rising or falling of the water to predetermined points will open or close the valve, the valve remaining in the position in which it is placed by the float owing to the mechanical balancing of the valve, until the float is called upon to act, substantially as shown and described.

NICHOLAS POWER.

Witnesses:
J. FRED. ACKER,
JNO. M. RITTER.