(No Model.)

F. E. CLAFFEY.

VALVE.

No. 520,203. Patented May 22, 1894.

Fig. 1.

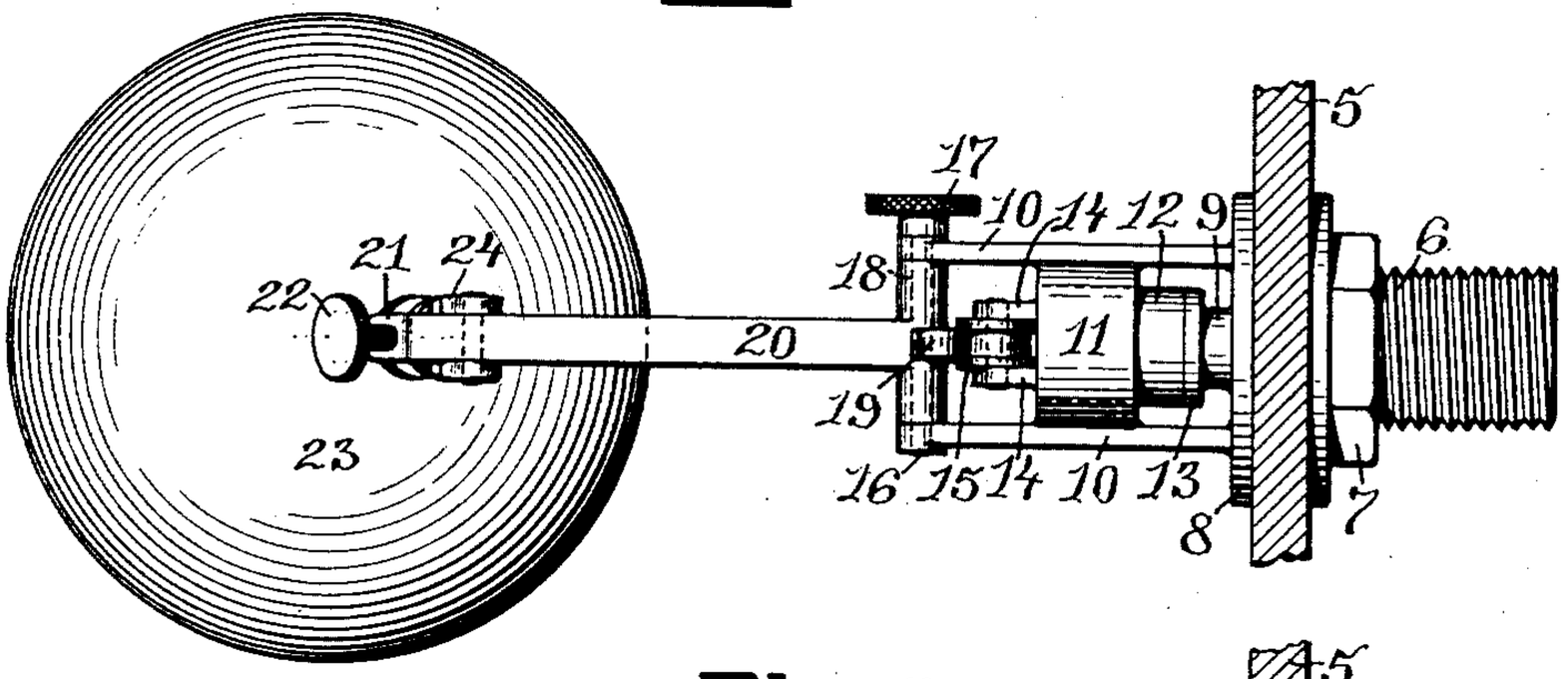


Fig. 2.

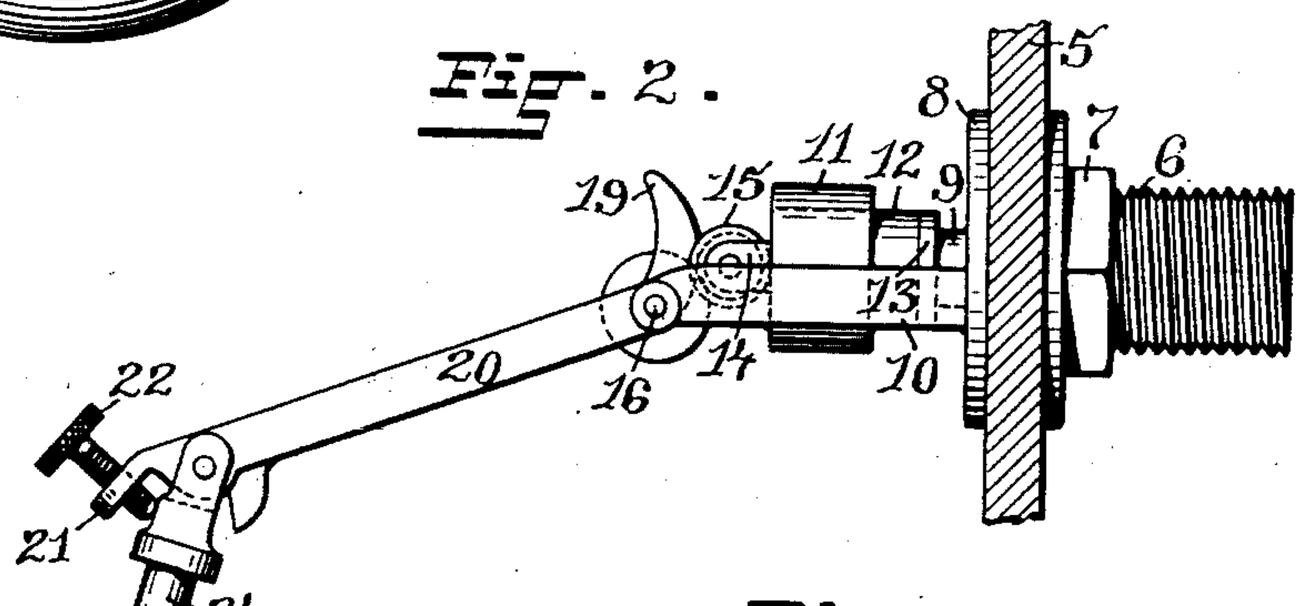
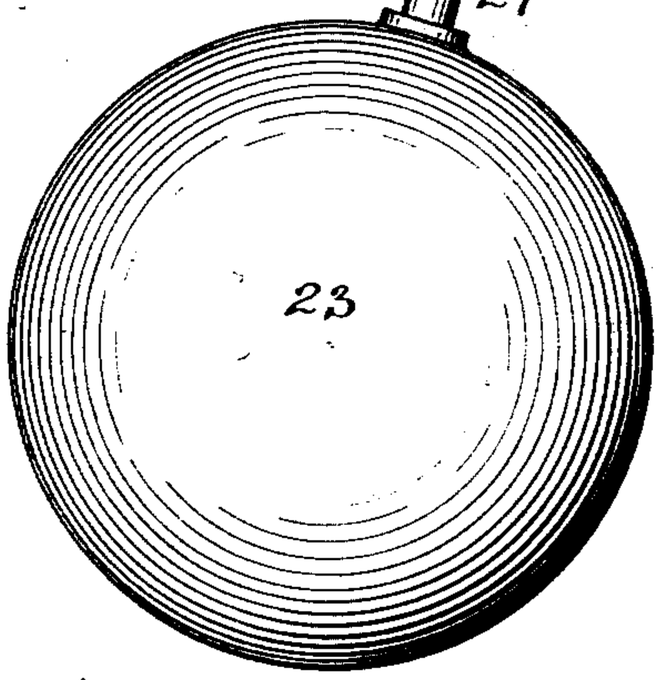
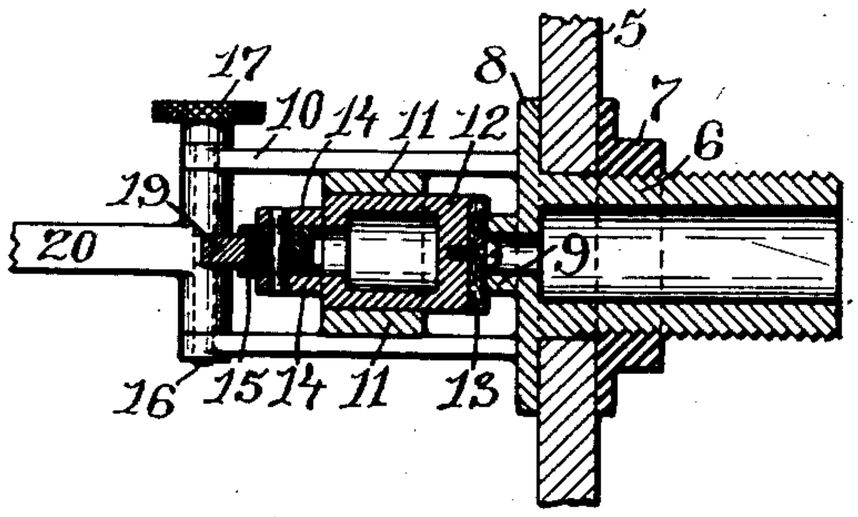


Fig. 3.





WITNESSES:

Henry J. Miller

Chas. H. Luther Jr

INVENTOR:

Frank E. Claffey,

by Joseph A. Miller & Co.,

Atty's.

THE NATIONAL LITHOGRAPHING COMPANY,
WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANK E. CLAFFEY, OF PROVIDENCE, RHODE ISLAND.

VALVE.

SPECIFICATION forming part of Letters Patent No. 520,203, dated May 22, 1894.

Application filed January 2, 1894. Serial No. 495,360. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. CLAFFEY, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Valves; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has particular reference to improvements in that class of valves which are adapted to be operated by a lever to which a buoyant object is secured.

The object of the invention is to increase the power exerted by the lever on the valve.

Another object is to so construct a valve of this nature that the buoyant object, generally a hollow ball, may be peculiarly adjusted with reference to the lever.

Still another object is to so construct the lever and the valve that they will not be liable to stick.

Another object is to so arrange the support for the lever that the lever can be readily removed from the support to facilitate the repairing of the valve.

The invention consists in the peculiar construction of the valve and the lever and their novel combination with each other and the ball.

The invention also consists in such other novel features of construction and combination of parts as may hereinafter be more fully described and pointed out in the claims.

Figure 1 represents a plan view of the improved valve and the ball and lever. Fig. 2 represents a side view of the same. Fig. 3 represents a horizontal sectional view of the valve to more clearly show its construction.

Similar numbers of reference designate corresponding parts throughout.

Valves of this nature are used for governing the inflow of water to tanks, from which the water is drawn from time to time, and in which it is desired to maintain, as far as possible, a constant supply, the valves generally extend inward from one side of the tank and are operated by a ball or other buoyant object floating on the water in the tank and provided with a lever which operates to close the valve when the water is at its maximum level and allows the valve to be opened by the pressure of the water back of the valve when the water level in the tank is reduced.

In the drawings 5 indicates the side or end of a tank which is perforated to receive the hollow-shank 6 of the valve, the outer surface of the shank is screw-threaded and a clamping-nut 7 is screwed thereon, the shank 6 having at its inner end a plate 8 which, by the pressure exerted by the nut 7 on the outer surface of the side 5, is drawn against the inner surface of this side,—if desired, a packing may be interposed between the plate 8 and the side of the tank. In the center of the plate 8 is formed a contracted inlet 9 in the shape of a collar extending from the plate, and at opposite portions of this plate are located the inwardly-extending arms 10—10 the ends of which are transversely perforated, while about midway these arms are connected by the guide-frame 11 having a bore of any desired cross-sectional shape. Within the guide-frame is movable the valve 12 provided with the packing 13 to bear against the end of the inlet 9 and having at the opposite end the ears 14—14 between which the grooved-wheel 15 is journaled.

The shaft 16 having the thumb-screw 17 extends through the transverse perforations of the arms 10—10, a portion of its length at either end being screw-threaded and the perforation of the corresponding arm being also furnished with a screw-thread with which the thread on the shaft 16 engages to secure this shaft in place,—on this shaft is journaled a sleeve 18, extending laterally from the central portion of which is the curved-cam 29 bearing in the groove of the wheel 15, and the lever 20 furnished at the outer end with the perforated-lug 21 in which the set-screw 22 works. Instead of being rigidly secured to the lever, the float 23 is mounted on a short arm 24 which is pivoted to the end of the lever 20 in such a manner that the degree of submersion of the float may be adjusted by the set-screw 22, so that when the valve is closed the whole or any portion of the float may be below the water level.

By the use of the cam bearing on the rotatable-wheel the friction is reduced and the operation of the valve is more positive, the

ready withdrawal of the shaft 16 allows the removal of the lever and the valve from their positions for examination or repair.

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

1. In a valve, of the nature described, the combination with the lever 20 having at the outer end the perforated lug 21 and a depending stop, and the adjusting-screw 22 secured through said lug, of the ball 23, and the arm 24 extending therefrom having ears pivoted to the sides of the lever and adapted to bear against the end of the adjusting screw when elevated, as described.

2. The combination with the hollow-shank 6 having the plate 8, the contracted inlet 9, the arms 10—10 the guide 11 connecting said arms, the valve 12 movable in said guide and having the ears 14—14, and the grooved-wheel 15 journaled between the ears, of the shaft 16 having the thumb-nut 17 removably mounted in the ends of the arms 10—10, the sleeve 18 having the lever 20 furnished with the perforated-lug 21 and the cam 19 bearing in the groove of the wheel 15, the ball 23 mounted on the arm 24 which is pivoted to the lever 20, and the adjusting-screw 22 carried by the lug 21, as and for the purpose described.

In witness whereof I have hereunto set my hand.

FRANK E. CLAFFEY.

Witnesses:
JOHN W. CLAFFEY,
HENRY J. MILLER.