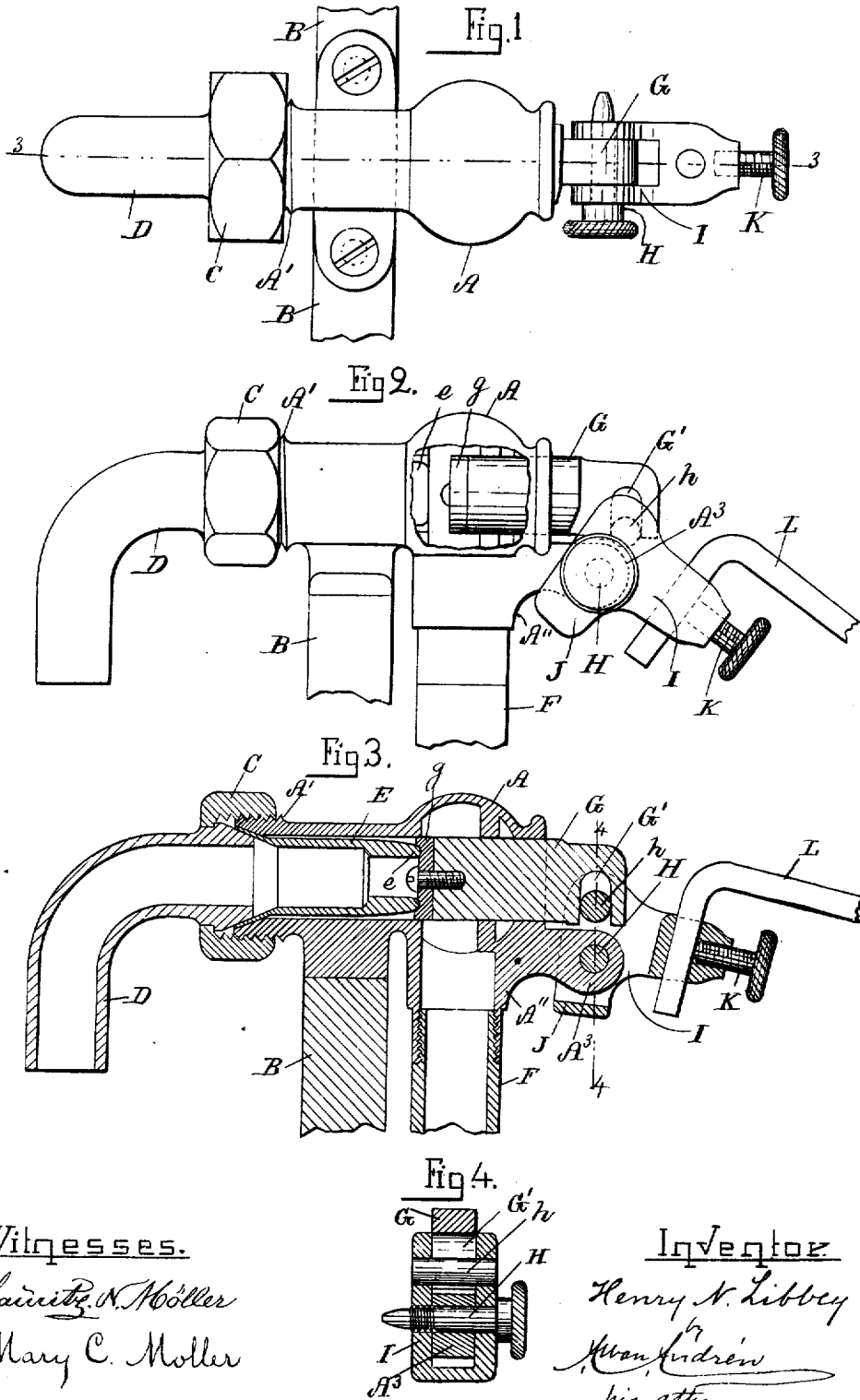


H. N. LIBBEY.
 BALL COCK.
 APPLICATION FILED NOV. 4, 1904.

902,825.

Patented Nov. 3, 1908.



Witnesses.

Lauritz N. Moller
 Mary C. Moller

Inventor

Henry N. Libbey
 by
 Man, Freden
 his atty.

UNITED STATES PATENT OFFICE.

HENRY N. LIBBEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO ELBRIDGE G. KELLEY, OF PEABODY, MASSACHUSETTS.

BALL-COCK.

No. 902,825.

Specification of Letters Patent.

Patented Nov. 3, 1908.

Application filed November 4, 1904. Serial No. 231,400.

To all whom it may concern:

Be it known that I, HENRY N. LIBBEY, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ball-Cocks, of which the following is a specification.

This invention relates to improvements in ball cocks capable of several advantageous uses, one of which is in connection with a water closet flush tank, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 is a top plan view of the improved ball cock; Fig. 2 is a side elevation, partly shown in section, showing the valve open and the ball float in its lowered position; Fig. 3 is a longitudinal section on the line 3—3 in Fig. 1, showing the valve in its normal closed position and the ball float in its raised position; and—Fig. 4 is a cross-section on the line 4—4 shown in Fig. 3.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings A represents the shell which is suitably secured to the upper edge of the flushing tank B, as is common in devices of this kind. The outer end of the shell A is screw threaded at A', and to it is secured by means of a screw threaded coupling C, a supply pipe D as usual. Within the shell A is arranged a preferably detachable longitudinally perforated valve sleeve E, having a valve seat e, at its inner end in the ordinary manner.

A'' is a downwardly extending discharge branch leading from the shell A, and connected to a delivery pipe F, as usual.

Within the outer open end of the shell A is arranged a longitudinally movable plunger G, provided with a valve g, adapted to be normally held closer against the valve seat e, as shown in Fig. 3.

Integral with the inner end of the shell A is an ear or projection A³, to which is pivotally connected preferably by means of a detachable fulcrum pin H, a  shaped or forked yoke I, to the upper portion of which is attached a pin h, engaging a forked recess G', in the end of the plunger G, as shown. The yoke I has a depending portion J which is adapted, when the water is out of the tank, to come into contact with the ear or projection A³ and thus limit the downward

movement of the yoke to prevent the pin h from coming out of the recess G' and the yoke I from getting on a dead center.

To the yoke I is secured preferably by means of a set screw K, the ball float rod L, as is common in ball cocks for water closet flush tanks.

By the employment of a pivoted forked yoke I and a plunger G, having a forked recess G', pivotally connected to the pin h, on the yoke I, the said plunger may be readily detached from the shell A simply by removing the fulcrum pin H and detaching the pin h from the forked recess G' in the plunger, after which the yoke I can readily be removed from the plunger and the latter withdrawn from within the shell A as may be desired, and as circumstances may require. In a like manner the yoke I can readily be connected to the slotted recess G', in the plunger G, by inserting the pin h, in the said recess G' and connecting the said yoke to the ear A³, by means of the fulcrum pin H, as herein above shown and described.

What I wish to secure by Letters Patent and claim is:—

1. In a ball cock, the combination of a casing open at both ends, a detachable longitudinally bored valve sleeve within the casing, a longitudinally movable plunger seated within and extending through one of the open ends of the casing and provided with a hook at its outer end, an extension carried by the casing and projecting beyond the end of the same, a yoke member detachably pivoted to said projection and carrying a ball float rod, said yoke member provided with a pin for engaging the hooked end of the plunger to operate the same, said yoke member adapted to engage the projection to limit the downward movement of the yoke member.

2. In a ball cock, a horizontal valve casing having an internal valve seat, an endwise movable plunger in said casing, provided with a valve to fit against said seat, and also being provided with a projecting portion located exteriorly of the casing, said projecting portion having a downwardly-opening vertical notch, the casing having a projection under said notch, a yoke-shaped ball float-rod carrying member loosely embracing said projecting portion and having a lug freely fitting said notch and riding up and down therein on the motion of said yoke-shaped member, and a pin supported for

rocking motion by said projection, the pin
being in screw-threaded engagement with
one branch of said yoke-shaped member, and
said pin having a shoulder engaging the
5 outer face of the other branch of said yoke-
shaped member, said pin constituting a sin-
gle removable bearing shaft for the yoke-
shaped member and serving to hold the

plunger and yoke-shaped member in as-
sembled relation.

In testimony whereof I have affixed my
signature, in presence of two witnesses.

HENRY N. LIBBEY.

Witnesses:

ALBAN ANDRÉN,

LAURITZ N. MÖLLER.