

UNITED STATES PATENT OFFICE.

CHARLES B. WHITNEY, OF HYDE PARK, MASSACHUSETTS.

BALL-COCK.

Specification of Letters Patent. Patented Dec. 20, 1910.

979,235.

Application filed October 25, 1909. Serial No. 524,317.

To all whom it may concern:

Be it known that I, CHARLES B. WHITNEY, a citizen of the United States, residing at Hyde Park, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Ball-Cocks, of which the following is a specification.

This invention relates to improvements in ball cocks, and the object is to prevent the practically continuous leakage of water which usually occurs between the valve and its seat after the ball float has reached its highest level.

The invention consists in the novel features of construction and in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims.

Referring to the drawings: Figure 1 is a longitudinal vertical sectional view of a ball cock embodying my invention, the same being shown in its fully opened position. Fig. 2 is a sectional view similar to Fig. 1 with the exception that the ball cock lever is shown fully raised and the valve closed. Fig. 3 is a detail section showing the ball cock lever just before it has reached its uppermost position and before the valve is entirely closed, the same being held by the latch. Fig. 4 is an enlarged longitudinal sectional view of the plunger.

In the drawings, 8 is a valve casing consisting of a body portion 9 having a spout 10 and an inlet passage 11 where the water is admitted. The valve casing is provided with a seat 17 against which a valve 18 consisting of a stem 19 and disk 20 is adapted to bear. A suitable plunger 24 having passages 25 extending longitudinally there- through and permitting the water to flow from the inlet passage 11 to the seat 17, bears against one end of the valve stem 19 and is encircled by a spring 29 tending to seat the valve 18.

The particular plunger herein shown forms a part of the subject matter of U. S. Letters Patent No. 902,786, dated November 3, 1908, to which reference may be had for its mode of operation, it being understood, however, that any plunger having passages extending longitudinally therethrough may be employed, if desired.

30 is a ball float lever to which, in practice, a ball float will be attached and this lever is supported upon a pivot 34 mounted in ears 45 formed on the casing 8. The

lever 30 has a roll 48 journaled thereon which is adapted to bear against a plate 49 secured to one end of a pin 31 slidably arranged in the casing 8 and bearing against the valve stem 19. Journaled on the plate 49 is a roll 50 which at certain times in the operation of the device is adapted to engage a roll 51 journaled on a latch 52, said latch being pivoted at 53 on the casing of the faucet. A screw 54 having screw-threaded engagement with the latch 52 is adapted to engage the float lever 30 when the same has been lowered, as shown in Fig. 1, when the valve is open.

As the water begins to rise in the tank, the float lever 30 is raised thereby and the roll 48 in swinging from the position shown in Fig. 1 to the position shown in Fig. 3, permits the pin 31 and valve 18 to move toward the left under the influence of the spring 29 and the water pressure until said valve is nearly closed, at which time the roll 50 engages the roll 51 slightly above the center of the latter roll. The latch 52 now acts through the rolls 50 and 51 to lock the pin 31 and valve 18 against further movement toward the left. Continued upward movement of the float lever 30 results in the roll 48 being carried out of engagement with the plate 49 and finally said lever acts to lift the latch 52 until the center of the roll 51 has risen very slightly above the center of the roll 50, thereby freeing the pin 31 and valve 18 and allowing the same to be carried toward the left under the influence of the spring 29 and the water pressure until said valve contacts with its seat, as shown in Fig. 2. It will be observed, however, that the plate 49 is still out of engagement with the roll 48 and, therefore, the float lever 30 and roll 48 do not interfere with the water pressure and spring pressure holding the valve 18 firmly in contact with its seat and, therefore, there can be no leakage. The final position of the latch 52 is shown in Fig. 2.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pres-

sure, and means to stop said valve near the end of its closing movement, said float lever being adapted to subsequently actuate said means to allow said valve to become seated unrestrained by said float lever.

2. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, and a latch adapted to stop said valve near the end of its closing movement, said float lever being adapted to subsequently render said latch inoperative thereby to allow said valve to become seated unrestrained by said float lever.

3. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, means acting on said valve and projecting outwardly from said casing, a latch, and a roll journaled on said latch and adapted to engage said means to stop said valve near the end of its closing movement, said float lever being adapted to subsequently render said latch inoperative thereby to allow said valve to become seated unrestrained by said float lever.

4. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapt-

ed in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, a pin acting on said valve and projecting outwardly from said casing, a roll journaled on said pin, a latch, and a roll journaled on said latch and adapted to engage the first-mentioned roll to stop said valve near the end of its closing movement, said float lever being adapted to subsequently trip said latch thereby to allow said valve to become seated unrestrained by said float lever.

5. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, a pin acting on said valve, and projecting outwardly from said casing, a roll journaled on said lever and adapted to engage said pin, a roll journaled on said pin, a latch, and a roll journaled on said latch and adapted to engage the second-mentioned roll to stop said valve near the end of its closing movement whereby the third-mentioned roll passes out of engagement with said pin, and said valve is allowed to become seated unrestrained by said float lever.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES B. WHITNEY.

Witnesses:

LOUIS A. JONES,
SADIE V. MCCARTHY.