N. ENGLISH.

VALVE.

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1,042,775.

Patented Oct. 29, 1912.

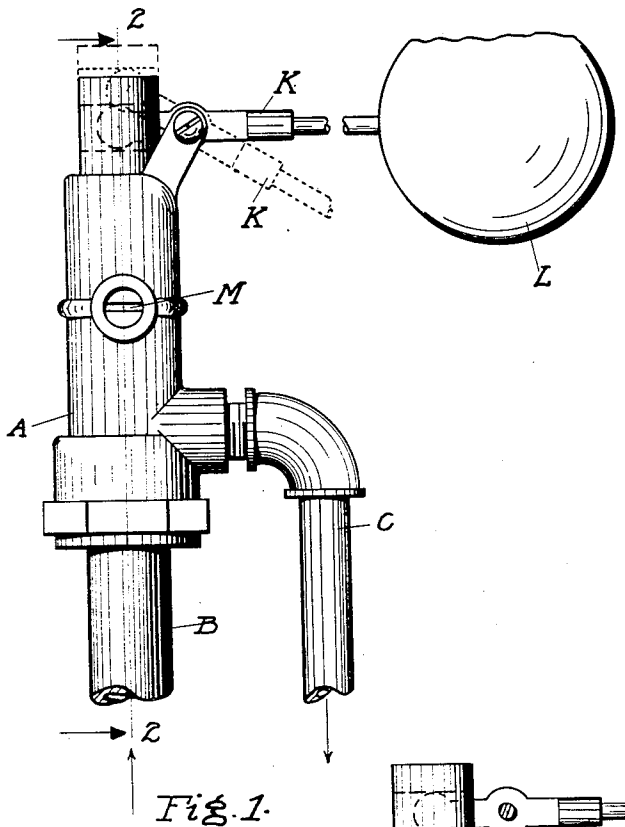

Fig. 1.

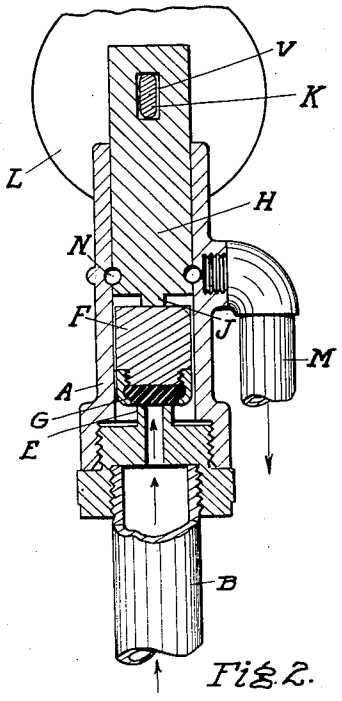

Fig. 2.

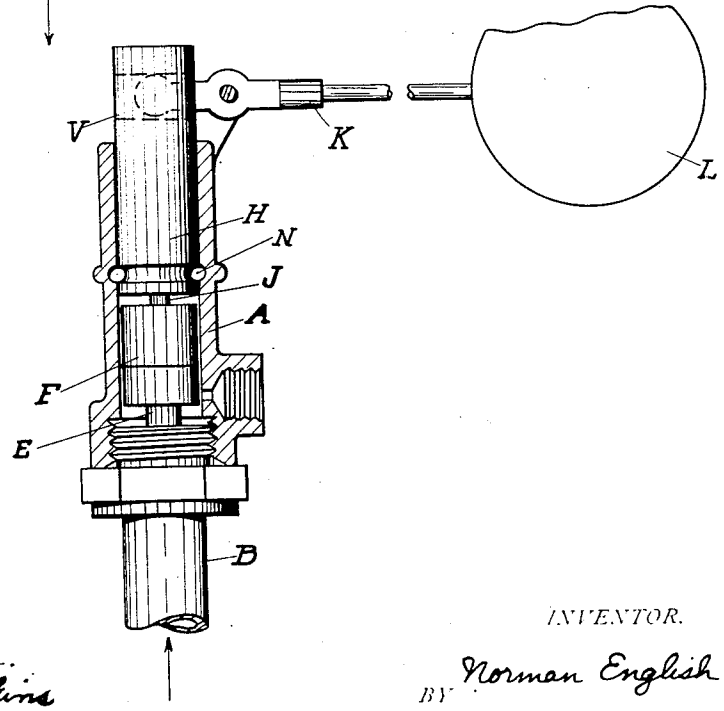

Fig. 3.

WITNESSES:

H. E. Sloman.

Agnes Hopkins

INVENTOR.

Norman English

BY

William M. Swan

ATTORNEY.

UNITED STATES PATENT OFFICE.

NORMAN ENGLISH, OF DETROIT, MICHIGAN.

VALVE.

1,042,775. Specification of Letters Patent. Patented Oct. 29, 1912.

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To all whom it may concern:

Be it known that I, NORMAN ENGLISH, who am a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Valves, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to valves, and has for its object an improved device of the float actuated type adapted especially for use under conditions where the quick and at the same time noiseless closing of the valve is desired, thus obviating the objectionable "pounding" so frequently met with.

In the drawings:—Figure 1 is an elevation of the valve casing and its related parts, including the ball float. Fig. 2 is a sectional elevation, at right angles to the position shown in Fig. 1, along the line 2 thereof, and looking in the direction of the arrow shown in Fig. 1. Fig. 3 is an elevation, largely in section, taken from a similar position to that of Fig. 1.

A represents the valve shell, into whose lower portion runs the inlet pipe B, and from whose side extends the outlet pipe C. These may be made of one piece if desired, though I have preferred to illustrate a valve whose component parts are easily disassembled for inspection, cleaning, and the like. At the bottom of the shell is located the apertured valve seat E; this is adapted to be closed by the plunger F, which fits somewhat loosely within the chamber of the shell A, and whose lower end is preferably provided with a washer G to insure a watertight closure when the plunger is held down in the closure position. It is evident that the normal position of the plunger F is in a position of closure on the valve seat E, because of its weight, which, however, is quickly counterbalanced and the plunger raised by the inflow of water through the pipe B, unless it is reinforced by the downward pressure of the stem H, which slidably engages in the upper part of the chamber; its lower point J rests upon the top of the plunger F when the stem is forced down by the movement of the pivoted lever K, which I have shown adapted for actuation by the ball float L, though it is evident that other means could be substituted therefor when particular conditions and circumstances so require. The end of the lever K which engages the stem H engages loosely through a slot V therethrough, so as to avoid all chances of binding.

M indicates a refilling pipe connection with the chamber of the casing, by means of which a bowl, with which a valve of this type may be connected, may be resealed after all the water contained in it has been discharged, although the valve as a whole is held against reopening until the next intentional operation thereof. As the ball float moves almost imperceptibly up and down, it causes corresponding changes in the position of the stem H, by which, in turn, the plunger F is held on its valve seat E, against the pressure of the water in the inlet pipe B. Small quantites of water are therefore allowed to leak past the valve seat E, and because of the loose fit of the plunger F in the chamber (see particularly Figs. 2 and 3), past it, and through the refill pipe M, the bead or annular space N, which is preferably cored out at the level thereof, aiding in this. When the ball float is lowered by a drop in the level of the water in the tank or reservoir in which the valve is preferably located, the stem H is thereby raised, and the pressure of its lower point on the plunger F is thus removed, so that the water can flow in through the pipe B to the capacity of the valve; when, however, the water in the reservoir rises, the rise of the ball float with it results in holding the plunger F on the valve seat E to a degree proportionate to the buoyant attempt of the ball float to keep at its normal level with respect to the surface of the water.

What I claim is:—

In a valve, in combination with a plurally apertured shell, a valve seat arranged about one of the apertures therein and coaxially with respect to the shell, a loosely fitting plunger member engaging within said shell, and adapted to rest upon said valve seat to accomplish the closure of the adjacent aperture, a stem slidably engaging in said shell past a laterally located aperture therein, and adapted to engage said plunger to hold it on its seat against a flow of water approaching it from beneath, said stem being otherwise unconnected with said plunger, a

ball-float actuated lever whereby said stem is raised and lowered, and a refilling pipe connected with the laterally located aperture in the shell, into which water is adapted to flow after having lifted said plunger from its seat and having risen thereabove in the shell, substantially as described.

In testimony whereof, I sign this specification in the presence of two witnesses.

NORMAN ENGLISH.

Witnesses:
JEFFERSON G. THURBER,
WILLIAM M. SWAN.