(No Model.)

E. A. & J. LOUGHRY.

WATER GAGE.

No. 453,814. Patented June 9, 1891.

Fig. 1.

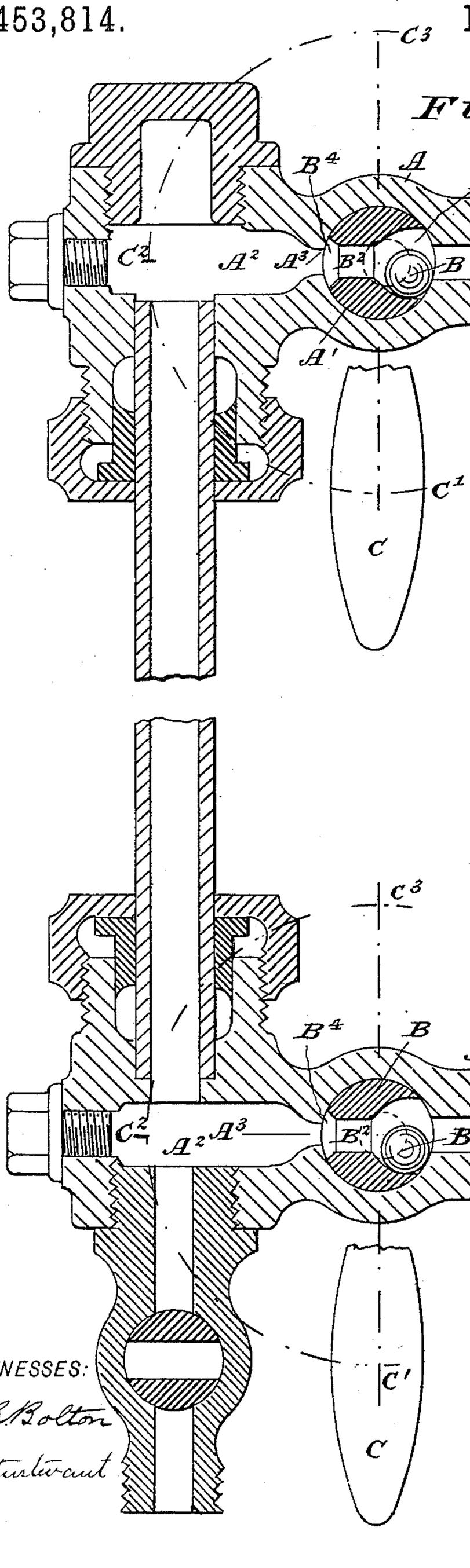
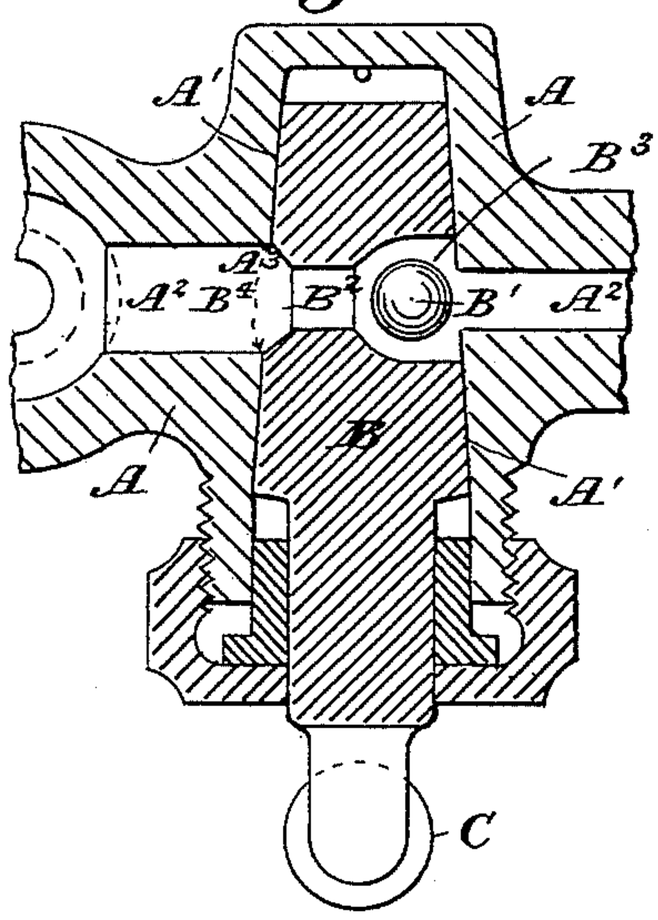


Fig. 2.



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EDWARD ANDREW LOUGHRY AND JAMES LOUGHRY, OF REDFERN, NEAR SYDNEY, NEW SOUTH WALES.

WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 453,814, dated June 9, 1891.

Application filed October 13, 1890. Serial No. 368,038. (No model.)

To all whom it may concern:

Be it known that we, EDWARD ANDREW LOUGHRY and JAMES LOUGHRY, engineers, both subjects of the Queen of Great Britain, residing at Redfern, near Sydney, in the British Colony of New South Wales, have invented new and useful Improvements in Equilibrium-Pressure Taps, Cocks, or Faucets, of which the following is a specification.

This invention relates to equilibrium-pressure taps, cocks, or faucets—that is, to taps, cocks, or faucets which are used in positions where pressure is equal or nearly equal at the supply and discharge ends when they are in open position—and it has been devised specially so that a tap, cock, or faucet of such description will automatically cut off or close the source of pressure should the pressure at the discharge or "off" end be relieved. By this invention a tap, cock, or faucet may be produced especially suitable for use in positions such as between a steam-boiler and its gage-glasses or its steam-gage, and between steam-boilers and steam-cylinder lubricators, &c., where in the event of accident the escape of steam and water from the boiler would be automatically cut off and the danger of scalding attendants and of other damage be minimized.

These improvements in equilibrium-pressure taps, cocks, or faucets consist, first and essentially, in the combination and arrangement in and with the through-passage of the plug of a valve, preferably a ball-valve, and, secondly, in the particular construction or configuration of the through-passage of such tap, so as to form a seating for a ball-valve at one end thereof, and prevent a seating for such at the other end thereof.

In order that this invention may be clearly understood, reference will now be made to the drawings herewith, in which—

Figure 1 is a sectional elevation of two equilibrium-pressure taps, cocks, or faucets as applied to the water-gage of a steam-boiler; and Fig. 2 is a sectional elevation of the tap itself.

A is the body or casing of the tap, B the plug, and C the handle.

A′ is a tapered socket or barrel for plug.

A^2 is a through port or passage, and A^3 a narrowed but elongated part thereof.

B′ is a ball forming a valve.

B^2 is a through-passage.

B^3 is a bell-mouth or valve-chamber with tapered part forming valve-seat.

B^4 is the countersunk discharge end.

C′ C^2 C^3 mark the various positions taken by the handle C in use.

The other parts of the drawings are those well understood in the construction of water-gages for steam-boilers, and forming no part of this invention need no reference.

The plugs B in their normal position have the handles down or in position C′ when the ball-valves B′ are also in their normal position. Now when relief of pressure on outside of the tap takes place, occasioned, say, by any sudden rush of steam or water such as occurs when a gage-glass breaks or bursts, the ball-valves B′, assuming the positions shown in dotted lines, seated against the tapered part of chamber B^3, cut off or prevent the escape of steam and water from the boiler.

To release the ball-valves B′ from their seats after replacing glass or blowing through, handle C is reversed to position C^3 and the plug communicates with boiler through end B^4, and, pressure now entering to the gage-glass, equilibrium is established and the ball-valve B′ rolls back into its normal position and the handle reversed back to its normal position C′.

In cleaning a gage-glass or in allowing steam to pass through the tap to a drip or waste pipe, the plug B, say, of the top tap of gage-glass mountings, is reversed to position C^3 and waste-tap opened. The passage A^3 being narrowed and elongated prevents the ball-valves B′ from seating, and thus steam or water freely passes when plug is in reversed position.

Having now particularly described and as-

certained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

In equilibrium taps, cocks, or valves, the combination, with the body or casing A, provided with a through-passage A^2, of a plug B, with its handle C, a valve-chamber having at one end a flaring mouth and at the other a ball-valve, and a discharge-orifice upon which the ball in the plug cannot seat itself, substantially as and for the purpose specified.

EDWARD ANDREW LOUGHRY.
JAMES LOUGHRY.

Witnesses:
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