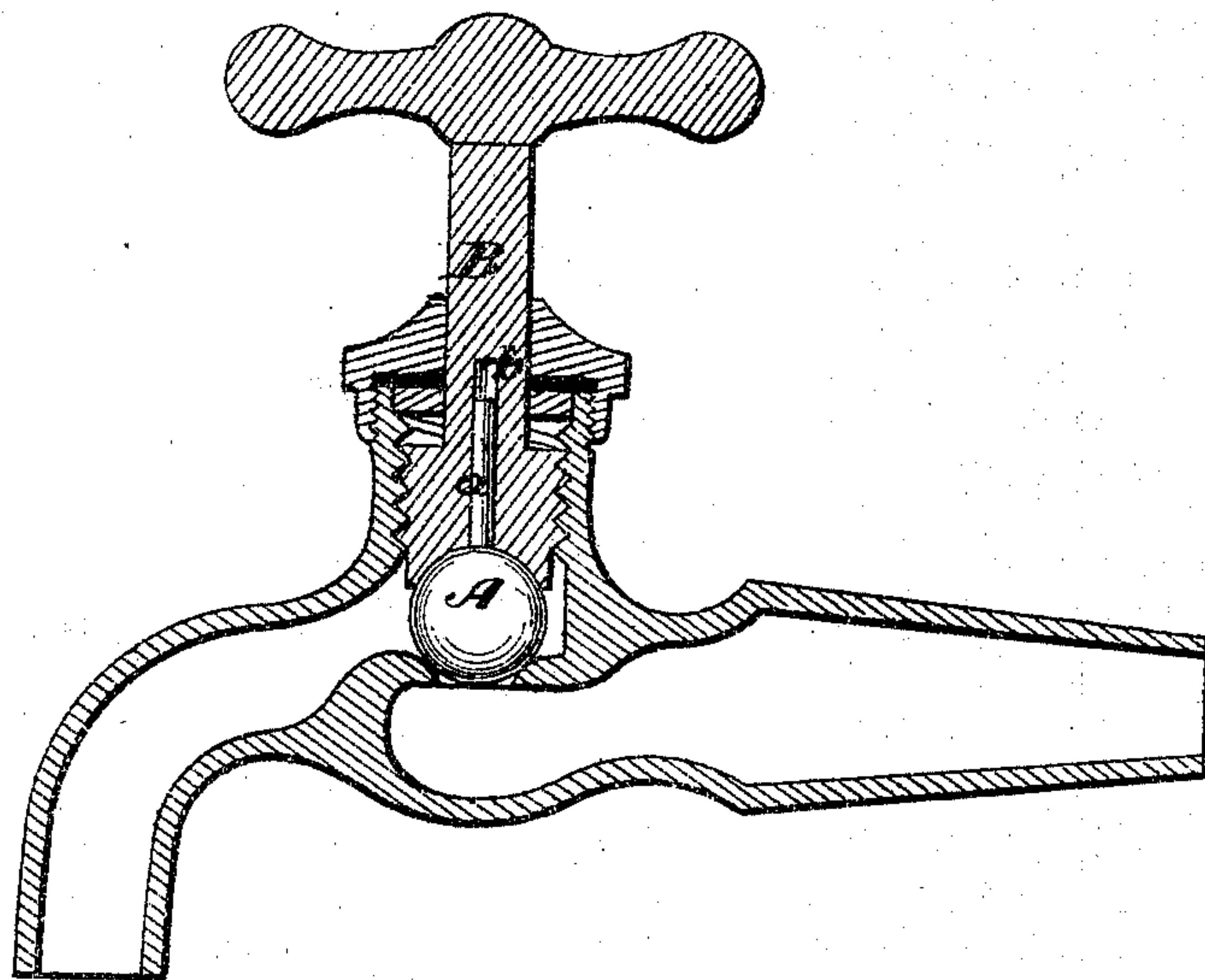


JOHN MACLAREN.

Stop Cocks.

No. 123,031.

Patented Jan. 23, 1872.



Witnesses.

C. F. Brown
Bentley

Inventor.

John McLaren,
by Geo. E. Brown,

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UNITED STATES PATENT OFFICE

JOHN MACLAREN, OF SCRANTON, PENNSYLVANIA.

IMPROVEMENT IN STOP-COCKS.

Specification forming part of Letters Patent No. 123,031, dated January 23, 1872.

Specification describing an Improvement in Compression Cocks for Hot and Cold Water or Steam, invented by JOHN MACLAREN, of Scranton, Luzerne county, Pennsylvania.

This invention relates to that class of cocks in which the valve is a gum ball, which, when pressed down to its seat by the stem, closes the orifice. The invention consists in such a ball provided with a metallic guide projecting from one side, in combination with a stem having a central orifice for the reception of said guide, the object of this arrangement being to cause the ball when compressed always to close the orifice.

The figure is a sectional elevation.

A is the aforesaid gum ball, and *a* is the metallic guide, secured at one end in the ball in any suitable manner. B is the stem of the cock, and *b* the orifice therein for the reception of the guide *a*, which orifice is longer than the guide, so as to enable the hollow inner end of the stem B to compress the ball *a* whenever the stem is screwed in. The guide and perforated stem carry the ball under all circumstances to its seat.

It generally happens that after considerable use the ball becomes somewhat flattened, and when this occurs the ball, if loose, is liable to turn when pressed so as to present its narrowest part to the orifice, and consequently not close it.

My arrangement prevents the ball from doing this. It also enables the ball to be used with equal advantage when the cock is in a vertical position and the stem and guide horizontal.

I am aware that a gum ball has been connected with the stem of a cock so as to move with the same to or from its seat; but my arrangement differs from this in having the ball detachable from the stem, and, consequently, easily renewable. In point of simplicity, also, my arrangement seems to leave nothing wanting.

I am also aware that conical check-valves for cocks have been constructed with guides like my guide *a* projecting both from their upper and lower sides; but these valves require, in the first place, to be ground true to their seats in order to fit the same tightly, and being metallic are easily abraded by sand or other foreign matter getting into the cock, and when cut sufficiently to allow the water to work through they must be removed and reground; whereas the gum ball receives the sand into itself without thereby being prevented from stopping all the water, and does not damage the metallic seat. Again, when my ball-valve needs replacing it can be done without much trouble and by any person, whether mechanic or not; whereas the check-valve referred to requires to be fitted by a mechanic to its seat, when replaced, which is a matter of delay and expense.

It will be observed that the diameter of the threaded part of the stem or plug B is fully equal to that of the ball A, and that the concavity at the lower end of the plug embraces a large portion of the ball.

It will also be observed that the seat grasps a large annulus of the ball, so that the latter is thereby held firmly, working with certainty and precision, having only a horizontal rotation.

I claim—

A stop-cock having a flexible ball-valve opened only by the pressure of the fluid beneath, said ball-valve having a horizontal rotation on its seat and being guided by a stem which ascends freely into the screw-plug, by which the ball is pressed down upon its seat, substantially as described.

JOHN MACLAREN.

Witnesses:

EDM. F. BROWN,
GEO. E. BROWN.