J. McCARTHY.

PLUG VALVE.

APPLICATION FILED APR. 16, 1913.

1,079,254. Patented Nov. 18, 1913.

Fig. 1.

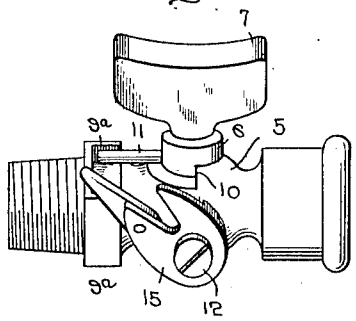


Fig. 2.

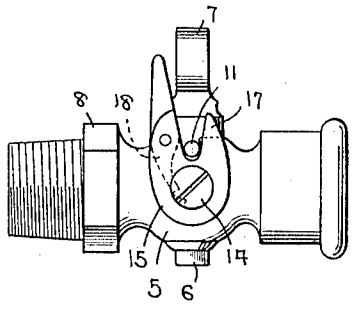


Fig. 3.

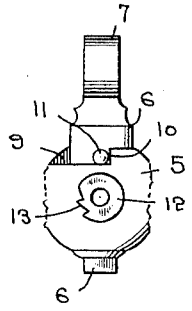
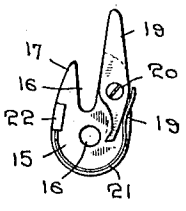


Fig. 4.



Witnesses

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PLUG-VALVE.

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To all whom it may concern:

Be it known that I, JOHN MCCARTHY, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Plug-Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to valves and particularly to that class known as plug valves.

The primary object of the invention is to provide means whereby a valve will be automatically locked when turned to a closed position.

A further object of the invention is to provide a valve with an automatically operating lock or stop for holding the valve in a closed position and with a suitable trigger or operating lever whereby the lock may be released and the valve opened.

With these objects in view, the invention consists in the improved construction, arrangement and combination of parts of a device of the character described, which will be hereinafter fully set forth and afterward specifically claimed.

In order that the construction and operation thereof may be readily comprehended, I have illustrated in the accompanying drawing, an approved embodiment of my invention and will now proceed to specifically describe the construction and operation in connection with said drawing, in which,

Figure 1 represents, in perspective, a valve equipped wth my improvement, in open position, in which position the lock is not in operation. Fig. 2 represents a view in elevation of the structure illustrated in Fig. 1, the valve being in closed position and locked therein. Fig. 3 represents, in elevation, a fragment of the valve showing the valve plug in locked position and the locking ratchet on the valve casing, and, Fig. 4 represents the detachable locking mechanism.

Like reference characters mark the same parts in all figures of the drawing.

Referring particularly to the drawing, 5 indicates the valve casing which may be of any ordinary and well known construction to receive the plug 6 of a valve having the usual turning handle 7. On the casing is the ordinary polygonally shaped section 8, by means of which the valve is turned to secure it in position and in this section 8 and the body of the casing itself is formed a track, terminating in shoulders 9 and 10 to permit of the movement, with the valve plug, of a radial bar 11 projecting from the valve plug transversely of the casing in the position shown in Fig. 2 when the valve is closed and locked, and in the position shown in Fig. 1 when the valve is open, the closed position being also illustrated in Fig. 3. This radial arm 11 and the shoulders 9 and 10 limit the movement of the valve to a quarter circle or ninety degrees, between the full open and full closed positions.

Projecting transversely from the body 5 of the valve casing is a short tubular lug 12 having on one edge thereof, ratchet teeth 13. A screw 14 is threaded into the tubular lug 12 and serves to hold in position, pivotally on said screw, a plate 15, shown in reverse position in Fig. 4 through the opening 16 in which said screw projects, which plate is provided with a slot 16 leaving a tongue 17 on one side of the slot and a tongue 18 on the opposite side thereof, a pawl member 19 being pivotally attached to the tongue 18 by a suitable screw 20. A spring 21 attached at one end to the lug 22 on the plate 15 is curved around on about the same curvature as the edge of the plate 15 and at the opposite side thereof bears upon the pawl 19, normally pressing it inward toward the pivotal point of said plate.

When the valve is in its open position as shown in Fig. 1, the radial arm 11 rests against a shoulder 9^a on the polygonal head 8 and lies parallel with the casing of the valve, the locking plate 15 and its attached pawl lever lying at substantially an angle of forty-five degrees in the direction of said radial bar, as clearly shown in Fig. 1.

Upon turning the handle 7 of the valve to a closed position the radial bar 11 is turned around to the position shown in Fig. 3. During such movement the radial bar has entered the slot 16 of the locking plate 15 and has turned said locking plate on its pivot 14 to the position shown in Fig. 2, in which position the pawl 19 is pressed into engagement with the ratchet teeth 13 by the spring 21. This prevents the turning of the locking plate upon its pivot when an at-