No. 755,331. PATENTED MAR. 22, 1904.

H. P. THIELE.

SAFETY GAS COCK.

APPLICATION FILED JUNE 4, 1903.

NO MODEL.

Fig. 1

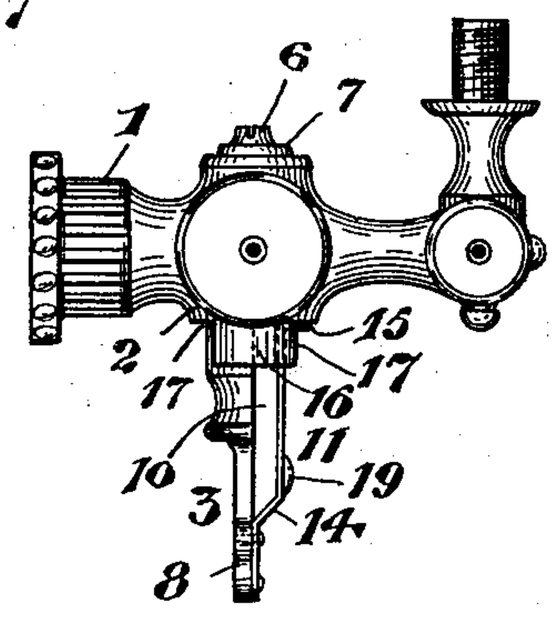


Fig. 3.

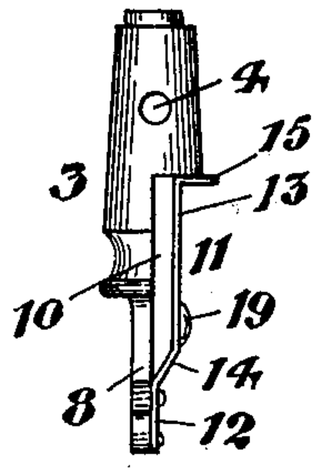


Fig. 2.

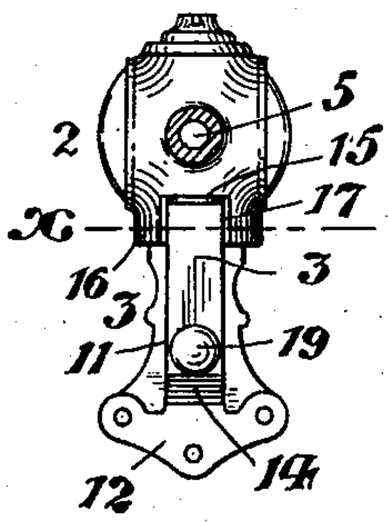


Fig. 4.

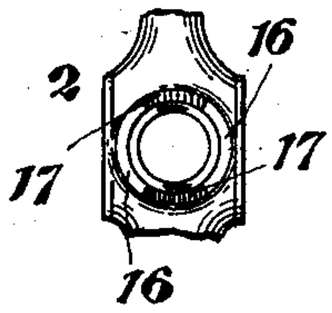


Fig. 5.

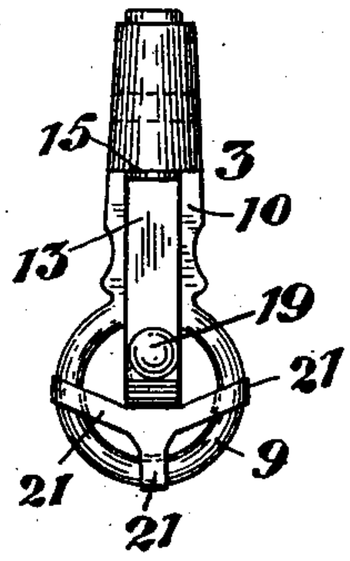
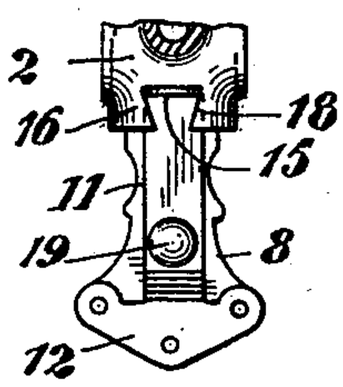


Fig. 6.



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No. 755,331. Patented March 22, 1904.

UNITED STATES PATENT OFFICE.

HENRY P. THIELE, OF NEWARK, NEW JERSEY.

SAFETY GAS-COCK.

SPECIFICATION forming part of Letters Patent No. 755,331, dated March 22, 1904.

Application filed June 4, 1903. Serial No. 160,008. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. THIELE, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented and produced a new and original Improvement in Safety Gas-Cocks; 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, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide means for locking a gas-cock in closed position, so that the same cannot be inadvertently opened to permit an escape of gas, to secure such a locking device which can be easily manufactured and attached to the gas-cock at small additional cost, to provide locking means which can be conveniently operated by the ordinary manipulation of the gas-cock, and to obtain other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved safety gas-cock and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like figures of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of my improved gas-cock, showing the parts locked in closed position. Fig. 2 is a front elevation of the same looking toward the locking-spring. Fig. 3 is a view of the valve-plug removed; and Fig. 4 is a cross-section of the valve-casing, said section being taken on line x, Fig. 2. Fig. 5 shows the method of attaching my improved locking-spring to a gas-cock having an annular handle or finger-piece and illustrating a pressure-button on said spring, and Fig. 6 shows a modified form of recess on the valve-casing to receive the locking-spring.

In said drawings, 1 indicates a gas connection or pipe of any ordinary form or construction adapted to be coupled at its opposite ends to other gas-fittings, as is usual, said connection 1 being shown as furnishing a valve-casing 2 of my improved construction and adapted to receive the valve-plug 3. Said valve-plug is at its inner end tapered to fit the valve-seat, as usual, having a transverse perforation 4 to be turned into or out of alinement with the bore 5 of the gas connection 1 and receiving at its outer end the usual screw 6 and washer 7 to hold said valve-plug seated. The exposed end of the said valve-plug forms a flattened handle or finger-piece 8, or in some cases a ring 9, (see Fig. 5,) adapted to be grasped in turning the valve. In carrying out my invention I cut away or recess one side of the valve-plug adjacent to its handle, as at 10, and mount in said recess a locking-spring 11 of my improved construction. Said locking-spring is preferably stamped out of resilient sheet metal and provides at one end a broadened portion 12, adapted to be riveted or otherwise suitably secured to one side of the finger-piece and at the extreme outer end portion of the same. From said broadened portion 12 of the spring a tongue 13 extends longitudinally of the valve-plug in the recess 10 thereof, being adjacent to the fastening portion 12, preferably bent outward from said portion or offset, as at 14. At any rate the said tongue normally lies away from the valve-plug as it approaches the inner end of the recess 10, and at its extremity it is provided with a lateral outward projection 15, preferably formed by bending the said extremity of the spring to normally project beyond the surface of the valve-plug, as shown in Fig. 3.

The valve-casing 2, provided by the gas connection, has attached at its larger end a flange 16, which extends outward upon the valve-plug 3 when the latter is in the casing beyond the inner end portion of the recess 10 and locking-spring 11, lying therein. In said flange at diametrically opposite points are seats or recesses 17 17, each adapted to normally receive the end or projection 15 of the locking-spring as the latter projects outward. Said seats are located to receive the locking-spring

when the valve or cock is closed, and thus said valve will be held against turning in either direction to open the flow of gas.

When it is desired to turn on the gas, a grasping of the finger-piece of the valve-plug with perhaps a little more pinching than is customary will repress the spring 11 into its recess and free the lip 15 from the seats 17 of the valve-casing, whereby the cock may be readily turned into open position. Preferably the said seats 17 are formed, as shown, by simply recessing the edges of the flange 16 of the valve-casing; but, if desired, a recess constricted at the extreme edge of the flange 16 may be employed, as shown at 18 in Fig. 5, and obviously to entirely close the recess at the edge of the flange, so that the seat became an aperture, would be only a step farther. Disengagement of the spring except by direct inward pressure is thus positively prevented.

If desired, a small thumb-piece or knob 19 may be mounted upon the locking-spring to receive the pressure. Furthermore, the shape of the spring may be varied without departing from the spirit and scope of the invention so long as it is fastened at one end, engages the valve-casing at the other, and is adapted to receive pressure at an intermediate point. For instance, in Fig. 5 I have shown a method of attachment to an annular or ring-shaped valve-plug handle 9, where the foot 20 of the spring is provided at its edges with integral ears or tongues 21, adapted to wrap around the finger-piece and be clenched.

Obviously a gas-cock of my improved construction can be ornamented in any manner common to the art, the spring itself being stamped and nickeled or the like to produce a pleasing effect.

Having thus described the invention, what I claim as new is—

1. In a gas-cock, the combination with a valve-casing providing a radially-disposed peripheral recess, and a valve-plug fitted to said casing and being longitudinally recessed at one side, of a leaf-spring fastened at one extremity in the outer end of the recess of the valve-plug and extending from said fastened extremity toward the inner end of the recess, said spring being bent at its inner end portion to normally lie away from the floor of the recess and having at its extremity a lip bent outward at substantially right angles and adapted to normally enter the said recess of the valve-casing.

2. In a gas-cock, providing a valve-casing flanged at its outer end and having a recess in said flange, the combination of a valve-plug recessed at one side, and a leaf-spring secured to said valve-plug at its outer end and being inclined toward its inner end away from the bottom of said recess and having at its extremity a lip normally projecting into the said recess of the valve-casing.

3. The combination with a gas-cock having a valve-casing, of a valve-plug fitting said casing and being recessed at its side, and a leaf-spring in said recess, fastened at its outer end to the valve-plug and extending from said fastening toward the inner end of the valve-plug, said spring being adapted at its inner end to engage the valve-casing, and adapted to receive pressure intermediate of said ends.

4. The combination of a valve-casing providing a valve-seat having a recess at its edge, a valve-plug fitting said seat and being recessed at one side, and a leaf-spring lying in said recess and having its outer end fastened to the valve-plug and its inner end adapted to enter said recess of the valve-casing, said spring being intermediate of its fastening to the valve-plug and said inner end bent outward away from the floor of the valve-plug recess and adapted to receive pressure.

5. In a gas-cock, the combination with a valve-casing providing peripheral seats, of a valve-plug longitudinally recessed at one side, and a spring mounted in said recess and being fastened at its outer end to the valve-plug and extending from such point of fastening toward the inner end of the valve-plug and lying away from the floor of the recess, and an outward projection at the inner extremity of the spring adapted to enter said seats of the valve-casing.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of May, 1903.

HENRY P. THIELE.

Witnesses:
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RUSSELL M. EVERETT.