

H. F. STORER & W. W. JAMIESON, JR.
CUT-OFF.

APPLICATION FILED JULY 6, 1911.

1,013,695.

Patented Jan. 2, 1912.

Fig. 1

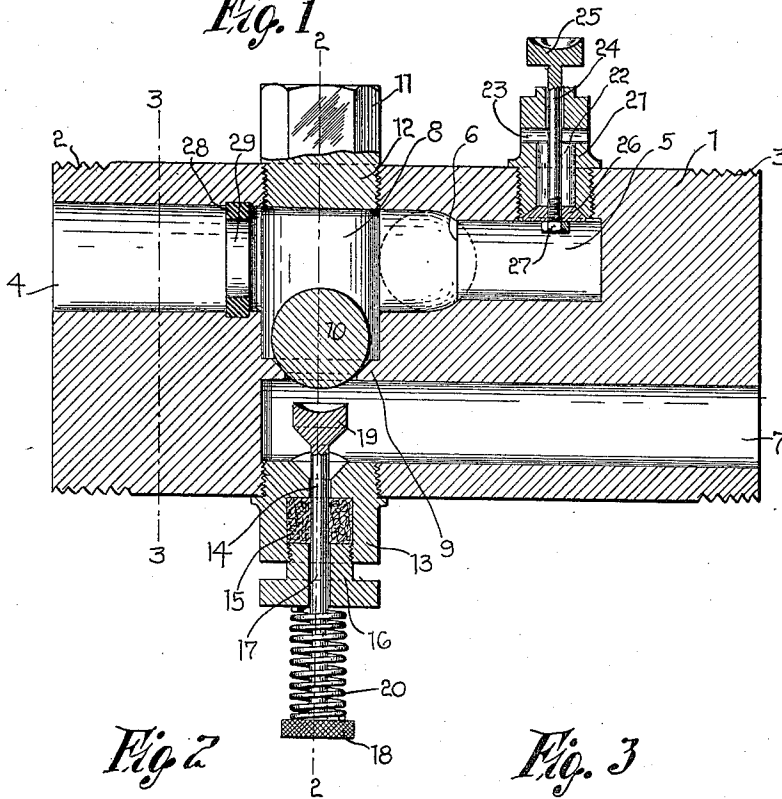
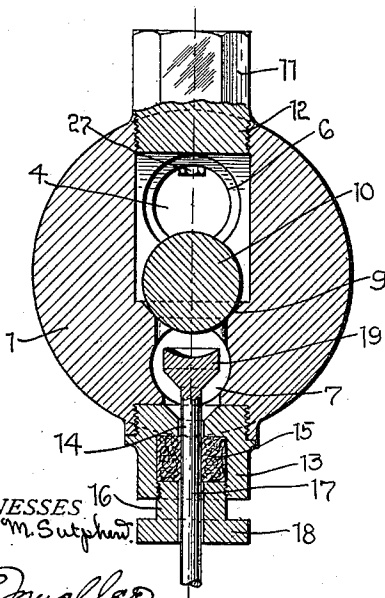


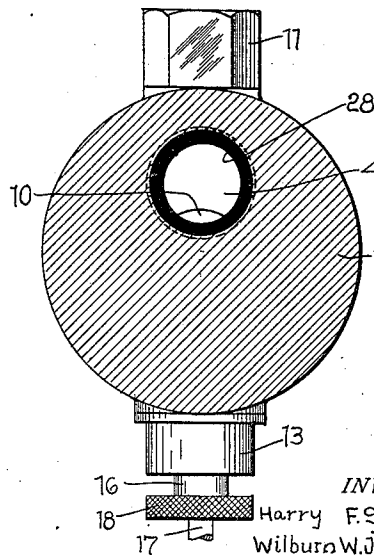
Fig. 2



WITNESSES
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Fig. 3



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UNITED STATES PATENT OFFICE.

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CUT-OFF.

1,013,695.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, HARRY F. STORER and WILBURN W. JAMIESON, JR., citizens of the United States, residing at Central City, in the county of Muhlenberg and State of Kentucky, have invented certain new and useful Improvements in Cut-Offs, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to automatic cut offs for use in connection with gas or other pipes wherein there is a constant fluid pressure.

The principal object of the invention is to provide means whereby the pressure when used in connection with a gas pipe, is automatically cut off when the stop is accidentally opened by persons who are careless or unfamiliar with the action of the gas jet.

Another object of the invention is to provide a cut off of a construction wherein the outer parts may be separated and the cut off readily cleaned.

The invention also comprises a device that can be easily and cheaply manufactured.

The above mentioned objects are attained by the provision of a cylinder containing a longitudinally extending inlet and outlet opening, a transverse opening connecting said inlet and outlet openings and a ball which automatically closes the outlet opening when the pressure is reduced and which is manually operated when it is desired to open said outlet opening.

In carrying out the objects of the invention generally stated above, it will be understood, of course, that the essential features thereof are susceptible to changes in details and structural arrangements, one preferred and practical embodiment of the invention being shown in the accompanying drawings, wherein:—

Figure 1 is a vertical longitudinal sectional view constructed in accordance with this invention. Fig. 2 is a transverse sectional view taken on the line 2—2 in Fig. 1. Fig. 3 is a sectional view taken on the line 3—3 in Fig. 1.

Referring to the accompanying drawings by numerals it will be seen that the invention comprises a cylindrical body 1 externally threaded at its ends 2 and 3 for engagement with a gas pipe. The body 1 is provided ad-

jacent its periphery with a longitudinally extending inlet opening 4 which terminates in said body and is provided adjacent its inner end with a reduced portion 5 which forms a valve seat 6 extending inwardly from the ends 3. Parallel with the inlet 4 is an outlet opening 7, said inlet and outlet openings having their inner ends in overlapping relation. Intermediate the ends of the inlet opening 4 and contiguous to the inner end of the outlet openings 7 is a transverse opening 8 which extends entirely through the body 1. Where the transverse opening 8 merges into the outlet opening 7 there is provided an annular flange 9 which is adapted to act as a seat for the ball 10 when the cut off is closed. The bottom of the inlet 4 is inclined downwardly from the valve seat 6 in order that the ball 10 will readily fall upon the seat 9 when the pressure is reduced.

The transverse opening 8 is threaded adjacent the inlet opening 4 and is adapted to receive a cap 11 which is provided with an externally threaded portion 12 for engagement with the threads of the opening 8. The cap 11 is provided for the purpose of facilitating the cleaning of the body 1 and it will be obvious that access may be had to the transverse opening by the removal of this cap. The opposite end of the transverse opening 8 is also threaded and is adapted to receive a bushing 13 which is externally threaded at one end thereof. Extending longitudinally through said bushing is an opening 14 which is enlarged at its outer end to receive a packing 15 which is held in place by the externally threaded cap 16, said cap engaging the internal threads of the enlarged portion of the opening 14. A rod 17 extends through the cap 16, packing 15, and opening 14 and is provided on its outer end with an enlarged head 18 and on its inner end with a head 19. Coiled about the rod 17 between the cap 16 and enlarged head 18 is a spring 20 which normally retains the rod in the position shown in the drawings.

At the inner end of the inlet opening 4 there is provided a relief valve 21 which is threaded into the body 1. Said valve is provided with a longitudinally extending opening 22 and a transverse opening 23. Slidable longitudinally within the valve 21 is a valve stem 24 which is provided at its outer

end with a head 25. The stem 24 passes through the longitudinal opening 22 and is provided on its inner end with a valve 26 which is threaded on said stem and held in position by the nut 27, said valve being adapted to normally close the opening 22.

Mounted in the inlet opening 4 adjacent the transverse opening 8 is a ring 28 provided with a transverse opening 29 which permits a passage of gas or other fluid to said opening 8. This ring also prevents the ball 10 from getting into the outer end of the valve opening.

It will be seen from the foregoing description that when desired to allow a fluid to pass through the outlet opening 7, the ball 10 may be raised from its seat 9 by pushing inwardly upon the enlarged head 18 of the rod 17. This will cause the head 19 to engage the ball and force the same into alignment with the direct pressure coming through the opening 29 of the ring 28, which pressure will cause the ball to be forced against the seat 6 as indicated by dotted lines. It will be seen that the fluid has a

clear passage through the transverse opening 8 into the outlet opening 7. If at any time it is desired to reduce the pressure in the inlet pipe 4, this may be done by forcing the stem 24 inwardly, thus, allowing the gas to pass out through the openings 22 and 23.

Having thus described our invention, what is claimed is:—

An automatic cut off comprising a body provided with longitudinally extending inlet and outlet openings, and a transverse opening connecting said inlet and outlet openings, said inlet opening being reduced at its inner end to provide a valve seat, the bottom of said inlet opening sloping downward from said valve seat, a ball normally seated in said transverse opening, and means for forcing said ball into said inlet opening.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

HARRY F. STORER.

WILBURN WHITLEY JAMIESON, JR.

Witnesses:

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C. A. LAWTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."