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Patented Oct. 10, 1899.

J. J. McDERMOTT & J. E. BENNETT.
SAFETY CONNECTION FOR GAS FIXTURES.

(Application filed Mar. 4, 1898.)

(No Model.)

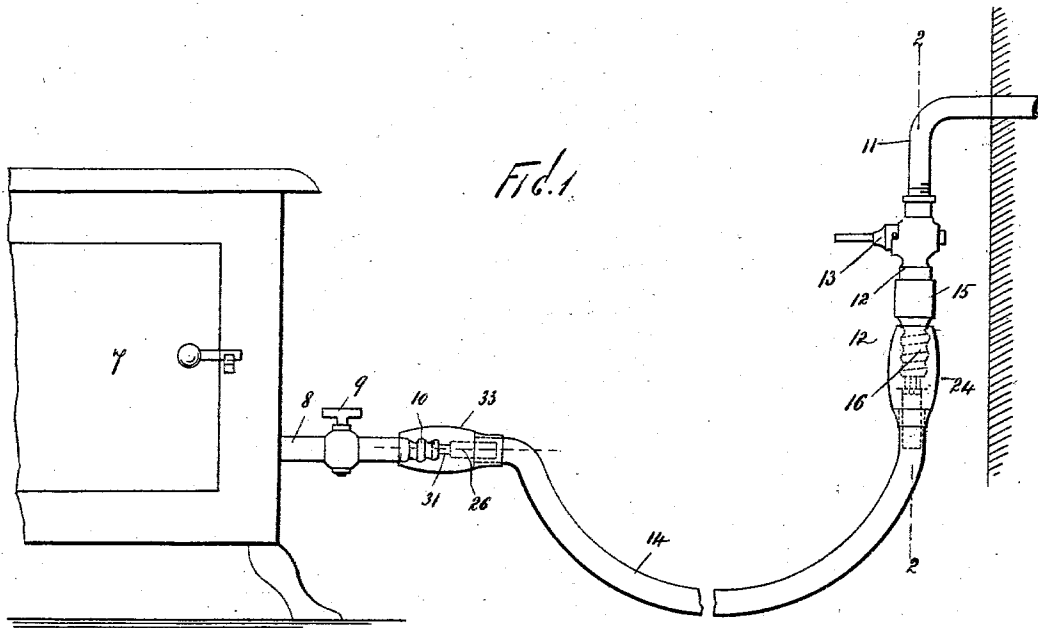


Fig. 1.

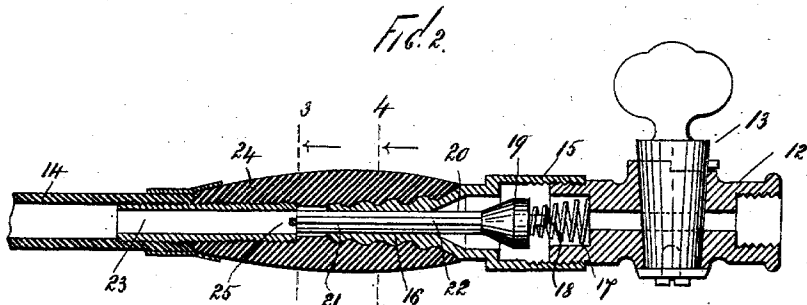


Fig. 2.

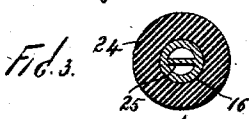


Fig. 3.

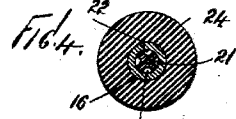


Fig. 4.

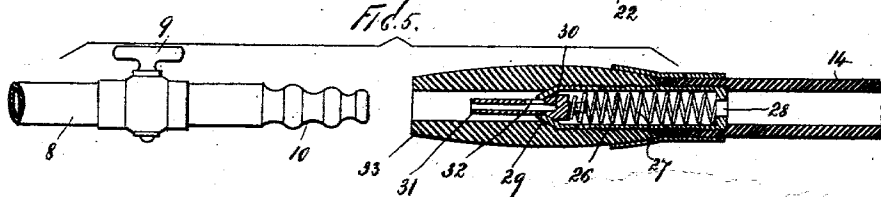


Fig. 5.

WITNESSES:
John Ruckler
F. A. Stewart

INVENTORS
James J. McDermott and
John E. Bennett
BY *Edgar Tate & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES J. McDERMOTT AND JOHN E. BENNETT, OF NEW YORK, N. Y.

SAFETY CONNECTION FOR GAS-FIXTURES.

SPECIFICATION forming part of Letters Patent No. 634,537, dated October 10, 1899.

Application filed March 4, 1899. Serial No. 707,712. (No model.)

To all whom it may concern:

Be it known that we, JAMES J. McDERMOTT and JOHN E. BENNETT, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Safety Connections for Gas-Fixtures, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to attachments for gas-fixtures, gas-stoves, radiators, and other heaters of this class; and the object of the invention is to provide improved means for connecting a gas-stove, radiator, or other heater with an ordinary gas-fixture, so as to prevent the serious and sometimes fatal accidents which frequently result from the accidental disconnection of the stove, radiator, or other heater from the fixture and also to prevent such accidents which frequently result from the ignorance of those whose duty it is to manipulate devices of this class.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side elevation showing an ordinary gas-stove connected with a gas fixture or supply by means of our improvement; Fig. 2, a partial section on the line 2 2 of Fig. 1; Fig. 3, a cross-section on the line 3 3 of Fig. 2; Fig. 4, a similar section on the line 4 4 of Fig. 2; and Fig. 5, a side view showing that part of the attachment which is connected with the stove and a sectional view of that part of our improvement which is connected with said attachment and by means of which the stove, radiator, or other heater is connected with the gas fixture or supply.

In the drawings forming part of this specification the separate parts of our improvement are designated by the same numerals of reference in each of the views, and in said drawings we have shown at 7 an ordinary gas-stove provided with a pipe 8, which communicates with the burner of the stove (not shown) and which is provided with an ordinary valve-plug 9 and a ribbed extension 10. (Shown in dotted lines in Fig. 1 and in full lines in Fig. 5.) We have also shown at 11 an ordinary gas fixture or supply pipe, which

is preferably curved downwardly, as shown in Fig. 1, and which is provided with a coupling 12, having an ordinary plug-valve 13. 55

In connecting the gas fixture or supply 11 with the stove or other heater 7 we employ the usual flexible tube 14, and for the purposes of our invention we provide the coupling 12 with an automatic valve attachment 60 which closes the passage therethrough when the pipe 14 is detached, and that end of the pipe 14 which is connected with the stove or other heater is also provided with an automatic valve attachment which closes the passage through said pipe when the latter is detached from the stove or other heater. For this purpose we connect with the coupling 12 a tubular casing 15, having a ribbed extension 16, (shown in dotted lines in Fig. 1 and in section in Fig. 2,) and the end of the coupling 12 with which the casing 15 is connected is provided with a countersunk chamber or recess 17, in which is mounted an expansive spiral spring 18, and mounted in said casing 15 is a conical valve 19, and between the body portion of said casing 15 and the ribbed extension 16 thereof is a conical valve-seat 20, and said valve is provided with a stem 21, having longitudinal grooves 22 in the side thereof, which projects through the ribbed extension 16 of the casing 15. 65 70 75 80

That end of the flexible tube 14 adjacent to the gas fixture or supply 11 is provided with a metal tube 23, which is secured therein and with which in practice is connected a thick sleeve 24, of rubber, rubber and canvas, or similar material, and the outer end of the tube 23 is provided with a cross-pin 25, and the sleeve 24 is adapted to be forced onto the extension 16 of the casing 15. 85 90

When the sleeve 24 is forced fully onto the extension 16 of the casing 15, the pin 25 strikes the valve-stem 21 and forces the valve 19 from its seat against the operation of the spring 18, and the gas is free to pass through the coupling 12, through the casing 15, and through the flexible tube 14 when the plug-valve 13 is open; but if at any time the sleeve 24 should be detached from the screw-ribbed extension 16 of the casing 15 the valve 19 will be forced upon its seat by the spring 18 and the flow of the gas through said casing would be cut off. 95 100

That end of the tube 14 adjacent to the stove or other heater is also provided with a supplemental tube 26, which is secured therein and in which is mounted an expansive spiral spring 27, the inner end of which is provided with a port or passage 28 and the outer end of which is open and formed into a conical valve-seat 29, and mounted in said tube 26 is a conical valve 30, which is designed to close the outer end of said tube 26 and which is operated by a spring 27, and said valve is provided with a tubular valve-stem 31, which projects through the outer end of the tube 26, and in one side of which, adjacent to the valve, is a port or passage 32.

When the valve 30 is seated, the gas cannot flow through the tube 26, and mounted on said tube is a thick sleeve 33, of rubber, rubber and canvas, or similar material, which is adapted to be forced onto the ribbed extension 10 of the pipe 8, which projects from the stove or other heater, and when this sleeve is fully forced onto said ribbed extension 10 the outer end of said extension strikes the projecting end of the valve-stem 31 and forces said valve from its seat, and the gas is free to pass through said sleeve and into the stove or other heater.

It will be observed that the sleeve 33 must be forced fully onto the ribbed extension 10 before the valve 30 will be forced from its seat, this operation being the same as that of forcing the sleeve 24 onto the ribbed extension 16 of the casing 15, and if at any time the pipe 14 or the sleeve 23 should be detached from the pipe 8 the valve 30 would be at once forced to its seat by the spring 27 and the flow of gas through the pipe 14 would be cut off. It will therefore be seen that the accidental detachment of the pipe 14 from the fixture or supply 11 cuts off the flow of gas from said fixture or supply and also that a similar detachment of the pipe 14 from the stove or other heater cuts off the flow of gas from said pipe, though the other end thereof remains connected with the supply or fixture 11. It will also be seen that in order to open the valve 19 the sleeve 24 must be fully forced onto the ribbed extension 16 of the casing 15, and in order to open the valve 30 the sleeve 33 must be fully forced onto the ribbed extension 10 of the pipe 8, and a partial detachment of either of these sleeves from said parts will cut off the flow of gas, as hereinbefore described.

It will thus be seen that we accomplish the object of our invention by means of a simple and effective construction and one which is also comparatively inexpensive, and it will be apparent that changes in and modifications of the construction described may be made without departing from the spirit of our invention or sacrificing its advantages.

Although we have described our invention as applied to a stove or heater, it will be apparent that the same may be applied to what

is known as a "gas stand lamp" or similar device.

Having fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a device of the class described, a gas fixture or supply provided with a ribbed extension, and a valve-seat formed therein, and a spring-operated valve adapted to close the passage through said extension, and provided with a groove-stem which passes therethrough, in combination with a flexible pipe having a sleeve adapted to be forced onto said extension and provided with a cross-pin which operates in connection with said valve-stem to force the valve from its seat, substantially as shown and described.

2. In a device of the class described, a gas fixture or supply provided with a ribbed extension, and a valve-seat formed therein, and a spring-operated valve adapted to close the passage through said extension, and provided with a groove-stem which passes therethrough, in combination with a flexible pipe having a sleeve adapted to be forced onto said extension and provided with a cross-pin which operates in connection with said valve-stem to force the valve from its seat, said pipe being provided at its opposite end with a spring-operated valve which is adapted to close the passage therethrough, and with a sleeve for connecting it with a pipe, said valve being adapted to be operated by the end of said pipe, substantially as shown and described.

3. The herein-described means for connecting a gas-supply pipe with a stove, heater or other device provided with a pipe having a ribbed extension, comprising a casing connected with the gas-supply pipe, and provided with a ribbed extension, an internal valve-seat, a spring-operated valve mounted in said casing and adapted to close the passage therethrough, and provided with a groove-stem which passes through said extension, said pipe being provided at one end with a sleeve which is adapted to be forced onto said extension, and with a cross-pin which operates in connection with said valve-stem, and at its opposite end with a tube in which is mounted a spring-operated valve adapted to close the outer end of said tube, and provided with a tubular stem which projects through said tube and in one side of which is a port or passage, and said last-named tube being provided with a sleeve which is adapted to be forced onto the pipe connected with the stove, heater or other device, substantially as shown and described.

4. The herein-described means for connecting a gas-stove or other gas-consuming device with a gas-supply pipe, comprising a flexible tube, the gas-supply pipe being provided with a spring-operated valve which is opened when one end of the tube is connected therewith, said tube being provided at its opposite end with a spring-operated valve which

is opened when said end is connected with the stove or other device, substantially as shown and described.

5 5. The herein-described means for connecting a gas-stove or other gas-consuming device with a gas-supply pipe, comprising a flexible tube, the gas-supply pipe being provided with a spring-operated valve which is opened when one end of the tube is connected
10 therewith, said tube being provided at its opposite end with a spring-operated valve which is opened when said end is connected with the stove or other device, said valves being each

closed when the corresponding end of said tube is detached, substantially as shown and described. 15

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 2d day of March 1899.

JAMES J. McDERMOTT.
JOHN E. BENNETT.

Witnesses:

F. A. STEWART,
V. M. VOSSLER.