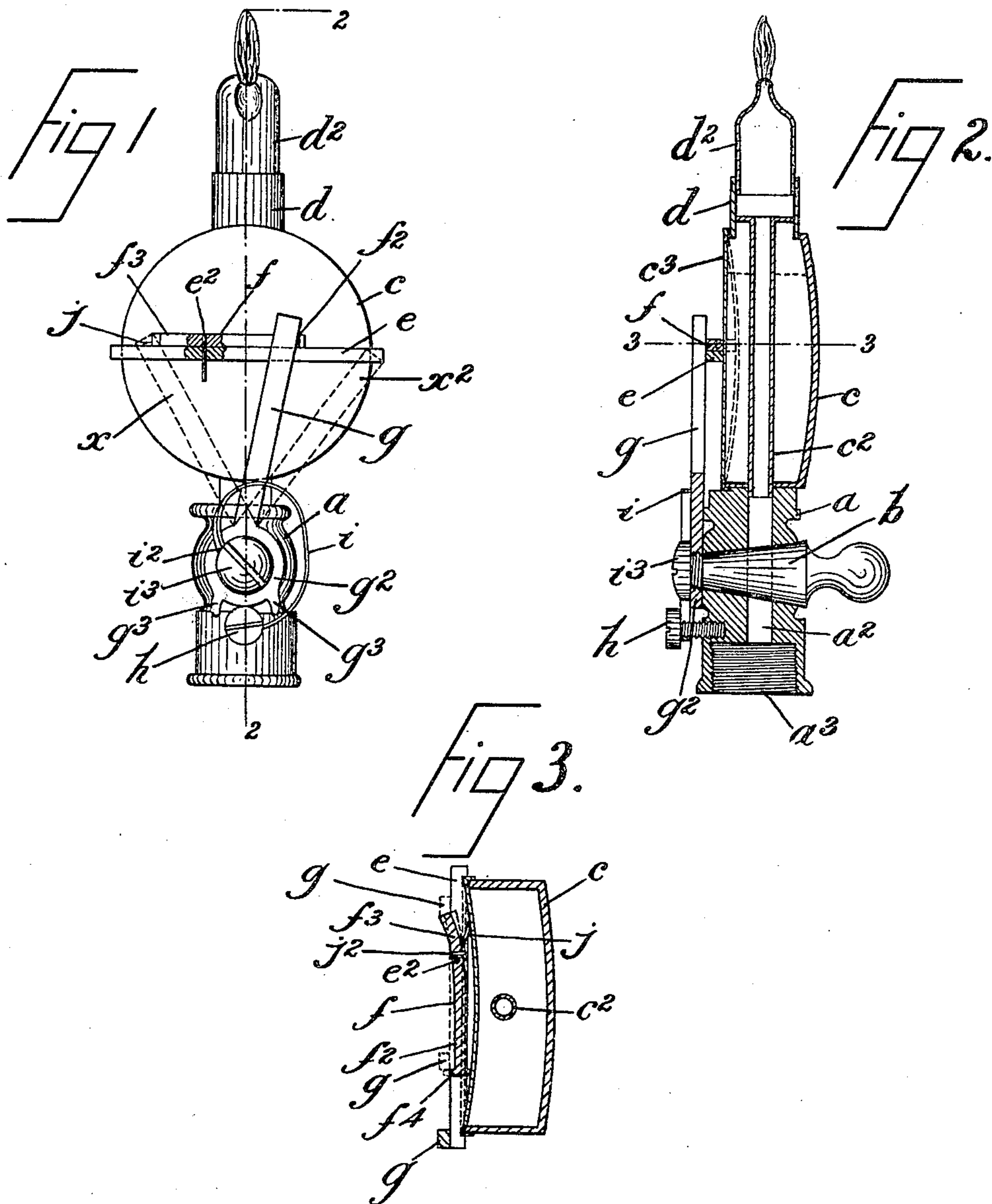


No. 816,260.

PATENTED MAR. 27, 1906.

E. & R. SMEJKAL.
SAFETY GAS BURNER.
APPLICATION FILED FEB. 28, 1905.



WITNESSES
M. Rader.
J. E. Larsen

BY

INVENTORS
Emil Smejkal
Rudolf Smejkal
Edgar Tate & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

EMIL SMEJKAL AND RUDOLF SMEJKAL, OF BROOKLYN, NEW YORK.

SAFETY GAS-BURNER.

No. 816,260.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed February 28, 1905. Serial No. 247,824.

To all whom it may concern:

Be it known that we, EMIL SMEJKAL, a citizen of the United States, and RUDOLF SMEJKAL, a subject of the Emperor of Austria-Hungary, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Safety Gas-Burners, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to gas-burners; and the object thereof is to provide an improved device of this class the valve of which will be automatically closed if at any time the gas be extinguished by a gust of wind or in any other way without turning said valve so as to cut off the flow of gas to the burner-tip; and with this and other objects in view the invention consists in a safety gas-burner constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of our improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is a front view of our improved gas-burner, part of the construction being broken away; Fig. 2, a section on the line 2 2 of Fig. 1, and Fig. 3 a section on the line 3 3 of Fig. 2.

In the practice of our invention we provide an ordinary gas-burner coupling or head *a*, having a longitudinal bore *a*², through which passes a valve *b* of the usual form, and said coupling or head *a* is provided with a screw-threaded socket *a*³ in its lower end, whereby it may be connected with a gas-supply tube or stand-lamp in the usual manner.

Connected with the upper end of the coupling or head *a* is a casing *c*, which in the construction shown is circular in form and which is provided at its upper end with a short sleeve or tube *d*, with which in practice the burner-tip *d*² is connected, and passing centrally and vertically through the casing *c* is a tube *c*², which communicates with the bore *a*² of the coupling or head *a* and with the tube or sleeve *d*, and said casing *c* and the sleeve or tube *d* and the tube *c*², which passes through said casing, may be constructed and connected in any desired manner.

The back of the casing *c* is preferably convex, as shown in Fig. 2, and the front *c*³ thereof is composed of thin sheet metal, which will

expand or contract under the influence of heat and cold, and said front is concave in cross-section. Arranged transversely of the front of the casing *c* is a bar *e*, and pivoted thereon at one side of the center of said casing, as shown at *e*², is an arm *f*, having a long end *f*² and a short end *f*³, and said arm rests on the bar *e*, and the shorter end *f*³ thereof is curved outwardly, as shown in Fig. 3, and the longer end *f*² is provided with an outwardly-directed lug or projection *f*⁴.

Connected with the end of the valve *b* is an arm *g*, and secured below the valve *b*, preferably by means of a screw *h*, is a spring *i*, which is carried around the end of the valve and connected therewith at *i*², and the arm *g* is held on the end of the valve by a nut *i*³, and the spring *i* may be secured either to the arm *g* at *i*² or to the nut *i*³, or it may be held between said nut and the arm *g*. The front end of the arm *g* normally bears against the bar *e*, and between the shorter end *f*³ of the arm *f* and the front of the casing *c* is placed a small spring *j*, which is preferably connected with said arm, as shown at *j*² in Fig. 3, and this spring normally holds the arm *f* in the position shown in said figure, in which position the shorter end *f*³ thereof projects slightly in front of the bar *e*, while the longer end *f*² thereof presses against the front *c*³ of the casing *c*.

If the valve *b* be turned to the right, so as to permit the gas to flow to the burner-tip, the arm *g* will be swung into the position shown in dotted lines at *x* in Fig. 1, and the spring *i* would be put under tension. In this operation the arm *g* forces back the shorter end *f*³ of the arm *f* until it passes said shorter end, after which said end *f*³ of the arm *f* moves out into the position shown in Fig. 3 and holds the arm *g*, as shown in dotted lines at the top of Fig. 3. It will be understood that the gas is ignited when the valve *b* is turned to the right, as above described, and as the gas burns it heats the casing *c*, and the front part thereof moves outwardly into the position shown in full lines in Fig. 2 and dotted lines in Fig. 3, and in this operation the longer end of the arm *f* is forced outwardly and the arm *g* is released and swings to the right until it strikes the lug or projection *f*⁴ on the arm *f*, where it remains as long as the gas is burning, and if at any time the gas should be accidentally extinguished the front of the casing *c* will cool and will move into the position shown in dotted lines in Fig. 2 and full lines

in Fig. 3, in which position of the front of the casing the longer end of the arm f will move backwardly and the arm g will swing into the position shown in full lines in Fig. 3 and in dotted lines at x^2 in Fig. 1, and the flow of gas will be cut off.

The head g^2 of the arm g , through which the end of the valve b passes, is provided with downwardly-directed fingers g^3 on the opposite sides of the screw h , and these fingers operate in connection with said screw to limit the movement of the arm g in opposite directions; but any suitable means may be provided to accomplish this result.

In practice we prefer to fill or partially fill the casing c with water, as shown in Fig. 2, and this facilitates the operation of said casing or the front thereof, as the expansion and contraction of the water will constitute a positive force to operate the front of said casing, as hereinbefore described.

Our improvement is simple in construction and comparatively inexpensive and is well adapted to accomplish the result for which it is intended, and various changes therein and modifications thereof may be made without departing from the spirit of our invention or sacrificing its advantages.

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

1. A safety gas-burner, comprising a tubular coupling, a valve passing therethrough, a casing connected with said coupling and provided with a tube which passes therethrough and communicates with the bore of said coupling, a burner-tip adapted to be connected with said casing and to communicate with

said tube, the front of said casing being also normally concave, a bar extending transversely of the front of said casing, a valve-arm connected with said valve and movable in front of said bar, a spring for turning said valve in one direction, and an arm pivoted to said bar and adapted to be operated by the front of the casing to hold the valve-arm in different positions, substantially as shown and described.

2. A safety gas-burner, comprising a tubular coupling, a valve passing therethrough, a casing connected with said coupling and provided with a tube which passes therethrough and communicates with the bore of said coupling, a burner-tip adapted to be connected with said casing and to communicate with said tube, the front of said casing being also normally concave, a bar extending transversely of the front of said casing, a valve-arm connected with said valve and movable in front of said bar, a spring for turning said valve in one direction, and an arm pivoted to said bar and adapted to be operated by the front of the casing to hold the valve-arm in different positions, said casing being filled or partially filled with a liquid, substantially as shown and described.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of the subscribing witnesses, this 27th day of February, 1905.

EMIL SMEJKAL.
RUDOLF SMEJKAL.

Witnesses:

F. A. STEWART
C. J. KLEIN.