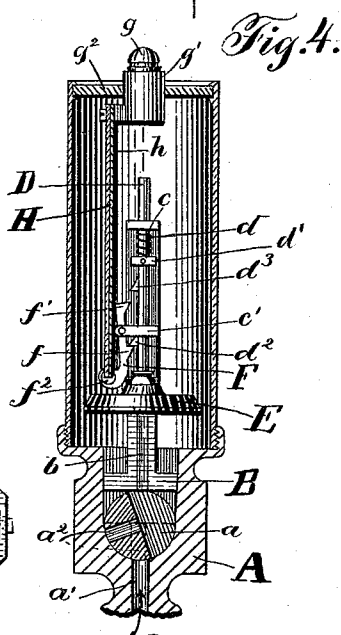
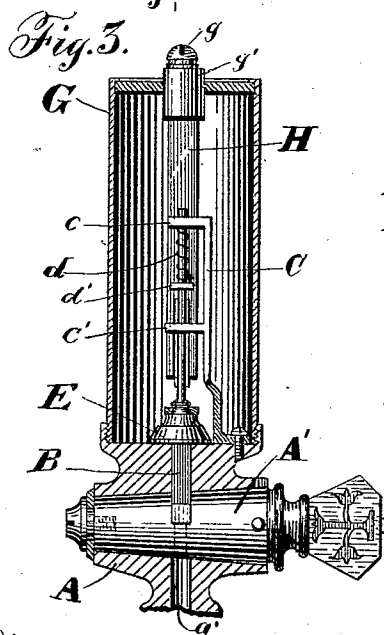
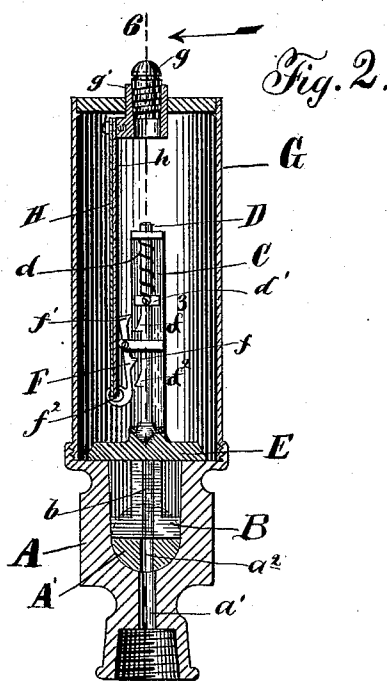
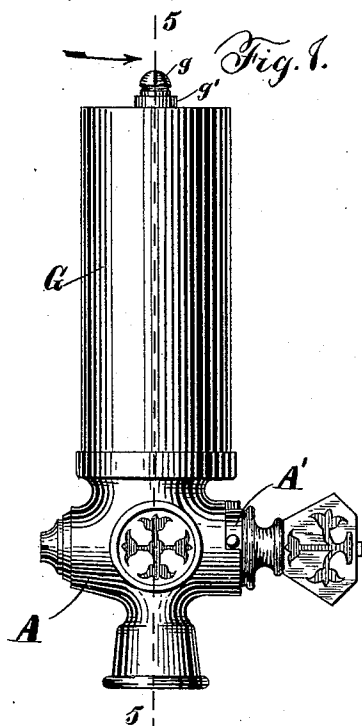


(No Model.)

B. E. TAYLOR.
SAFETY GAS BURNER.

No. 486,991.

Patented Nov. 29, 1892.



Witnesses.

Thos. P. Sheidan;
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UNITED STATES PATENT OFFICE.

BAYARD E. TAYLOR, OF CHICAGO, ILLINOIS.

SAFETY GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 486,991, dated November 29, 1892.

Application filed July 1, 1892. Serial No. 438,704. (No model.)

To all whom it may concern:

Be it known that I, BAYARD E. TAYLOR, a citizen of the United States, residing at Chicago, Illinois, have invented certain new and useful Improvements in Safety Gas-Burners, of which the following is a specification.

The object of my invention is to make a gas-burner of such construction that should the gas, once it is lighted, be blown out or accidentally extinguished the flow of gas through the burner would be automatically checked, thereby avoiding serious damage to property as well as the saving of life; and it consists in the features and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is an elevation of my improved safety gas-burner; Fig. 2, a sectional elevation thereof on line 5 of Fig. 1, looking in the direction of the arrows; Fig. 3, a sectional elevation on line 6 of Fig. 2, looking in the direction of the arrows; and Fig. 4, a sectional elevation showing the auxiliary valve raised to its upper limit.

In construction I use an ordinary gas-cock A, fitted with a tapered key A', said key being provided with a slot *a*, into which is fitted loosely a T-shaped piece of metal B in such manner that the turning of the key will raise the said piece, and its weight will cause it to fall back to its original position when the key is turned back to its original position.

Secured to the upper face of the gas-cock is an upright piece C, provided with projecting pieces *c c'* at right angles to its face, through which is fitted a spindle D, in line with the central hole *a'* of the gas-cock, in such manner that the spiral spring *d*, acting against the collar *d'*, serves to keep the spindle and its auxiliary valve or disk E firmly pressed against the upper face of the cock and completely covering the channel provided for the gas. The spindle D is provided with two lugs *d²* and *d³*.

Pivoted to the projection *c'* is an independent compound latch F, having two latches *f f'*. At the upper end of the metallic tube G is a burner-tip *g*, the same being held in place by means of the bushing *g'*, and the disk *g²*, which is preferably made of some non-heat-conducting material. To the lower end of the metallic bushing *g'* is secured a bimetallic spring H, with the lower or free end enter-

ing the hooked opening *f²* of the latch F. The combination and arrangement of parts is such that when the key A' is turned about ninety degrees it raises the auxiliary-valve disk and spindle sufficient to permit the lug *d²* to be caught in the lower latch *f*, and the bimetallic spring serves to keep them in such position, as shown in Fig. 4. The tube G serves not only as a reservoir for the gas, but also as a casing to protect the mechanism from dirt and dust and to prevent it from being accidentally disarranged.

In operation the key A' is turned in either direction about ninety degrees, and as a consequence the bottom of the slot *a* acts on the riser, which in turn raises the auxiliary-valve disk, with its attached mechanism, until the lower lug is caught by the latch *f*, as in Fig. 4. The key is now turned back to its original position, (see dotted lines, Fig. 4,) bringing the holes *a' a²* into alignment, thus permitting the supply of gas to pass upward through the grooved channels *b* on the sides of the riser B and enter the reservoir, from whence it passes out through the burner-tip and can be ignited. When the gas is ignited, the tip and its bushing become very warm, and the heat is thereby conducted to the bimetallic spring, the inner side *h* being preferably made of brass and the outer of steel. The brass, expanding the most, curves the free end of the spring outward, and this action carries with it the lower end of the latch and disengages the lug *d²*, thus allowing the spiral spring to force the auxiliary valve and its spindle downward until the upper lug *d³* is engaged by the upper latch *f'*, which has been vibrated in sufficient to engage the same, and serves to hold the auxiliary valve up from the face of the gas-cock, so that the flow of gas to the burner-tip remains uninterrupted. If the gas should now be blown out or accidentally extinguished, the bimetallic spring would be cooled very rapidly by the flow of cold or unburned gas passing through the reservoir, and as a consequence the brass side of the spring, contracting the most, would curve the free end of the spring inwardly, carrying with it the latch F, and, vibrating its opposite free end outwardly, releases the lug *d³* of the latching mechanism, so that the action of the spiral spring *d* forces the auxil-

iary-valve disk against the face of the gas-cock, as in Fig. 2, and completely checks any further supply of gas until the key is again turned.

5 I am aware that various devices have been patented for accomplishing results similar to my invention, and while I do not desire to be understood as claiming the invention, broadly, I wish it to be understood that I do not in-
 10 tend to limit myself to minor features or unimportant details, but to vary form and construction of the various parts as circumstances may suggest or render expedient.

I claim—

15 1. As an improvement in gas-burners, the combination of a gas-cock, a spring-actuated auxiliary valve consisting of a flat disk and cylindrical stem, mechanism for raising and latching the same, consisting of a slotted key

or plug, a T-shaped riser and lugs on the cy- 20
 lindrical stem, an independent compound latch for holding the valve open in either one of its two open positions, a bimetallic spring arranged to actuate the compound latch, and a cooling-chamber inclosing the entire mech- 25
 anism, substantially as described.

2. As an improvement in gas-burners, the combination of a gas-cock, a key A', riser B, auxiliary valve E, spindle D, with the lugs d^2 d^3 , the spring d and collar d' , the compound 30
 latch F, bimetallic spring H, cooling-chamber G, bushing g' , and burner-tip g , substantially as described.

BAYARD E. TAYLOR.

Witnesses:

THOS. F. SHERIDEN,
 SAMUEL E. HIBBEN.