J. H. EISENHAUER.

SAFETY ATTACHMENT FOR GAS BURNERS.

APPLICATION FILED MAR. 19, 1908.

898,634. Patented Sept. 15, 1908.

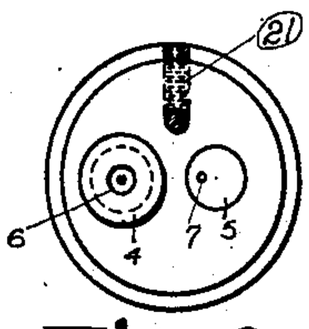

Fig. 2.

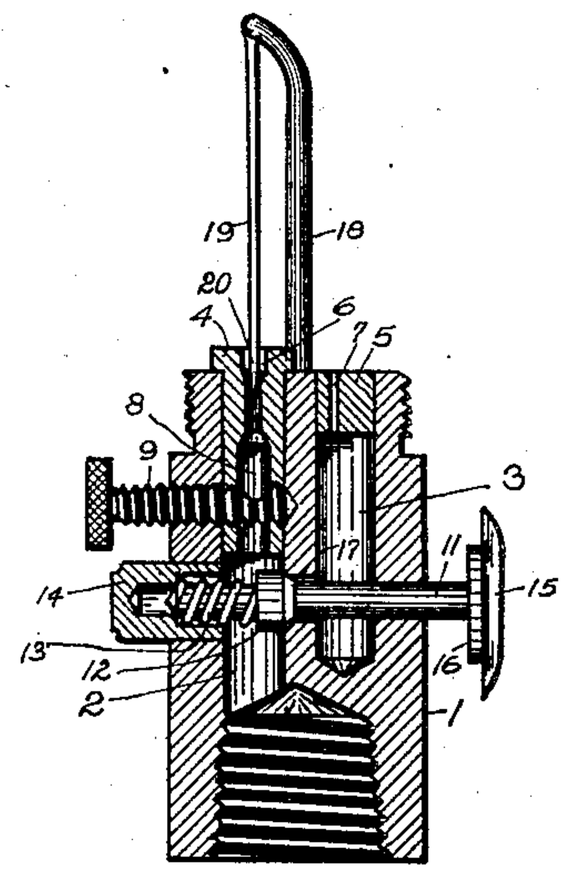

Fig. 1.

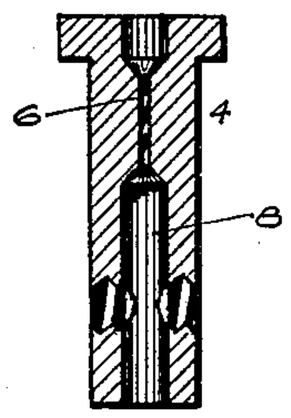

Fig. 3.

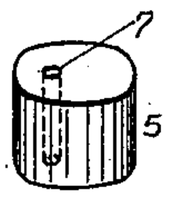

Fig. 4.

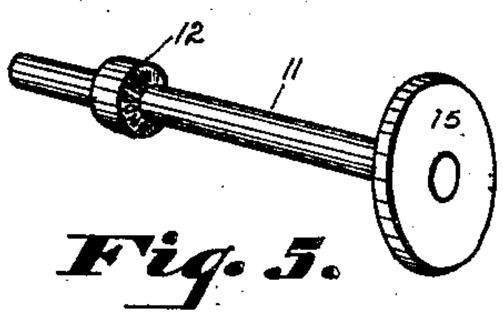

Fig. 5.

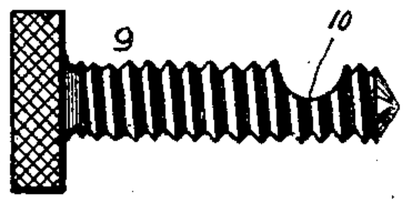

Fig. 6.

Fig. 7.

Witnesses

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SAFETY ATTACHMENT FOR GAS-BURNERS.

No. 898,634. Specification of Letters Patent. Patented Sept. 15, 1908.

Application filed March 19, 1908. Serial No. 421,979.

To all whom it may concern:

Be it known that I, JOHN H. EISENHAUER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Safety Attachments for Gas-Burners, of which the following is a specification.

This invention relates to an improvement in safety attachment for gas-burners, of various kinds and styles, such as for the production of light or heat, and is based upon expansion and contraction, and it also pertains to the automatic closing and cutting off of the supply of gas, providing the supply should become exhausted from any cause.

In the accompanying drawing: Figure 1 is a vertical section showing the different parts properly assembled. Fig. 2 is a top view showing the expansion rods removed. Fig. 3 is a detached sectional view of the main gas tip and inserted plug. Fig. 4 is a detached view of the sub-jet plug. Fig. 5 is a detached view of the sub-jet regulating valve and its different parts. Fig. 6 is a detached view of the main jet regulating valve stem. Fig. 7 is a detached view of the set screw designed to hold the soft metal expansion rod.

Similar numerals of reference indicate corresponding parts in all the figures of the drawing.

In the accompanying drawing, 1 represents the burner body, which is shown conventionally, and as shown it is more especially designed for use in connection with the common and well known Carl Auer Von Welsbach mantle, but by mechanical modifications, the operation hereinafter described can be carried out without any reference to the specific construction of the burner, except that a sub-jet must be employed, regardless of the specific construction of the burner. The burner body is provided with the gas chambers 2 and 3. The chamber 2 is the one from which the gas is supplied to the main burner the chamber 3 being the one from which gas is supplied for the sub-burner. The chambers 2 and 3 are each provided with the plugs 4, and 5, which are provided with the gas tips 6 and 7. The plug 4 is extended downward into the chamber 2 for some distance and is provided with the gas chamber 8 through which chamber is located the regulating valve 9, which regulating valve is provided with the recess 10 by means of which the flow of gas can be regulated, thereby regulating the supply of gas from time to time or entirely cutting off the supply. This, however, is of ordinary construction and forms no specific part of the present invention. The body 1 is provided with the sub-jet valve stem 11, which is provided with the valve 12, which valve is for the purpose of cutting off the supply of gas to the sub-jet 7 and is normally held in closed position by means of the spring 13, which spring is located in the chambered plug 14. The sub-jet valve stem 11 is provided with the ordinary push head or button 15, against the inner face of which is located the gasket 16.

The operation of the device is as follows: When it is desired to open the jet 6 the push head or button 15 is pushed inward, thereby unseating the valve 12, and permitting gas to pass into the chamber 3 through the passage 17, and out at the sub-jet 7. As the gas is consumed the expansion rod 18, which is formed of brass or like material becomes expanded and by the expansion of the rod 18, the steel rod 19 will be lifted, carrying with it the needle head 20, which opens the main jet 6, and permits gas to flow and become ignited from the sub-jet 7, after which the push head or button 15 is released and the valve 12 automatically closed by means of the spring 13.

It will be understood that by forming the expansion rod 18 and the rod 19 of metal having different co-expansions and the greater expansion as between the two rods lying in the rod 18 the rod 19 will be lifted, carrying with it the needle or conical head 20.

It is of importance to hold in elevation the rod 19 during all the time gas is consumed or while the burner proper is in action. This will be accomplished by the expansion of the rod 18, which expansion lifts the rod 19.

It will be understood that if from any cause the supply of gas should cease, no gas will be permitted to escape for the following reasons, first, the sub-jet 7 is always closed except when the sub-jet valve rod is moved and the valve 12 opened, and second the main jet 6 is closed by the cooling of and contraction of the rod 18 which contraction carries the steel or main jet closing rod downward and seating the needle head into the main burner tip 6.

It of course will be understood that the valve 9 should be so regulated that the desired amount of gas will be supplied to the

burner proper but the sub-jet can be supplied without any reference to the valve 9, but when the main jet is to be supplied with fuel the main valve must be opened in the usual manner.

It will be understood that by my peculiar arrangement there can be no accidental escapement of gas regardless of the manipulation of the main supply valve 9.

For the purpose of holding the rod 18 in proper elevation the set screw 21 is provided, which set screw is located in the body 1 as shown in dotted lines Fig. 2.

It will be understood that in order that the rod 19 may be carried away from the main jet 6 it must be attached to the soft metal or thermostatically-expansion rod 18. For the purpose of preventing gas from escaping when the valve 12 is opened the push head or button 15 is provided with the gasket 16, which gasket is designed to come in contact with the face of the burner body 1.

By forming the heavy rod 18 of soft metal the expansion is much more rapid and consequently a quick action will be imparted to the rod 19, thereby greatly facilitating the rapidity of opening the main jet 6. By locating the rod 18 in the heated zone of the jets said rod will be in an expanded condition during the entire time gas is supplied and combustion is taking place.

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

1. The combination of a gas-burner body provided with sub burner and main burner apertures, chambers formed in the burner body, a rod connected to the burner body, said rod formed of soft metal, a rod formed of hard metal having a needle point, said hard metal rod connected to and carried by the soft metal rod and a sub-burner valve and valve rod, said valve located between the chambers in the burner body, substantially as and for the purpose specified.

2. In a safety device for gas burners a burner body said burner body provided with chambers, said chambers provided with gas apertures, a rod connected to the burner body and a rod carried by the rod connected to the burner body, said two rods having different co-efficients of expansion and a valve located between the chambers formed in the burner body, substantially as and for the purpose specified.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JOHN H. EISENHAUER.

Witnesses:

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