

No. 774,844.

PATENTED NOV. 15, 1904.

J. KELLERMANN.

PROTECTING DEVICE FOR SELF ACTING IGNITERS.

APPLICATION FILED DEC. 28, 1903.

NO MODEL.

Fig. 1.

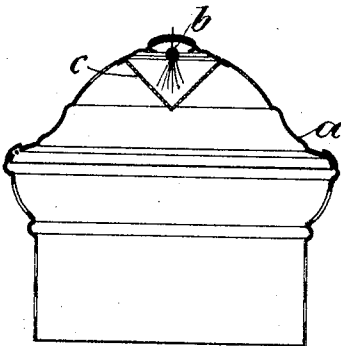


Fig. 2.

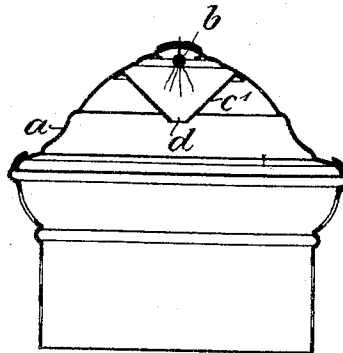


Fig. 3.

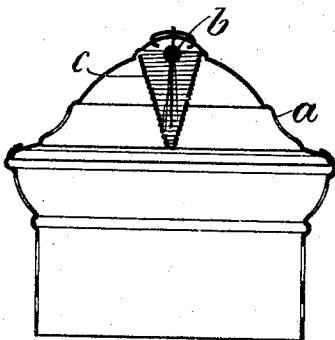
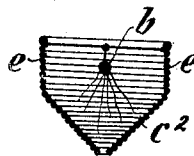


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JACQUES KELLERMANN, OF BERLIN, GERMANY.

PROTECTING DEVICE FOR SELF-ACTING IGNITERS.

SPECIFICATION forming part of Letters Patent No. 774,844, dated November 15, 1904.

Application filed December 28, 1903. Serial No. 186,826. (No model.)

To all whom it may concern:

Be it known that I, JACQUES KELLERMANN, merchant, a subject of the Emperor of Austria-Hungary, residing at 13 Neue Jacobstrasse, in the city of Berlin, Kingdom of Prussia and German Empire, have invented a certain new and useful Protecting Device for Self-Acting Igniters, of which the following is a specification.

10 This invention has reference to a protecting device for the igniting bodies employed in the automatic ignition of illuminating and other combustible gases, particularly for illuminating purposes in lamps and the like, and
15 it is intended to protect the igniting body against the rapid destruction resulting from the action of an excess of gas which is liable to destroy the igniting body both mechanically by the excessive pressure of the gas being made to act on the delicate structure of
20 the igniting body and also by the force of the slight explosion which frequently occurs on the ignition of the volume of gas in the vicinity of the igniting body, while, on the other
25 hand, the igniting body in the igniters as heretofore constructed is also subject to destruction by chemical means in consequence of the high heat of the combustion of an excess of gas and by the heat of the gases of
30 combustion, whereby the particles of the igniting body are liable to a partial fusion, which greatly impairs and even destroys their efficiency. These inconveniences are avoided in my invention by inclosing the igniting body
35 in a conically-shaped casing of suitable material made pervious to the gas, whereby only a small fraction of the gas and air mixture which is, however, sufficient for ignition is admitted to the igniting body, while the
40 greater part of the gas and also the gases of combustion are deflected sidewise, so that they are prevented from injuriously acting upon the igniting body, which is also protected thereby from the injurious effects of the heat
45 of combustion.

My invention is shown in various modifications on the accompanying drawings—as, for instance, attached to a perforated chimney-top attached to the upper end of an ordinary
50 lamp-chimney in Figures 1 and 2. Fig. 3 is

a view similar to Figs. 1 and 2, illustrating the use of a wire spiral for the purposes of my invention. Fig. 4 is a sectional view of the device itself shown as detached from the lid and corresponding to the modification of
55 Fig. 3.

The protecting device comprises, essentially, a conically-shaped casing turned point downward and made of any suitable material which will allow the illuminating-gas to have access
60 to the igniting body *b*, which is inclosed by the conical casing *c*. In the modification represented by Fig. 1 of the drawings the casing *c* consists of a conical or funnel shaped piece of wire-gauze, while in Fig. 2 the device
65 is shown as a funnel-shaped piece of sheet metal *c'* or of other suitable material, the walls of the funnel being solid and an opening *d* at the point of the funnel serving for the admission of the gas or of the gas and
70 air mixture, respectively. In Figs. 3 and 4 of the drawings the cone or funnel shaped casing is shown as consisting of a funnel-shaped-wound spiral wire. The gas or the
75 gas mixture enters through the interstices between the several windings of wire, whereby just enough of the entire volume of gas is admitted to the igniting body as will suffice for effecting the ignition, and the spiral shape
80 presents the further advantage that the minute gas-currents streaming through the interstices between the spiral windings effect a very efficient cooling of the casing, so as to prevent overheating of the igniter. It is obvious that the casing need not be of strictly
85 conical or funnel shape throughout as long as it is downwardly tapering to a point. In the modification shown in Fig. 4 the casing is shown to consist of an upper cylindrical
90 part *e* and of a lower funnel-shaped portion *e'*.

The device may either be suspended above the lamp-chimney together with the igniter by any well-known means or it may be secured to a perforated chimney-lid *a*, secured
95 by means of a perforated short end of piping or otherwise to the top of the lamp-chimney, in which latter case the very annoying oscillation is avoided and the gases of combustion are more efficiently deflected sidewise. The deflection is greatly aided and, in fact, in-
100

duced by the tapering or funnel or conical shape of the casing, and by this means only a fraction of the gas or gas and air mixture is admitted to the igniter and the cooling due to an excess of gas and the consequent delaying of the igniting is obviated.

I am aware that downwardly-convex perforated casings have been employed before my invention for protecting the self-acting igniting-pill for gas-lamps; but in all these devices the igniting-pill was subject to the destructive action of the gases of combustion of the flame, which, as is well known, spoil the platinum sponge of the igniter. This is avoided in my invention by the straight walls and the strictly conical-pointed shape of that part of the protecting device which is just above the flame, the current of gases of combustion which rise from the flame being thereby deflected sidewise and thrown toward the walls of the lamp-chimney or caused to flow along the outside only of the straight walls of the device, while in all those protecting devices which are of pear shape or of other curved or irregular shape the gases of combustion will enter into the interior of the casing and in such cases where the perforations of the casing are large, as is the case in most devices of this kind as heretofore constructed, even in a heated condition, while if the cas-

ing is provided throughout with small perforations, as is the case in my invention, the ascending gases are also cooled, so that even any minute traces of gases of combustion that might yet enter into the casing are prevented from acting injuriously upon the igniter. I have found that the pointed conical shape of the bottom of the protecting device is instrumental in causing the deflection of the gases of combustion, whereby the rapid spoiling of the igniter so much complained of in the previous devices is obviated.

What I claim, and desire to secure by Letters Patent of the United States, is—

Protecting device for gas-igniters, comprising a spirally tightly wound, substantially straight walled wire coil with strictly-conical, straight, pointed and perforated end, and a self-acting igniter within said casing and above said conical end and means at the interior of said coil for suspending the igniter about centrally from the open top of said casing and means for securing the device to the lamp-chimney top, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JACQUES KELLERMANN.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.