Sept. 9, 1930. L. KESSLER 1,775,565

BURNER FOR NOXIOUS GASES

Original Filed Oct. 24, 1927

Fig. 1.

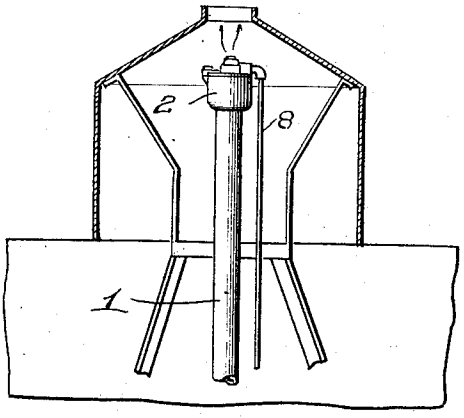
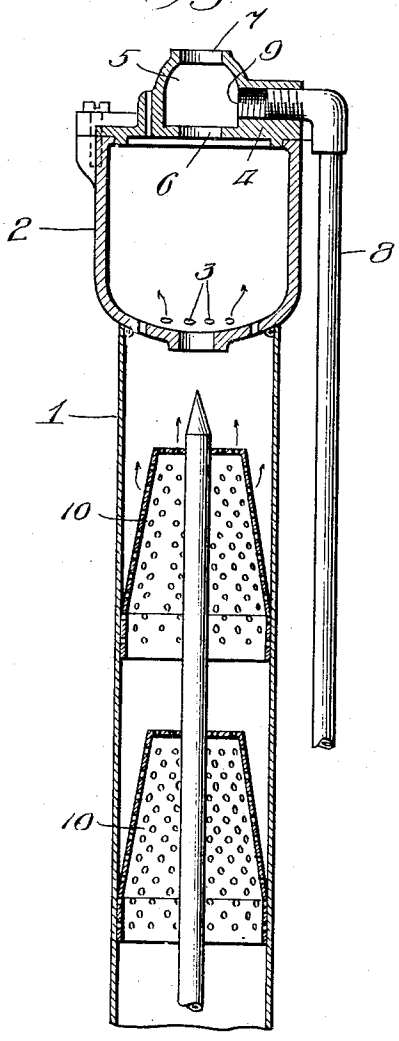


Fig. 2.



Inventor:
Louis Kessler,
By Wm F. Frendenreich,
Atty.

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UNITED STATES PATENT OFFICE

LOUIS KESSLER, OF CHICAGO, ILLINOIS

BURNER FOR NOXIOUS GASES

Original application filed October 24, 1927, Serial No. 228,161. Patent No. 1,735,927. Divided and this application filed December 21, 1928. Serial No. 327,534.

It is common practice to draw noxious gases from mines and other places and discharge them into the atmosphere. The object of the present invention is to produce a simple and novel burner by means of which such gases may be consumed so as to avoid the objectionable effects when they are discharged.

The present application is a division of my application on Mine ventilating system, Serial Number 228,161 filed October 24, 1927, which has resulted in Patent Number 1,735,927 issued November 19, 1929.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is an elevation of a burner arranged in accordance with my invention, there being a protecting housing therefor shown in section; and Fig. 2 is a central longitudinal section through the burner, on a larger scale than Fig. 1.

Referring to the drawing, 1 represents a vertical flue extending up through a mine shaft or from some other point at which noxious gases accumulate or are collected. On the upper end of the flue is mounted a small reservoir 2 having in the bottom perforations 3 through which the gases may rise. The top of the reservoir is in the form of a cover 4 having therein a central chamber 5 the capacity of which is much less than that of the reservoir. An opening 6 leads from the bottom of the chamber into the reservoir, while at the top of the chamber is an opening 7 leading to atmosphere. A gas pipe 8 is connected to the chamber 5 and is adapted to deliver a combustible gas into the chamber through a port 9 in one of the side walls of the latter. The gas delivered into the chamber through the pipe 8 may be ignited so as to provide a pilot light projecting laterally into the chamber. Consequently, when the noxious gases rise through the flue, they first fill the reservoir and then rise through the opening 6 into the combustion chamber where they are ignited by the pilot light. The result is that products of combustion of the noxious gases, instead of the gases themselves, discharge into the surrounding atmosphere.

In order to prevent backfiring through the flue, I prefer to place in the same, just below the reservoir, a plurality of frusto-conical screens 10 whose large ends fit tightly in and fill the flue. There may be any desired number of these screens, arranged one above the other, the smaller ends being preferably directed upwardly. The screens do not interfere with the upward travel of the gases rising through the flue, but they prevent the flame at the top from igniting the gases below the screens and producing a backfire down through the flue.

It will thus be seen that I have produced a simple and novel burner device comprising a large lower chamber and a smaller upper or combustion chamber communicating with the former; the gases to be dissipated collecting in the lower chamber and rising up into the combustion chamber where they meet a pilot light shielded by the walls of the upper chamber so that it will not be blown out. Thus the discharged gases will be effectively consumed, while danger of backfiring is obviated by reason of the screens in the flue below the burner.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:—

1. In a device of the character described, a vertical flue, a member closing the top of the flue and containing a large lower chamber and a small upper chamber communicating therewith, said member being perforated at the bottom to permit gases to rise from the flue into the lower chamber, there being an outlet from the upper chamber, and means for maintaining a pilot light in the upper chamber.

2. In a device of the character described, a vertical flue, a member closing the top of the flue and containing a large lower chamber and a small upper chamber communicating therewith, said member being perforated at the bottom to permit gases to rise from the flue into the lower chamber, there being an outlet from the upper chamber, and a gas conduit opening through one side of the upper chamber to provide a flame extending transversely of said upper chamber whereby the gas issuing from said flue is ignited.

In testimony whereof, I sign this specification.

LOUIS KESSLER.