

(No Model.)

S. MARCUS.
BURNER FOR VAPOR LAMPS.

No. 579,399.

Patented Mar. 23, 1897.

Fig. 8.

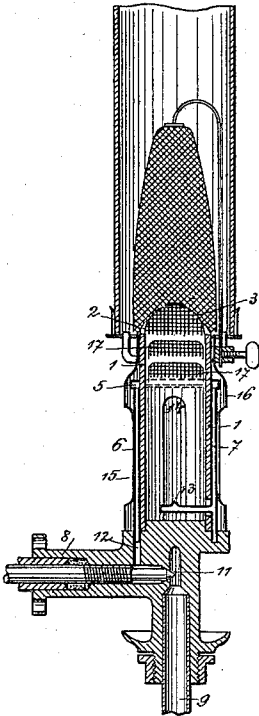


Fig. 9.

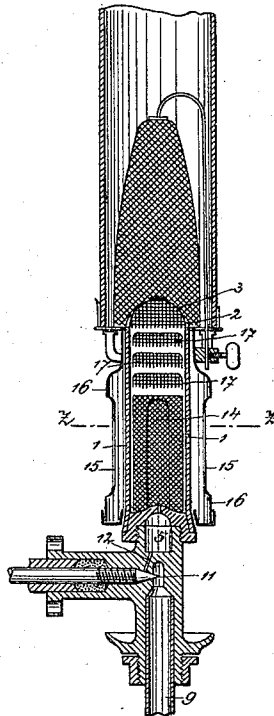


Fig. 11.

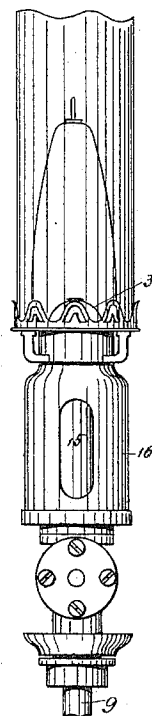


Fig. 5.

Fig. 6.



Fig. 7.

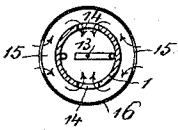


Fig. 10.

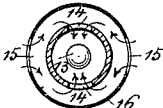


Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Witnesses
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SIEGFRIED MARCUS, OF VIENNA, AUSTRIA-HUNGARY.

BURNER FOR VAPOR-LAMPS.

SPECIFICATION forming part of Letters Patent No. 579,399, dated March 23, 1897.

Application filed August 14, 1896. Serial No. 602,749. (No model.) Patented in Austria May 16, 1896, No. 46/1,969.

To all whom it may concern:

Be it known that I, SIEGFRIED MARCUS, a subject of the Emperor of Austria-Hungary, and a resident of Vienna, in the Province of Austria and Empire of Austria-Hungary, have made certain new and useful Improvements in Burners for Vapor-Lamps, of which the following is a specification, this invention having been patented to me in Austria on the 16th day of May, 1896, Vol. 46, folio 1,969.

The object of the present invention is to produce a new burner for the gasification of fluid carbureted hydrogen, with a view to obtaining flames of very high temperature for heating purposes in general and for incandescent lights of every intensity in particular, and which can be used with or without a glass cylinder.

Several forms of such burners, according to whether they are intended to gasify light or heavy volatile carbureted hydrogen, are shown. In the first case the vapor-producing chamber is relatively distant from the flame in the lower part of the burners, whereas in the second case the same is immediately under the mouth of the burner, as a higher temperature is needed for the gasification of heavy volatile products.

In the drawings, Figures 1, 2, 3, and 4 show the burner-tube with different forms of top. Fig. 5 shows a sectional view of a complete burner. Figs. 6, 7, and 10 are cross-sectional views. Fig. 8 shows the complete burner in section. Figs. 9 and 11 show a modification in section and elevation.

In the figures the metal burner-tube 1 projects above the base of the flame for the purpose of obtaining the necessary heat for the gasification of the fluid fuel, so that this projection is in contact with the flame and conducts the heat thus obtained from the tube of the burner to the vapor-producing chamber 5. In order to further increase the heating, this projection-tube at its upper end 2 is corrugated, jagged, or perforated, as shown in Figs. 1 to 4. The tube of the burner presents thus a greater surface to the action of the flame. The projections 2 are advantageously bent slightly inward, whereas the net or sieve round the mouth of the burner is appropri-

ately arched for the purpose of guiding the flame slightly to the side.

According to Figs. 5 and 8 the vapor-producing chamber 5 consists of a hollow ring 5, fitting tightly either inside or outside the upper part of the tube of the burner 1. Two tubes 6 and 7 run into the ring 5, as in Figs. 6 and 7. The one tube 6 connects the ring 5 in such a manner with the valve-chamber 8 of the burner that the liquid fuel rising through a tube 9, with or without a wick, can pass through the passage 11, which is regulated by a screw 10, into the space 12, and from there through the tube 6 into the vapor-producing chamber 5. Here the liquid fuel vaporizes under the action of the transmitted heat and is conducted downwardly through the other pipe 7 to emanate in the form of steam from the snorter 13 without being cooled, as the gas is conducted along the hot sides of burner 1. This snorter 13 lies in the axis of the tube below the mouth of the burner. The ascending gas is mixed with atmospheric air, which is admitted by slits 14, arranged in the tube of the burner 1. These slits are advantageously covered with sieves. Attention is called to the fact that the air-conductors differ from the hitherto-known construction of the Bunsen burner, and that they reach from the base to nearly the mouth of the burner for the purpose of admitting plenty of air all along the passage of the gas emanating from the snorter 13. Similar slits 15 are arranged in the casing M. These slits are opposite each other, and the air in the outer casing 16 is warmed before mixing with the gas, and the burner is made safe against the wind. Moreover the flame cannot strike back. Further, there are a number of superposed sieves 17 placed on the upper part of the burner, Fig. 8. These sieves are placed in such a manner as to form several small chambers which effect the perfect mixture of gas and air and cause the flame to burn silently.

The construction of Figs. 9 to 11 for light volatile fuels is only distinguished from that described above by the fact that the vapor-producing chamber 5 is one of the simplest type, as in this form the tubes 6 and 7 of Figs. 5 and 8 are lacking. The burner consists of

the jagged tube 1, as in Fig. 2, the snorter 13, the sieves 3 and 17, placed also above the same, and the outer casing 16.

I claim—

- 5 A burner for gasifying liquid fuel comprising the burner-tube having irregular upper edge, the hollow ring surrounding the upper portion thereof, the pipe 6 connecting the fuel-supply pipe with said ring, the pipe 7 leading
10 downward from said ring and terminating in a discharge-tip located centrally of the burner-

tube, said burner-tube having elongated slots extending vertically thereof, and the outer casing having similar vertical slots located intermediate the slots of the burner-tube, substantially as described. 15

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

SIEGFRIED MARCUS.

Witnesses:

HARRY BELMONT,
THOMAS LOREND.