B. WIENER.

ACETYLENE BURNER.

APPLICATION FILED OCT. 19, 1915.

1,225,383.

Patented May 8, 1917.

Fig. 4.

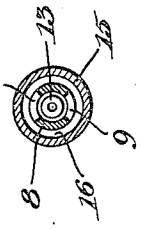


Fig. 3.

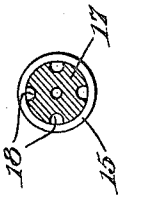


Fig. 5.

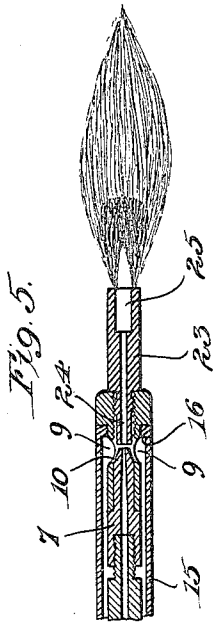


Fig. 1.

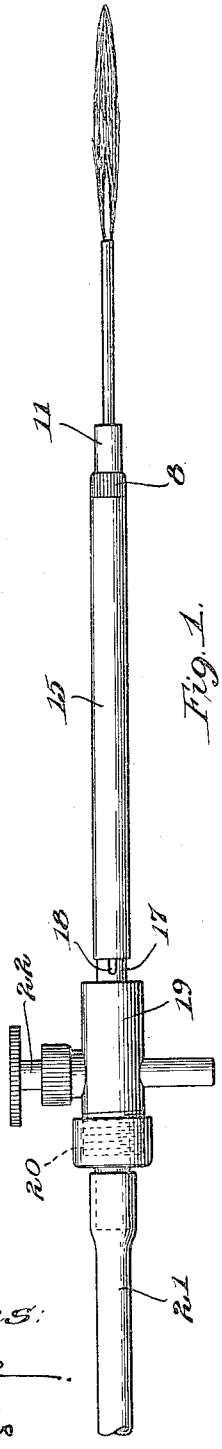
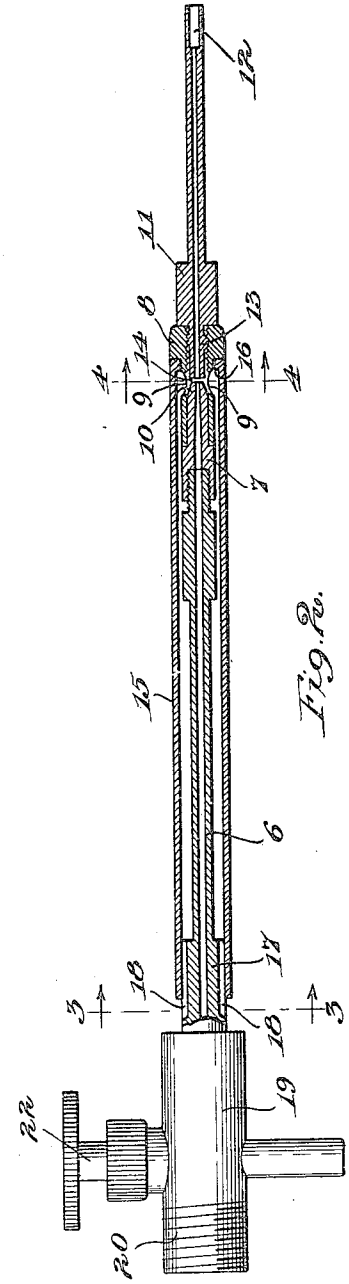


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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ACETYLENE-BURNER.

1,225,383. Specification of Letters Patent. Patented May 8, 1917.

Application filed October 19, 1915. Serial No. 56,702.

To all whom it may concern:

Be it known that I, BERNHARD WIENER, a subject of the Emperor of Germany, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Acetylene-Burners, of which the following is a specification.

My invention relates to improvements in acetylene burners, and has for its object the provision of an improved burner especially adapted for the consumption of acetylene gas of great efficiency and capable of producing different kinds of flames.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification and in which—

Figure 1 is a side view of a burner embodying my invention,

Fig. 2, an enlarged longitudinal section through said burner,

Fig. 3, an enlarged section taken on line 3—3 of Fig. 2,

Fig. 4, an enlarged section taken on line 4—4 of Fig. 2, and

Fig. 5, a section illustrating a different style of flame member.

The preferred form of construction, as illustrated in the drawing, comprises an acetylene pipe 6 having an injector nozzle 7 threaded to its discharge end. The nozzle 7 is surrounded by a sleeve having a knurled enlargement 8 to facilitate manipulations thereof. The sleeve of enlargement 8 is provided with air inlet openings 9, adjacent the end 10 of nozzle 7. A tubular flame tip 11 is threaded in enlargement 8 and is provided, at its outer end, with an enlarged bore 12 extending thereinto for a considerable distance, the stem 13 of said flame member being arranged to closely approach nozzle end 10 but to leave an air gap 14, as shown. A tubular casing 15 surrounds pipe 6 and is provided at its outer end with a shoulder 16 fitting over the sleeve of enlargement 8 and is fitted at its inner end over an enlargement 17 formed at the base of pipe 6. Longitudinal air inlet notches 18 are formed in the periphery of enlargement 17, to permit of the free entry of air to the inner end of tubular member 15. The pipe 6 is also provided at its base with an enlargement 19 threaded at 20 to facilitate the connection of a gas supply hose 21 therewith and provided with a valve 22 of any usual or desired construction.

The burner disclosed is a simple and efficient one for the purpose and will be found to be capable of producing a flame of intense heat. The specific form of flame member illustrated in Figs. 1 and 2 is designed and shaped to produce a long thin flame, as best indicated in Fig. 1.

In Fig. 5 I have illustrated a different form of flame member 23 provided with a threaded stem 24 which is interchangeable in head 8 with flame member 11. This form of flame member is much shorter than flame member 11 and is provided with a bore 25 at its flame end considerably larger in diameter than the bore 12. This flame member will produce a shorter, thicker and hotter flame than flame member 11, as is indicated in Fig. 5. I have discovered that by making the enlarged bore at the end of the flame tip longer or shorter and larger or smaller, the size of the flame may be controlled. Thus, the bore 25 is comparatively large and short making a short fat flame, while the enlargement 12 is small and comparatively longer and makes a long slender flame.

By means of the specific arrangement of parts disclosed, air is admitted to the burner uniformly, and is somewhat heated by its long passage through the metallic parts, thus tending to produce uniformity in the flame.

While I have illustrated and described the preferred forms of construction for carrying my invention into effect, these are capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A burner comprising a gas pipe; a flame tip coöperating with said gas pipe; means for admitting air at the base of said tip; and a casing surrounding the base of said tip and said gas pipe, there being air admission openings in said casing remote

from the base of said tip, substantially as described.

2. A burner comprising a gas pipe; a flame tip coöperating with said gas pipe, but distanced therefrom to provide a gap therebetween; means for admitting air to said gap; and a casing surrounding the base of said tip and said gas pipe, there being air admission openings in said casing remote from the base of said tip, substantially as described.

3. A burner comprising a gas pipe; a flame tip coöperating with said gas pipe but distanced therefrom to provide a gap therebetween; a sleeve joining said gas pipe and said tip, there being holes in said sleeve opposite said gap; and a casing surrounding the base of said tip and said gas pipe, there being air admission openings in said casing remote from the base of said tip, substantially as described.

4. A burner comprising a gas pipe; a gas nozzle at the discharge end of said pipe; a sleeve surrounding said nozzle and projecting beyond the same; a flame tip threaded in said sleeve to coöperate with said nozzle, there being a gap between the end of said tip and said nozzle and air admission openings in said sleeve opposite said gap; a casing mounted on said sleeve surrounding said gas pipe; and an enlargement at the base of said gas pipe fitting the corresponding end of said casing, there being longitudinal air admitting notches in said enlargement, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BERNHARD WIENER.

Witnesses:
JOSHUA R. H. POTTS,
HELEN F. LILLIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."