

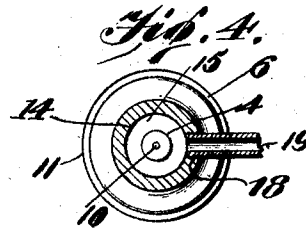
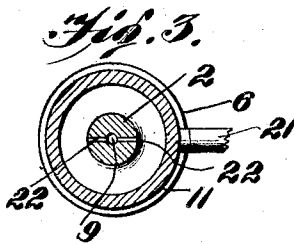
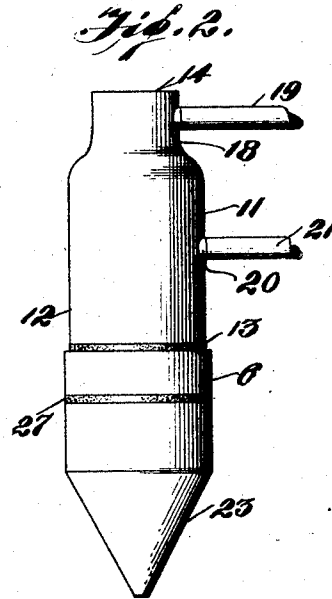
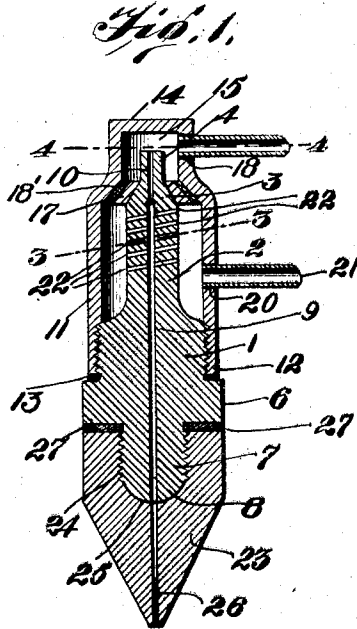
N. J. ANDERSON.

TORCH.

APPLICATION FILED APR. 27, 1910.

976,717.

Patented Nov. 22, 1910.



Witnesses

R. C. Wilson

H. J. Anderson

Inventor

NEWTON J. ANDERSON.

By

E. C. Vrooman

Attorney

UNITED STATES PATENT OFFICE.

NEWTON J. ANDERSON, OF COFFEYVILLE, KANSAS.

TORCH.

976,717.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed April 27, 1910. Serial No. 557,987.

To all whom it may concern:

Be it known that I, NEWTON J. ANDERSON, a citizen of the United States of America, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in Torches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to burner torches especially adapted for use in connection with a mixture of acetylene gas and oxygen, and the principal object of the same is to provide a burner torch in which a thorough mixture of the gas and the oxygen is obtained and in which the pressure of the oxygen is such that it will flow from the burner with sufficient force to prevent back-firing.

Another object of the invention is to provide a burner that may be readily taken apart to permit a thorough cleaning of the same.

In carrying out the object of the invention generally stated above it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, one preferred and practical embodiment of which is shown in the accompanying drawings, wherein:—

Figure 1 is a central vertical sectional view of the improved burner. Fig. 2 is a side elevation. Fig. 3 is a horizontal sectional view taken on the line 3—3, Fig. 1. Fig. 4 is a similar view taken on the line 4—4, Fig. 1.

Referring to said drawings by numerals, it will be seen that the improved burner torch comprises an externally threaded cylindrical body 1 which has an elongated reduced extension 2 that terminates in a beveled shoulder 3 from which the inlet neck 4 projects. At its other end, body 1 is provided with an annular flange 6 which is of a larger diameter than said body and from whose surface the outer externally threaded extension 7 projects. The free end 8 of said extension 7 is preferably rounded. A longitudinal opening 9 extends through body 1 and its extensions 2 and 7. Neck 4 is provided with a longitudinal opening 10 that is a continuation of but smaller in diameter than opening 9.

A tubular mixing chamber 11 has its open end 12 internally threaded and adapted to engage the external threads of body 1, a gas-

ket 13 being interposed between the outer edge of said chamber and its seat formed by the inner surface of flange 6. The major portion of chamber 11 is substantially the same diameter as body 1 and incloses extension 2 in spaced relation. The closed upper end 14 of said chamber conforms to the contour of shoulder 3 and neck 4 of extension 2 and incloses the same in spaced relation so that a compartment 15 is formed in the closed end of said chamber. A collar 17 is seated on shoulder 3, said collar being provided with a gasket 18 that binds upon the base of the closed end of chamber 11 to prevent communication between compartment 15 and the interior of said chamber. Compartment 15 is provided with a side opening 18 that is threaded for the reception of the externally threaded end of a pipe 19 that extends from a source of oxygen supply, not shown. Mixing chamber 11 is provided with a similar opening 20 with which a pipe 21 communicates that extends from a source of acetylene gas supply, not shown. Extension 2 is provided with a plurality of regularly spaced apart transverse slots 22 whose outer ends communicate with the space between said extension and chamber 11, the inner ends of said slots communicating with longitudinal passage 9. Preferably slots 22 are inclined.

A burner tip 23, preferably conical, has a recess 24 formed centrally in its inner end said recess being threaded and having a rounded end 25. Said tip is adapted to be fitted over extension 7 and is provided with a central longitudinal opening 26 that forms a continuation of opening 9 when said tip is engaged with said extension. A gasket 27 is interposed between the inner end of tip 23 and the outer surface of flange 6.

It will be seen from the foregoing that the oxygen under high pressure is discharged into compartment 15 and flows through opening 9 to the slots 22 where it meets and mingles with the acetylene gas that is discharged from pipe 21 into chamber 11, the gas being preferably under reduced pressure, the mixed fuel flowing through passage or opening 9 to the outer end of burner tip 23 where it is ignited.

It will be understood that compartment 14 forms a collecting chamber for the sediment discharged from oxygen pipe 18. Also that the chamber 11 may be readily detached from body 1 so that said chamber may be

thoroughly cleaned. And also that tip 23 may be readily detached from extension 7 for a similar purpose, and to permit the different types of burner tips to be employed.

5 What I claim as my invention is:—

1. A burner comprising a body having a reduced extension at one end and a threaded extension at its other end, said body and extensions having a longitudinal passage
10 formed through them, said reduced extension provided with spaced transverse slots that communicate with said passage, a chamber carried by said body and surrounding said reduced extension in spaced relation, a
15 collar carried by said reduced extension and sealing the upper end portion of said chamber to provide a compartment therein, an oxygen supplying pipe having a direct communication with said compartment, an
20 acetylene gas supplying pipe communicating with said chamber, and a burner tip detachably engaging said threaded extension and provided with a longitudinal opening that forms a continuation of the opening through
25 said body and extensions.

2. A burner comprising a body provided with a longitudinal opening and with transverse slots that communicate with said opening, a chamber surrounding one end portion
30 of said body, said chamber having a reduced end compartment, removable means carried by the surrounded end of said body for sealing said compartment against communication with the major portion of said chamber,
35 means for supplying oxygen to said compartment, means for supplying acetylene gas to said chamber, and a burner tip carried by the other end portion of said body.

40 3. A burner comprising a body provided with a reduced extension at one end that

terminates in a neck, said neck provided with a beveled shoulder a threaded extension at the other end of said body, said body and extensions having a longitudinal opening
45 formed through them and said reduced extensions provided with transverse slots that communicate with said opening, a chamber engaging said body and surrounding the reduced extension in spaced relation, said chamber having a closed end portion that
50 surrounds said neck, means seated on said shoulder for sealing the inner end of said closed end portion to provide a compartment, means for supplying oxygen to said compartment, means for supplying acetylene
55 gas to said chamber, and a burner tip engaging the threaded extension of said body.

4. A burner torch comprising a body provided with externally threaded reduced end extensions, said body and extensions pro-
60 vided with a longitudinal slot and one extension provided with regularly spaced transverse slots that intersect the longitudinal slot, a chamber carried by the body and enclosing the transversely slotted extension in
65 spaced relation, a burner tip for the other extension, means removably seated on the outer end of the slotted extension for dividing the outer end of said chamber into an independent sediment compartment, means
70 for supplying oxygen to said compartment, and means for supplying gas to said chamber.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

NEWTON J. ANDERSON.

Witnesses:

N. A. ARMSTRONG,
C. A. STOUT.