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S. C. BRODY

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AUTOMATIC BLAST TORCH

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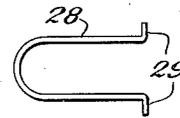
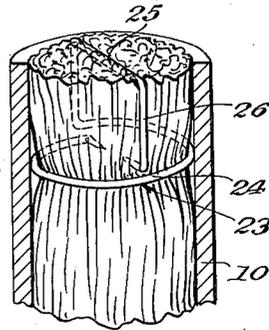
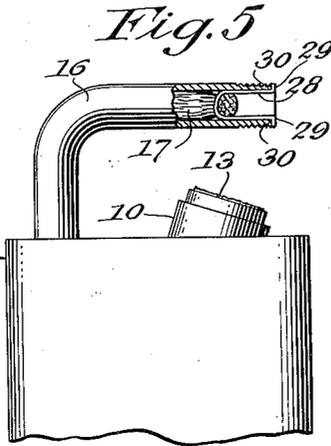
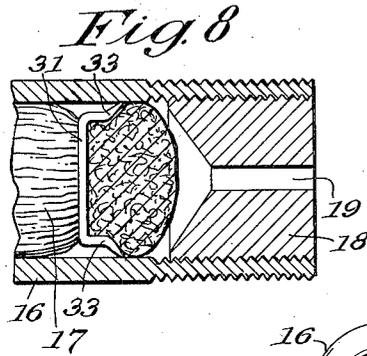
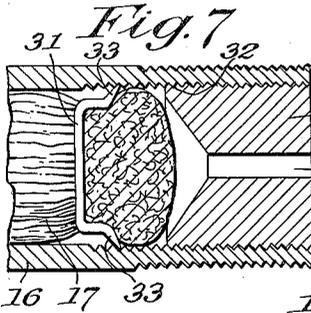


Fig. 1

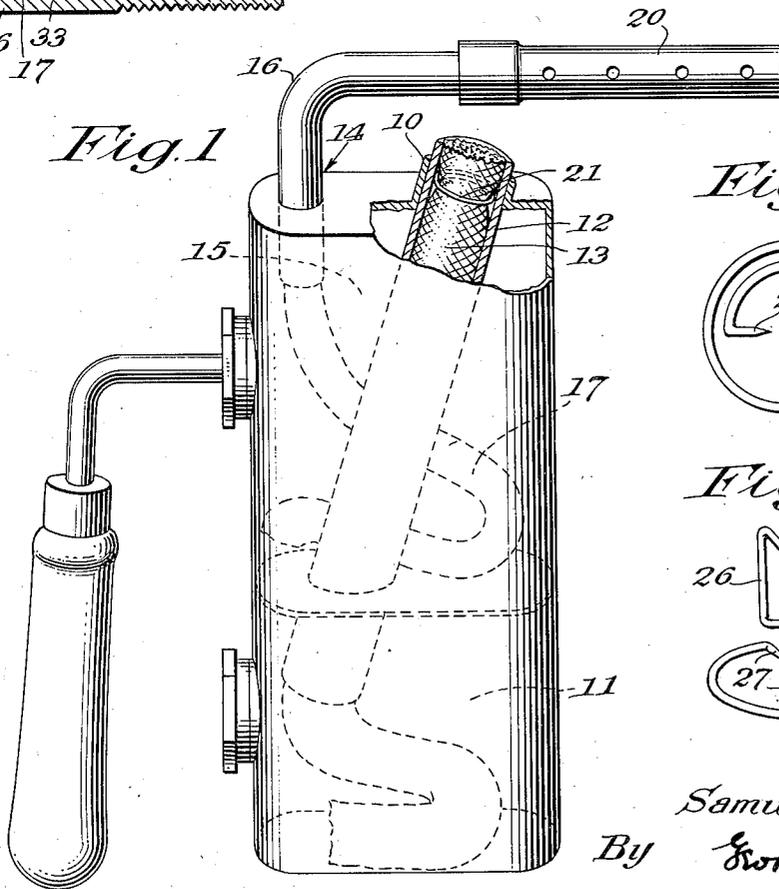


Fig. 2

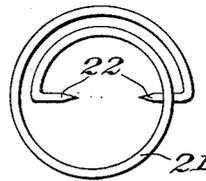
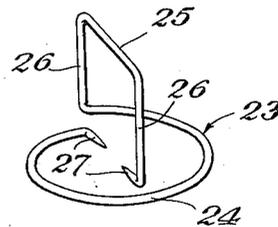


Fig. 4



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AUTOMATIC BLAST TORCH

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Application January 23, 1936, Serial No. 60,461

10 Claims. (Cl. 158—35)

This invention relates to blow torches and is a continuation in part of my prior application Serial No. 740,476, filed August 18, 1934.

It is particularly directed to the problem of positively supporting and reliably maintaining a wick at any desired position within a wick tube, and involves a wick positioning device which is at once extremely simple and inexpensive of manufacture and assembly and unusually effective in use.

In the accompanying specification and drawing, I describe and show a few of the many possible forms of wick positioning device contemplated by my invention. It will be understood, however, that the embodiments of my invention thus illustrated are suggestive and not restrictive and that the principles of my invention may be embodied in many different forms in addition to those actually shown without departing from the spirit or essential characteristics thereof.

In such drawing:—

Fig. 1 is an elevation, partly in section, of a blow torch equipped with one form of wick-positioning member in accordance with my invention.

Fig. 2 shows the wick positioning member of Fig. 1, removed.

Fig. 3 shows a modification of the wick positioning member illustrated in Fig. 1.

Fig. 4 shows the wick positioning member of Fig. 3, removed.

Fig. 5 is a fragmentary sectional view showing a further modification.

Fig. 6 shows the wick positioning member of Fig. 5, removed.

Fig. 7 is a fragmentary sectional view showing a still further modification, and

Fig. 8 shows a slight variant of Fig. 7.

I have indicated generally at 10, Fig. 1, the priming unit of an encased blow torch of standard construction. Such unit includes a fuel reservoir 11, a priming wick tube 12, and a priming wick 13 in said tube and extending into said fuel reservoir.

Coacting with the priming unit is a pressure generating unit indicated generally at 14. Such unit includes a fuel reservoir 15, a generating wick tube 16, a generating wick 17 in said tube and extending into said fuel reservoir, and a jet delivery nozzle 18 fixed within the outer end of said generating wick tube 16. The jet nozzle 18 may be in the form of a jet plug having a jet opening 19, and there may be a combustion burner tube 20 affixed over the outer end of the generating wick tube 16.

As shown in Figs. 1 and 2, the wick positioning

member is frictionally mounted within the priming wick tube 12 adjacent the outer end thereof. Such member is in the form of a coil spring 21 but may be otherwise constructed. At its ends it may be provided with wick-engaging points 22. These are preferably opposite each other and may penetrate the priming wick.

The wick is disposed within the coil portion of the member 21 and said coil portion frictionally engages the inside surface of the wick tube wall 12 and locks the priming wick at any desired position of adjustment therein. Such locking action may result from the insertion of the wick into the coil, thereby expanding the same into frictional contact with the wick tube wall, or said member 21 may be of a larger diameter than the priming tube diameter so that when said member 21 is compressed and inserted into the tube, its spring action will cause it to expand and frictionally lock against said tube.

In the form of my invention shown in Figs. 3 and 4, wherein a slight variant of the wick positioning member illustrated in Figs. 1 and 2 is detailed, the wick positioning member is preferably constructed as a spring 23 having a wick-encircling portion 24 disposed in one plane and adapted to encircle the wick adjacent the outer end thereof and having a cross portion 25 disposed above said portion 24 and overlying the outer end of the wick.

The portions 24 and 25 are connected to each other as at 26. One of the connecting portions 26 and one end of the portion 24 are formed as points 27 which may penetrate the wick.

With this form of my invention, the wick is not only reliably positioned within the wick tube in the desired position, but the cross portion 25 may be used as a grasping or handle member to enable the wick positioning member to be conveniently re-positioned within the wick tube whenever desired.

With this form of my invention also, whenever the outer end of the wick becomes charred and requires to be trimmed or cut off, the wick may then be moved up in the priming wick tube to any desired position and the wick positioning member may be re-positioned on the wick itself, thus exposing a new and fresh wick surface at the outer end of the wick. This wick positioning member may be re-positioned at any desired point in the priming wick tube.

In the form of my invention shown in Figs. 5 and 6, the wick positioning member is frictionally mounted in the generating wick tube 16 adjacent the outer end thereof. In this embodi-

ment the wick positioning member is preferably constructed in the form of a U-shaped spring 28. Its outer ends 29 are bent outwardly and engage the outer end of the generating wick tube 16, said tube, if desired, being milled or otherwise machined across its outer end to engage and/or lock said spring ends.

The outer end of the generating wick 17 is looped over the closed inner end of the member 28 and the legs of the said member 28 frictionally engage the wall of the wick tube and lock said member in the desired position therein.

The member 28 is preferably of a length which will dispose the outer end of the wick a distance from the outer end of the wick tube, leaving a gas space between said wick end and tube end.

In the embodiments of my invention shown in Figs. 7 and 8, the wick positioning member 31 is frictionally mounted within the generating wick tube 16 adjacent to the jet plug and supports the wick at any desired position of adjustment relative thereto. The upper end of the wick is looped over the member 31, and if desired additional wicking may be inserted at that point so as to substantially fill the space between said member 31 and the inner end of the wick tube and thereby provide a gas permeable barrier which however is retardant or preventative to the free leakage of raw fuel therethrough or therepast.

The member 31 may be disposed transversely of the wick tube and may be retained by frictional contact either with the inner surface of the wick tube wall, as in Fig. 8 or with the threads 32 of the wick tube, as in Fig. 7. Either method avoids the necessity for longitudinally slotting the wall of the wick tube to receive the ends of the cross pin shown in my prior application, and hence it is no longer necessary to align accurately the pin and the receiving slots therefor in order to insure proper cross-wise disposition of the member 31 within the wick tube. Instead it is only necessary to drop the member 31 cross-wise into the upper end of the wick tube at any desired position circumferentially thereof.

Preferably, the cross member 31 is made of resilient material having out-turned ends 33 which friction against the wick tube wall, or against the threads of the wick tube, and thereby lock the member 31 in position, the member being compressed slightly as it is forced down into the wick tube to the desired position and automatically locking itself at such desired position by reason of its spring action.

Many other variations in structures, materials and methods of assembly may obviously be resorted to without departing from the spirit and scope of my invention, the same being indicated by the appended claims rather than by the fore-

going description, it being understood that all such variations which come within the meaning and range of equivalency of the claims are intended to be embraced by said claims.

What I therefore claim and desire to secure by Letters Patent is:—

1. In a blow torch having a wick tube and a wick therein, a wick positioning member holding the wick and itself held frictionally within the wick tube, said wick extending longitudinally beyond the outer end of the wick positioning member, and said wick positioning member having a portion extending transversely of the wick axis and frictionally contacting the wick tube wall internally thereof.

2. The blow torch of claim 1, the member being a pin the ends of which engage the wick tube wall.

3. The blow torch of claim 1, the member having a ring-like portion encircling the wick and perimetrically engaging the wick tube wall.

4. The blow torch of claim 1, the member being U-shaped with the cross-bar of the U disposed inwardly of the wick tube to support the wick and with the legs of the U in line contact with opposite portions of the wick tube wall.

5. In a blow torch having a wick tube and a wick therein, a wick positioning member having a portion encircling the wick and frictionally engaging the wick tube wall interiorly thereof and a cross portion connected with said encircling portion and disposed transversely of the wick.

6. The torch of claim 5 the cross portion being disposed across the outer end of the wick.

7. In a blow torch having a wick tube and a wick therein, a wick positioning member consisting of a single length of spring material, said member being bent to provide a portion encircling the wick and frictionally engaging the wick tube wall interiorly thereof, thence extending upwardly and across and embedded into the outer end of the wick, and thence downwardly and terminating in substantially the plane of said wick encircling portion.

8. The torch of claim 7, the terminal ends of said spring extending towards each other as spaced wick-engaging points.

9. In a blow torch having a wick tube and a wick therein, a wick positioning member partly encircling the wick and itself held frictionally within the wick tube, the portions of the wick adjacent the partly encircled portion of the wick being expanded by said member into frictional contact with the wick tube wall internally thereof.

10. The blow torch of claim 9, the wick positioning member being made of resilient material which will readily yield to enable said member to be easily removed or generally manipulated within the wick tube.

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