Aug. 28, 1951 J. H. STROOP 2,565,532

FIRE EXTINGUISHER AND DISCHARGE DIRECTING MEANS THEREFOR

Filed Jan. 29, 1947

Fig. 1

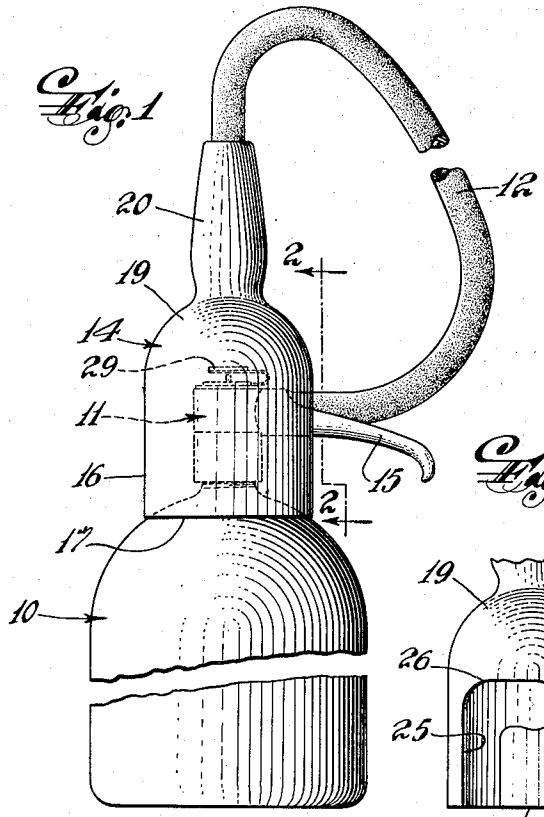


Fig. 2

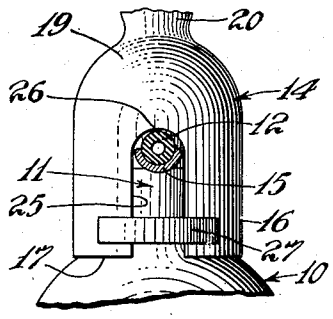


Fig. 4

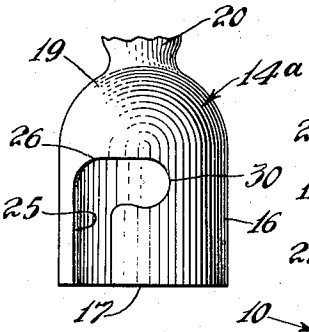


Fig. 5

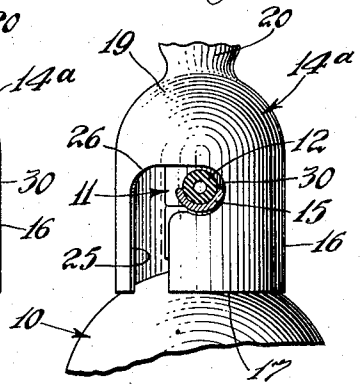


Fig. 3

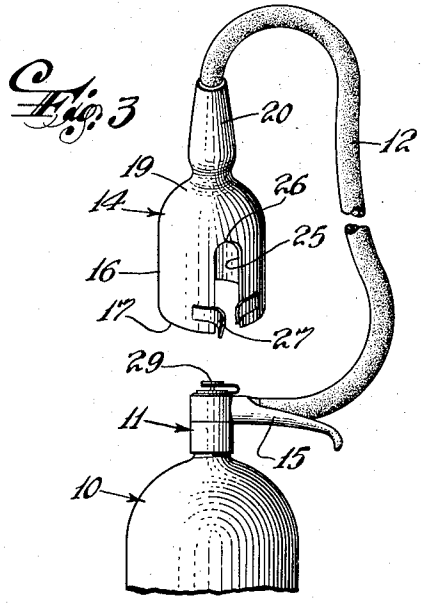


Fig. 6

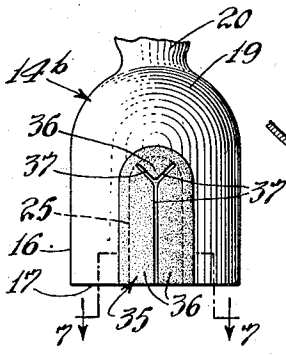
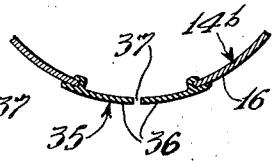


Fig. 7



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FIRE EXTINGUISHER AND DISCHARGE DIRECTING MEANS THEREFOR

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15 Claims. (Cl. 169—31)

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The present invention relates to fire extinguishers, and, more particularly, relates to fire extinguishers of the portable type having discharge directing means, such as a horn or shield, provided with improved means for mounting the same on the extinguisher.

An object of the present invention is to provide a simple, economically constructed extinguisher of the foregoing type.

Another object is to provide novel means for mounting and attaching the horn on the extinguisher.

A further object is to provide a horn having means cooperating with other parts of the extinguisher to lock the horn thereon.

Other and further objects of the invention will be obvious upon an understanding of the illustrative embodiment about to be described, or will be indicated in the appended claims, and various advantages not referred to herein will occur to one skilled in the art upon employment of the invention in practice.

In the drawing:

Figure 1 is a fragmentary elevational view of a fire extinguisher illustrating an embodiment of the invention.

Figure 2 is an enlarged sectional view taken substantially along the line 2—2 on Figure 1.

Figure 3 is a fragmentary view of the extinguisher shown in Figure 1 illustrating the horn removed from the container for use, the horn being shown in perspective and the container and its valve being shown in elevation.

Figure 4 is an enlarged elevational view of a modified form of horn.

Figure 5 is a view similar to Figure 2 illustrating the horn of Figure 4 mounted on a container.

Figure 6 is an enlarged elevational view of another modified form of horn.

Figure 7 is a sectional view taken along the line 7—7 of Figure 6, illustrating a detail of the horn.

Referring to the drawing in detail, and more particularly to Figures 1, 2 and 3 thereof, there is shown a fire extinguisher of the portable type comprising a source of fire extinguishing medium, such as a container 10 for storing carbon dioxide under pressure, discharge means, such as a valve 11 on the container, conduit means, such as a flexible hose 12 having one end thereof connected to the valve, and discharge directing means, such as a snow forming horn or shield 14 connected to the other end of the hose.

In order to facilitate carrying the container, the container or the valve may have a handle 15 secured thereto. As shown herein, the handle

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extends laterally with respect to the container and is rigidly secured to the valve 11 to provide a comfortable hand grip for lifting and carrying the extinguisher. The handle is positioned adjacent the end of the hose which is connected to the valve and extends underneath the hose. Preferably, the handle is substantially semicircular in cross section (Figure 2) to receive the hose whereby the hose and handle are compactly assembled adjacent the valve.

The horn may be of any suitable design but preferably is generally tubular in cross section, for example substantially cylindrical or flared outwardly. As shown, the horn 14 has a tubular discharge directing wall 16 which may be of any desired length and has a forward or open end 17 and has a hemispherical closed rearward end 19 to which the hose is connected. The horn is provided with a handle member 20 through which the hose extends and has suitable snow forming means such as a nozzle or the like within the closed end 19.

In order to mount the horn on the container, as shown in Figures 1 and 2, the wall 16 of the horn is provided with a slot 25 which is open at the forward end 17 of the horn and extends rearwardly towards the closed end 19 of the horn. The slot is dimensioned to receive the portion of the hose and the handle 15 adjacent the valve so that, when the horn is placed over the valve in an inverted position, the forward end of the horn is seated on or is adjacent to the portion of the container below the valve and the closed end 26 of the slot extends about the top side of the hose. If desired, the slot may be of such a width that the horn portions defining the slot are in frictional or resilient engagement with the handle 15 and/or the hose.

When the horn is mounted as shown in Figures 1 and 2, it substantially encloses the valve and prevents accidental or inadvertent actuation thereof. At the same time, the handle 15 extends through the slot 25 in a manner to facilitate manual grasping thereof when it is desired to carry the extinguisher. A breakable seal or band 27 may be secured to the horn to partially close the slot and discourage unauthorized removal of the horn.

In the event it is desired to use the extinguisher, the horn is readily removed by breaking the band or seal 27, as shown in Figure 3, to permit access to the valve operating means herein schematically illustrated as a push button 29.

In Figures 4 and 5, a modified horn 14a is shown, wherein the slot 25 has a circumferen-

tially extending portion 30 at the end 26 thereof shaped to provide a bayonet type joint. This slot construction cooperates with the hose 12 and handle 15 to lock the horn on the container (Figure 5). The horn may be unlocked by slight rotation thereof to release the horn and handle.

In Figures 6 and 7, another modified horn 14b is shown, wherein a closure 35 constructed of rubber or the like is secured to the portions of the horn defining the slot 25. The closure has foldable portions 36 separated by slits 37 adapted for receiving the hose and handle.

When the horn of this construction is mounted on the container, the foldable portions 36 act as frictional retaining means to ensure a secure grip on the hose and handle. When the horn is used to direct fire extinguishing medium therethrough, the foldable portions substantially close the slot 25.

While the present invention has been described in connection with a carbon dioxide type fire extinguisher, it will be appreciated that the features thereof may be advantageously utilized for other types of extinguisher utilizing fluid medium in powder or liquid form. Also, it will be understood that the present invention may be advantageously utilized in systems wherein a pipe line fitted with a valve constitutes the source of fire extinguishing medium and a horn is mounted on the valve.

From the foregoing description, it will be seen that the present invention provides an improved fire extinguisher embodying means for mounting the horn in a simple and practical manner. The horn is readily attached and removed and can readily withstand any rough usage to which it may be subjected.

As various changes may be made in the form, construction and arrangement of the parts herein, without departing from the spirit and scope of the invention and without sacrificing any of its advantages, it is to be understood that all matter herein is to be interpreted as illustrative and not in any limiting sense.

It is also to be understood that the following claims are intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. In combination, a source of fluid medium, a valve for said source of fluid medium, a hose having one end connected to said valve, and a horn connected to the other end of said hose, said horn being adapted to be placed over and substantially enclose said valve and having a slot in the wall thereof at its outward end for receiving said hose; the wall portions of said horn defining said slot being constructed and arranged to resiliently engage said hose.

2. In combination, a source of fluid medium, a valve for said source of fluid medium, a hose having one end connected to said valve, and a horn connected to the other end of said hose, said horn being adapted to be placed over and substantially enclose said valve and having a slot in the wall thereof at its outward end for receiving said hose, said slot being in the form of a bayonet joint adapted to cooperate with said hose to lock said horn in its aforesaid position.

3. In combination, a valve, a hose having one end connected to said valve, and a horn connected to the other end of said hose, said horn being adapted to be placed over and substantially enclose said valve and having a slot in the wall thereof at its outward end for receiving said hose, the wall portions of said horn defining said slot being constructed and arranged to resiliently engage said hose.

4. In combination, a valve, a hose having one end connected to said valve, and a horn connected to the other end of said hose, said horn being adapted to be placed over and substantially enclose said valve and having a slot in the wall thereof at its outward end for receiving said hose, said slot being in the form of a bayonet joint adapted to cooperate with said hose to lock said horn in its aforesaid position.

5. A hollow shield of the class described comprising a discharge directing wall having a slot therein open at the forward end of said wall and extending rearwardly thereof, and a closure having foldable portions substantially closing said slot.

6. In combination, a container, a valve for said container, a flexible hose having one end connected to said valve, and a carrying handle for said container extending laterally of said valve and positioned adjacent and under the portion of said hose adjacent said valve, said handle having a groove for receiving said hose.

7. In combination, a receptacle for containing fluid medium, a discharge control valve at the upper end of said container, conduit means extending laterally of said valve including a flexible hose, and a hollow discharge directing shield connected to the downstream end of said hose, said shield having a slot in the wall thereof at its outward end removably receiving said conduit means and said shield enclosing said valve.

8. In combination, a receptacle for containing fluid medium, a discharge control valve at the upper end of said container, conduit means extending laterally of said valve including a flexible hose, and a hollow discharge directing shield connected to the downstream end of said hose, said shield having a slot in the wall thereof at its outward end removably receiving said conduit means and said shield enclosing said valve, said slot having means associated therewith for locking said shield on said conduit means.

9. In combination, a receptacle for containing fluid medium, a discharge control valve at the upper end of said container, conduit means extending laterally of said valve including a flexible hose, a carrying handle for said container extending laterally beneath said conduit means and a hollow discharge directing shield connected to the downstream end of said hose, said shield having a slot in the wall thereof at its outward end removably receiving said conduit means and said handle and said shield enclosing said valve.

10. In combination, a source of fluid medium, a discharge control valve connected to said source, conduit means extending outwardly of said valve including a flexible hose, and a hollow discharge directing shield connected to the downstream end of said hose, said shield having a slot in the wall thereof at its outward end removably receiving said conduit means and said shield enclosing said valve.

11. In combination, a source of fluid medium, a discharge control valve connected to said source, conduit means extending outwardly of said valve including a flexible hose, and a hollow discharge directing shield connected to the downstream end of said hose, said shield having a slot in the wall thereof at its outward end removably receiving said conduit means and said shield en-

closing said valve, said slot having means associated therewith for locking said shield on said conduit means.

12. A hollow discharge directing shield for enclosing a valve having an outlet conduit extending laterally outwardly thereof, said shield comprising a discharge dfirecting wall constructed to surround the valve and having a slot therein formed with an entrance opening at the forward end of said wall and extending rearwardly thereof for receiving the conduit of the valve, and resilient means on said wall adjacent said slot adapted to cooperate with the conduit to lock the shield on the valve.

13. A hollow discharge directing shield for enclosing a valve having an outlet conduit extending laterally outwardly thereof, said shield comprising a discharge directing wall constructed to surround the valve and having a slot therein through which the conduit of the valve is adapted to extend, said slot being formed with an entrance opening at the forward end of said wall for receiving the conduit of the valve and being formed with a recess at one side thereof and located rearwardly of said opening adapted to cooperate with the conduit to lock the shield on the valve.

14. A shield according to claim 13, wherein said slot is constructed and arranged to constitute a bayonet joint for cooperation with the valve conduit.

15. A hollow discharge directing shield for enclosing a valve having an outlet conduit extending laterally outwardly thereof, said shield comprising a discharge directing wall constructed to surround the valve and having a slot therein formed with an entrance opening at the forward end of said wall and extending rearwardly thereof for receiving the conduit of the valve and, means associated with said slot for locking the shield on the valve.

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