March 9, 1965 A. RIULI ETAL 3,172,607

HORN AND HOSE ASSEMBLY FOR CARBON DIOXIDE FIRE EXTINGUISHING APPARATUS

Filed April 10, 1963

Fig. 1

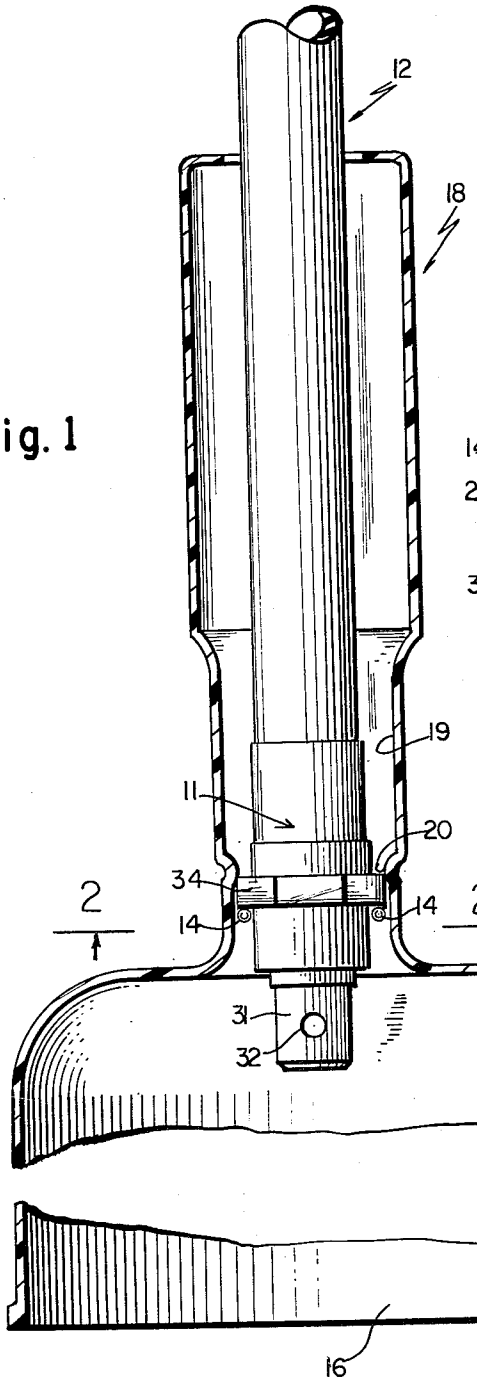
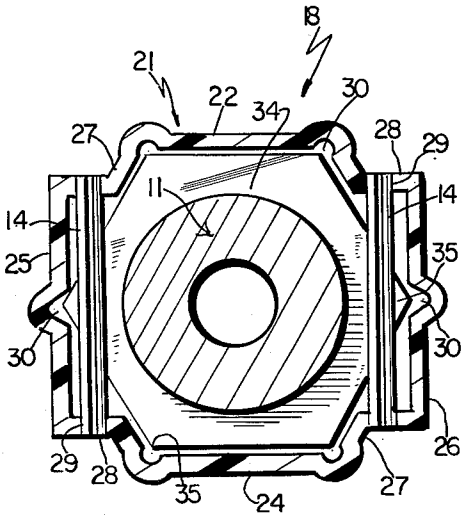


Fig. 2



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United States Patent Office 3,172,607 Patented Mar. 9, 1965

3,172,607

HORN AND HOSE ASSEMBLY FOR CARBON DIOXIDE FIRE EXTINGUISHING APPARATUS

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Filed Apr. 10, 1963, Ser. No. 272,506
4 Claims. (Cl. 239—288)

The present invention relates to carbon dioxide fire extinguishing apparatus, and, more particularly, to a horn and hose assembly which is an improvement over the assembly shown in United States Patent 2,985,383, dated May 23, 1961.

Accordingly, an object of the present invention is to provide an improved horn and hose assembly which requires fewer major parts, less complicated fabricating and assembly operations, and which assures permanent securement of the parts upon assembly thereof.

Another object is to eliminate screw threaded connections and all possible points of leakage.

A further object is to accomplish the foregoing in a simple, practical and economical manner.

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 on practice.

A preferred embodiment of the invention has been chosen for purposes of illustration and description, and is shown in the accompanying drawing, forming a part of the specification, wherein:

FIG. 1 is a fragmentary longitudinal sectional view of a horn and hose assembly in accordance with the present invention.

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

Referring now to the drawing in detail, a horn and hose assembly is shown which generally comprises a horn **10**, a tubular fitting **11**, a hose **12** secured to the fitting **11** in a conventional manner as in the past, and means such as pins **14** for effecting securement of the fitting and the horn in the manner described hereinafter.

The horn **10** as shown has a generally cylindrical side **15**, an open end **16**, and an end wall **17** opposite the open end. The horn is formed of a molded plastic resin and can therefore be formed integrally with a hollow handle **18** extending outwardly from the end wall **17**.

The handle **18** has a bore **19** extending therethrough from the end wall **17** to its outer end, and the bore is formed with an annular inwardly extending rib or projection **20** spaced adjacently from the end wall **17**.

As shown in FIG. 2 and for the purpose to be explained hereinafter, the bore **19** has a polygonal internal section **21** between the end wall **17** and the rib **20**. This section comprises a horizontal top wall portion **22**, a horizontal bottom wall portion **24**, vertical side wall portions **25** and **26**, and oblique wall portions **27** connecting the ends of the side wall portions **25** and **26** to the ends of the top and bottom wall portions **22** and **24**. The oblique wall portions are each formed with a horizontal section **28** having a hole **29** extending vertically therethrough. The top and bottom wall portions are formed with an internal recess **30** at each end thereof, and the side wall portions are formed with a similar recess **30** at the midpoint thereof to provide a total of six of such recesses. These six recesses **30** extend longitudinally and are spaced circumferentially an equal distance apart.

The fitting **11** has an opening at its outer end in fluid flow connection with the hose **12**, a nozzle head **31** at its inner or other end formed with apertures **32** positioned for discharging carbon dioxide into the horn adjacent the end wall **17**, and a flange **34** constructed and arranged for cooperation with the handle bore section **21**.

As shown in FIG. 2, the flange **34** is six-sided or hexagonal and each junction **35** of adjacent sides is disposed in a recess **30** to prevent relative rotation between the fitting and the handle.

In order to assemble the parts as shown herein, the hose **12** is first secured to the fitting **11** and is passed through the horn and the bore of the handle. The flange **34** is oriented in the bore section **21** and its outer face is positioned against the rib **20**. The end portion of a pin **14** is then positioned in each pair of opposite holes **29** so that the pins **14** are parallel to each other and each pin is positioned against the inner face of the flange to retain the flange in the handle and thereby secure the fitting to the handle.

The pins **14** preferably are of the type known as roll-pins which have the form of a longitudinally split hollow cylinder, and thus can be securely anchored in the handle of the horn.

From the foregoing description, it will be seen that the fitting and the nozzle head are provided by a single part, the fitting can be readily oriented in the handle of the horn, and the fitting can be secured with the handle without screw threading operations.

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.

We claim:

1. A horn and hose assembly for discharging carbon dioxide comprising a horn having an open end and an end wall opposite the open end and being integrally formed with a handle extending outwardly from said end wall, said handle having a bore extending therethrough from said end wall to the outer end of said handle and said bore being formed with an annular inwardly projection adjacent said end wall; a hose; a fitting having an opening at one end in fluid flow connection with said hose, a nozzle head at its other end formed with aperture means for discharging carbon dioxide into said horn adjacent said end wall, and flange means between its ends provided with inner and outer faces and said outer face being positioned against said projection; and means extending crosswise through said handle and being positioned against said inner face to retain said flange means in said handle and thereby secure said fitting to said handle.

2. An assembly according to claim 1, wherein said last mentioned means include a pair of pins disposed parallel with respect to each other.

3. An assembly according to claim 1, wherein said handle bore and said fitting flange means have cooperating peripheral surfaces for preventing relative rotation between said fitting and said handle.

4. A horn and hose assembly for discharging carbon dioxide comprising a horn having an open end and an end wall opposite the open end and being integrally formed with a handle extending outwardly from said end wall, said handle having a bore extending therethrough from said end wall to the outer end of said handle and said bore being formed with an annular inwardly projection adjacent said end wall and with a polygonal section between said projection and said end wall provided with six circumferentially spaced recesses and two pairs of holes at opposite sides; a hose; a fitting having an

opening at one end in fluid flow connection with said hose, a nozzle head at its other end formed with aperture means for discharging carbon dioxide into said horn adjacent said end wall, and a six-sided flange between its ends provided with inner and outer faces, said outer face being positioned against said projection and the junction of adjacent sides being disposed in one of said recesses; and a pin extending through each of said pairs of holes of said handle and being positioned against said inner face to retain said flange in said handle and thereby secure said fitting to said handle.

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