Aug. 19, 1958 I. E. LA FRANCE 2,848,265

FLARE HOLDER

Filed April 23, 1956

Fig. 1.

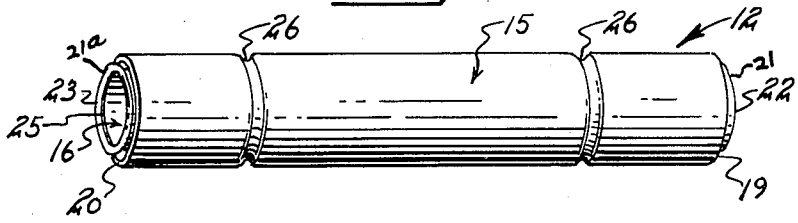


Fig. 2.

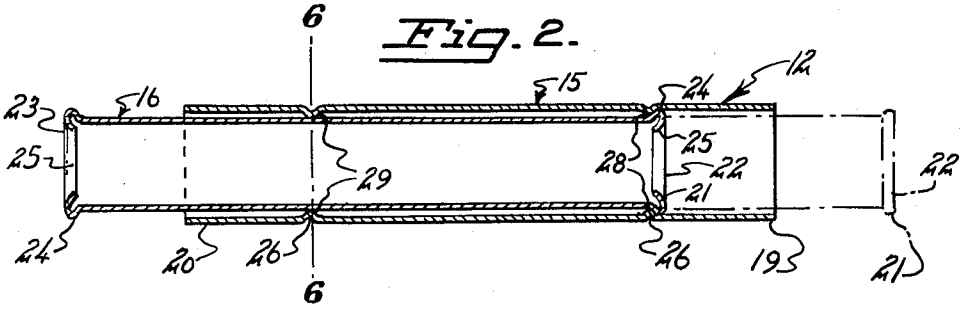


Fig. 3.

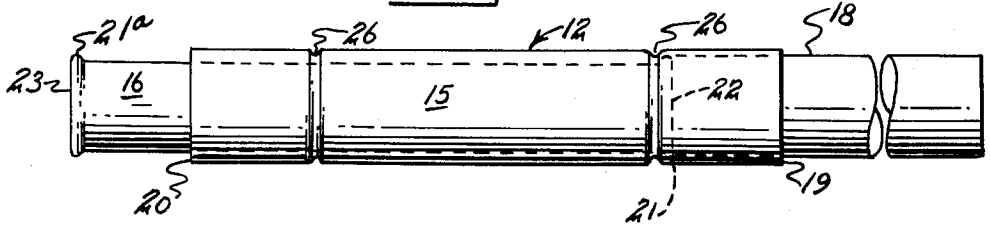


Fig. 4.

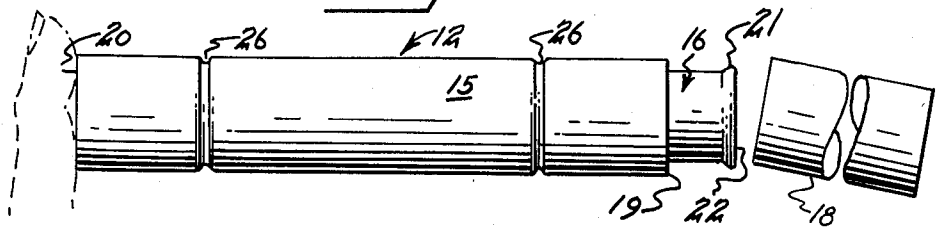


Fig. 5.

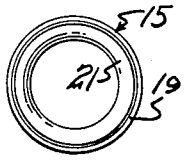
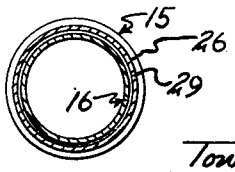


Fig. 6.



INVENTOR.
IVAN E. LA FRANCE
BY
Townsend and Townsend
ATTORNEYS

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FLARE HOLDER

Ivan E. La France, Fairfield, Calif.

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3 Claims. (Cl. 294—5.5)

This invention relates to a hand held incendiary flare holder.

In railroad, highway, and other traffic control systems incendiary flares are used for communication principally as warning signal devices. Such flares are generally available in standard tubular shape and size with walls made of a combustible material and filled with an incendiary powder. When the powder is ignited it burns with a colorful flame that is visible for considerable distances.

In using such flares it is often necessary that an operator hold the flare manually while it is burning. When this is done some form of protective device is desirable to protect the operator's hands from heat and burns during the burning of the flare.

A principal object of this invention is to provide a novel flare holding device having an open ended tubular body adaptable to snugly receive the base end of a flare with the body carrying a reciprocally movable plunger with which the flare may be ejected when burned out.

A further object of this invention is to provide a flare holding device including a cylinder having two open ends, either of which is adaptable to receive the base end of a flare, and a flanged ended plunger slidably mounted in the cylinder so that flanged ends of the plunger mutually engage with stops disposed on the inside wall of the cylinder to hold the plunger against movement beyond set points in either direction. In one position of use the first end of the plunger is disposed inwardly of but adjacent one end of the cylinder and with the first end of the plunger forming an interior stop or abutment for the base of a flare inserted in the first end of the cylinder. In such position of use the second end of the plunger projects outwardly beyond the cylindrical body providing a manually accessible handle which may be manually reciprocated to force the first end of the plunger against the flare base to eject it from the cylindrical body after the flare has been consumed.

Another feature and advantage of a flare holder embodying the invention is that it comprises a two piece cylindrical structure which affords compactness, simplicity, attractiveness, and economy of fabrication.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

Fig. 1 is a prospective view of the flare holder embodying the invention.

Fig. 2 is a sectional view of the embodiment shown in Fig. 1.

Fig. 3 is a side elevational view of the same embodiment shown with a fragmentary portion of a flare mounted in one end of the holder.

Fig. 4 is a side view of the flare holder shown in a flare ejecting position.

Fig. 5 is an end view of the flare holder.

Fig. 6 is a cross-sectional view taken at line 6—6 of Fig. 2.

Referring now to the drawings there is shown a preferred embodiment of the invention including a flare holder **12** having a cylindrical open ended body **15** and a tubular plunger **16** slidably reciprocally mounted in the body. Two opposite end portions **19** and **20** of body **15** are dimensioned to have an inside diameter of sufficient size to receive and snugly hold the base of a standard size flare **18**.

Plunger **16** is provided with an outwardly flared bead or flange **21** and **21***a* at each of its opposite ends **22** and **23**. Each bead flanges outwardly as at **24**, and then inwardly as at **25**, to form an annular abutment at the ends of the plunger of slightly less outside diameter than the bore of body **15**.

Body **15** is annularly crimped or deformed as at **26** to form two parallel, spaced, interior ring abutments **28** and **29** of smaller diameter than beads **21**. Plunger **16** is mounted in the bore of body **15** with the beads **21** externally of the two outside edges of abutments **28** and **29**, whereby the beaded ends **22** and **23** of plunger **16** mutually engage with abutments **28** and **29** respectively to limit reciprocal movement of plunger **16** in either direction at points set by placement of said abutments.

When either bead **21** is against an annular abutment **28** or **29** the adjacent end of plunger **16** forms a bottom stop for a flare inserted in the adjacent end of body **15**. Plunger **16** is dimensioned to be at least as long as body **15** so that when either end of the plunger is other than in flush alignment with its adjacent end of the body there is a sufficient length of the plunger projecting beyond the opposite end of the body to provide a manually accessible handle by which the plunger can be reciprocated forcefully to eject a flare **18** when held by the body.

In operation body **15** may be held manually and the base end of a flare **18** inserted in end **19**, and, in the example shown in the drawings, bead **21** of end **22** is engaged with abutment **28** so as to form a bottom stop for the base of flare **18**. The other end **23** of plunger **16** extends beyond its adjacent end **20** of body **15** as was hereinabove described. In this condition the flare **18** is ready for ignition and use. After the combustible materials of the flare **18** are exhausted, the spent flare may be ejected from holder **12** simply by manually applying pressure against end **23** of the plunger, as by holding the body in one hand and striking against or pushing the plunger with the other hand as shown in Fig. 5.

After flare **18** has been ejected a base end of a new flare may be inserted in either end portion **19** or **20** of body **15** and thereafter this operation may be repeated as often as necessary. Thus when flare **18** is inserted in end portion **20** the operation of flare holder **12** is reversed from the operation described above with respect to end **19** in that the plunger **16** will project outwardly from end **19** of the body establishing a handle protrusion against which an operator may push inwardly to cause ejection of a spent flare inserted in end **20** of the holder.

Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be practiced within the spirit of the invention as limited only by the scope of the appended claims.

What I claim is:

1. A manual holder for tubular flares comprising an open ended tubular body having first and second op-

posite ends, the first end of said body dimensioned to snugly receive the base of a flare, said body deformed to provide at least one interior abutment defining a cross-section of reduced diameter, a plunger at least as long as said body reciprocally slidably mounted in the bore of said body, each end of said plunger provided with an outwardly projecting flange having an outside diameter larger than the reduced diameter of said bore defined by said abutment, said plunger slidably movable to a first position with a first flanged end thereof having an outside diameter smaller than the bore of said body and engaging said abutment to restrict slidable movement of said plunger in one direction, and with the second flanged end of said plunger projecting outwardly beyond the second end of said body to provide a manually engageable extension of said plunger to permit said plunger to be axially slidably forced to a second position with said first flanged end of said plunger disposed at least flush with the first end of said body whereby a said flare is receivable in the first end of said body when said plunger is in said first position, and said flare is forced out of said body by said first flanged end of said plunger when said plunger is moved to its second position.

2. A manual holder for tubular flares comprising an open ended tubular body having first and second opposite ends, the first end of said body dimensioned to snugly receive the base of a flare, said body deformed to provide at least one interior annular abutment defining a cross-section of reduced diameter, a plunger at least as long as said body reciprocally slidably mounted in the bore of said body, each end of said plunger formed with an annular outwardly projecting flange having an outside diameter smaller than the bore of said body and larger than the reduced diameter of said bore defined by said abutment, said plunger slidably movable to a first position with a first flanged end thereof engaging said abutment to restrict slidable movement of said plunger and with a second flanged end of said plunger projecting outwardly beyond the second end of said body to provide a manually engageable extension of said plunger to permit said plunger to be axially slidably forced to a second position with said first flanged end of said plunger disposed at least flush with the first end of said body whereby a said flare is receivable in the first end of said body when said plunger is in said first position, and said flare is forced out of said body by said first flanged end of said plunger when said plunger is moved to its second position.

3. A manual holder for tubular flares comprising an open ended tubular body, opposite ends of said body dimensioned to snugly receive the base of a flare, said body deformed to provide a pair of parallel spaced apart interior annular abutments defining a pair of cross sections of reduced diameter, a plunger at least as long as said body reciprocally slidably mounted in the bore of said body, each end of said plunger formed with an annular outwardly projecting flange disposed at opposite outside ends of said abutments, each said flange having an outside diameter smaller than the bore of said body and larger than the reduced diameter of said bore defined by said abutments, said plunger slidably movable in a first direction to a first position with a first said flanged end thereof engaging its adjacent abutment to restrict slidable movement of said plunger in said first direction and with a second flanged end of said plunger projecting outwardly beyond the end of said body to provide a manually engageable extension of said plunger to permit said plunger to be axially slidably forced in a second direction to a second position with said first flanged end of said plunger disposed at least flush with the first end of said body whereby a said flare is receivable in the end of said body adjacent the first end of said plunger when said plunger is in the first position, and said flare is forced out of said body by said first flanged end of said plunger when said plunger is moved to the second position.

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