June 7, 1960 E. S. RYEN 2,939,945

BARREL INSPECTION LIGHT

Filed April 18, 1957 2 Sheets-Sheet 1

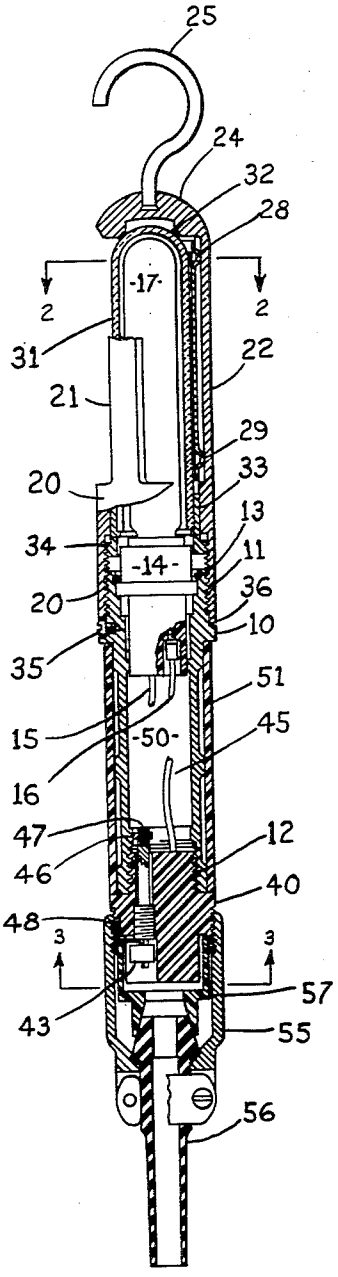

FIG 1

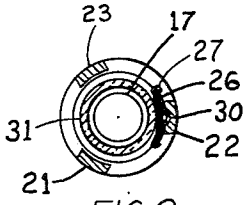

FIG 2

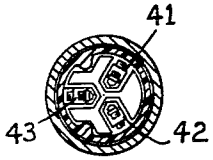

FIG 3

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BARREL INSPECTION LIGHT

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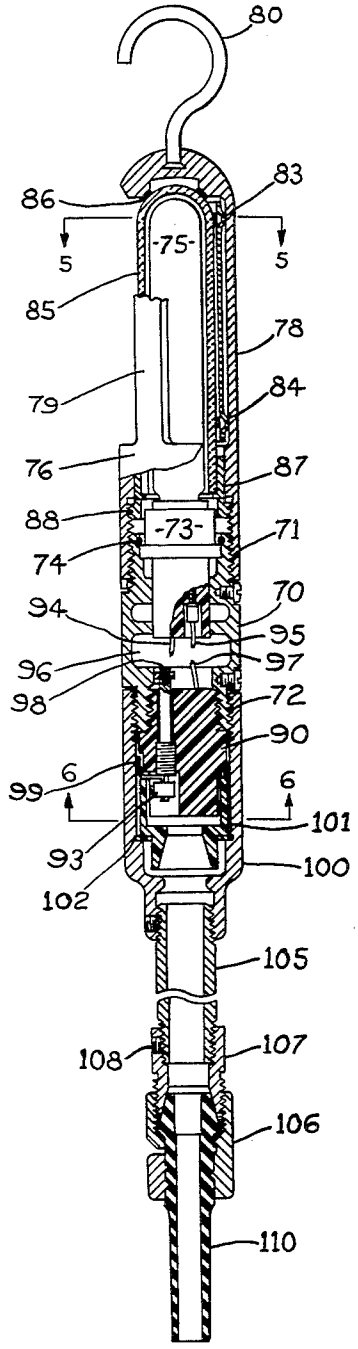

FIG. 4

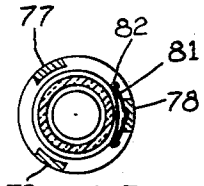

FIG. 5

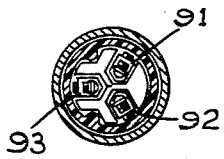

FIG. 6

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2,939,945

BARREL INSPECTION LIGHT

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1 Claim. (Cl. 240—2.18)

This invention relates to a light unit intended particularly for use in inspecting the interior of containers, such as barrels, tanks, etc.

The invention has as an object a light unit of minimum diameter to permit insertion of the light through a bung hole of a barrel, or filler opening in a tank, and embodying an arrangement whereby the light is of the so-called explosion proof type, permitting its use in hazardous locations and providing for the convenient relamping of the unit.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

In the drawings—

Figure 1 is a cross section of my invention.

Figure 2 is a cross section taken on line 2—2 of Figure 1.

Figure 3 is a cross section taken on line 3—3 of Figure 1.

Figure 4 is a cross section of a modification of my invention.

Figure 5 is a cross section taken on line 5—5 of Figure 4.

Figure 6 is a cross section taken on line 6—6 of Figure 4.

Referring now to the form of the invention illustrated by Figures 1, 2 and 3, the barrel inspection lamp is made up of a hollow elongated body 10 being externally threaded 11 at its outer end and internally threaded 12 at its inner end. Mounted in the outer end of the body, as by snap ring 13, is a lamp receptacle 14 having the necessary leads 15 and 16. The receptacle 14 has a lamp 17 mounted therein. Threadedly mounted on the outer end of the body 10 is a lamp guard composed of an inner cylindrical portion 20 and three elongated ribs 21, 22 and 23 (see Figure 2) terminating in a closed end portion 24 which has an attaching hook 25 affixed thereto. The lamp guard 20 carries a reflector 26 by means of a mounting plate 27 having a pair of nipples 28, 29 mounted in a slot 30 of the rib 22.

A globe 31 mounted in the lamp guard at its outer end presses against a gasket 32, and a metallic seal 33 is cast on the inner end of the globe which is engaged by a nut 34 threaded in the lower end of the lamp guard. The seal 33 is of cylindrical formation snugly encircling the open end portion of the globe. The peripheral surface snugly engages the inner surface of the portion 20 of the guard, all whereby the globe is attached to the body in flame tight relation.

The guard is threadedly mounted on the body 10 and is fixed against rotation by means of a set screw 35 which is inserted in the body 10 after the guard 20 has been threaded onto the body 10 and secures the guard 20 against rotation by reason of the fact that the lower edge

36 of the guard 20 is scalloped to partially receive the set screw 35.

Threadedly mounted in the inner end of the body 10 is a terminal block 40 having three terminals 41, 42 and 43 at its lower end, see Figure 3, the terminals 41, 42 are the power terminals and have leads generally indicated at 45 which are connected to the leads 15 and 16 to operate the lamp 17.

The terminal 43 is a grounding terminal and has a connection to body 10 through washer 46 which is held firmly in place by screw 47. Also terminal 43 has a connection to wire clamp 55 by means of the grounding spring 48.

The lamp receptacle 14 and the terminal block 40 are spaced at opposite ends of the body 10 so as to form a wire cavity 50 for the reception of the leads 15, 16 and 45, and the central portion of the body 10 has an insulating cylinder 51 surrounding the body. Affixed to the lower end of the terminal block is a wire clamp 55 having a tapered cord clamp bushing 56 in its lower end. An insulating sleeve 57 having a taper complemental to the taper of the bushing 56 is carried in the wire clamp 55 to contract the inner portion of the bushing to effect a seal within the cord.

The lamp 17 is mounted in explosion proof relation in the receptacle 14 by reason of the fact that there is a long smooth running snug fit between the sleeve 33 and the inner cylindrical end of the lamp guard 20, thus providing a flame extinguishing path between the interior of the body 10 and the atmosphere, as will be apparent to those skilled in the art.

Referring now to the modification of my invention illustrated by Figures 4 through 6, it will be seen that my modified inspection lamp is made up of a body 70, which has external threads 71 and 72 at its upper and lower ends respectively. The body 70 has a lamp receptacle 73 mounted in its upper end, as by a snap ring 74. A lamp 75 is mounted in the receptacle 73. A lamp guard composed of an inner cylindrical portion 76 and three elongated ribs 77, 78 and 79 is threadedly mounted on the outer end of the body 70. The lamp guard has an attaching hook 80 affixed to its outer end. Affixed to the lamp guard is a reflector 81 carried by a mounting plate 82 which is mounted in a grooved rib 78 by a pair of beads 83, 84. The lamp guard carries a globe 85 which encircles and protects the lamp 75. Sleeve 87, gasket 86 and mounting nut 88 are utilized to mount the globe 85 in the guard 76 as in the form of the invention described previously and disclosed in Figures 1–3. An explosion proof seal is effected between the globe 85 and the lamp guard 70 by means of the sleeve 87 and the inner end of the guard 76 as was previously explained in connection with the description of the form of the invention illustrated by Figures 1–3.

Mounted in the lower or inner end of the body 70 is a terminal block 90 having terminals 91, 92 and 93. Depending from the inner end of the receptacle 73 are leads 94, 95, which are connected in the wire cavity 96 in the body 70 to suitable leads 97, from the power terminals 91 and 92. The terminal 93 has a grounding connection to the body 70 through the grounding screw 98 and a grounding lead 99. Threadedly attached to the lower end of the body 70 is a connector 100 which has an insulator 101 mounted therein, as by an insulating washer 102. Threaded in the lower end of the connector 100 is an extension member 105 which has a cord clamp 106 affixed to its lower end by means of a threaded sleeve 107 and the set screw 108. The cord clamp 106 carries the insulator 110 which encloses the necessary power leads, as will be familiar to those skilled in the art.

It will thus be seen by both of my forms of invention

I have provided an inspection light of minimum diameter which is explosion proof.

What I claim is:

An electrical hand lamp comprising a cylindrical body threaded at its ends, a lamp receptacle detachably mounted in the forward end of the body for the reception of a lamp extending in an axial direction outwardly from the body, a guard formed with a cylindrical end portion threaded on said forward end of the body, said guard having a plurality of ribs extending axially from said cylindrical portion and terminating in an outer end portion, a cylindrical lamp enclosing globe positioned in said guard, said globe being closed at its outer end and open at its inner end confronting said receptacle, a sealing member cast on the inner end portion of said globe and extending axially along said globe to effect an explosion proof path, said sealing member snugly engaging the inner surface of the cylindrical end portion of said guard in explosion proof fashion, a ring nut threaded into said cylindrical portion of the guard for detachably securing

said globe in said guard, a terminal block having threaded connection to the rear end of said body, a plurality of terminals mounted in said block in flame tight relation thereto, a cord grip carrying member affixed to the rear end of the body assembly, said body, guard and cord grip carrying member being of substantially the same diameter.

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