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J. C. SCHELLIN ET AL
HOSE COUPLING CONSTRUCTION

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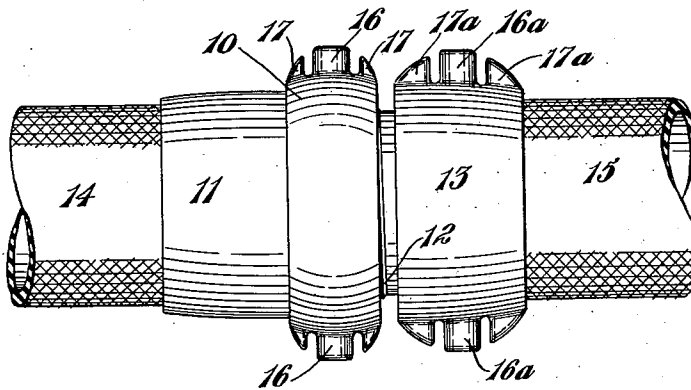


Fig. 1

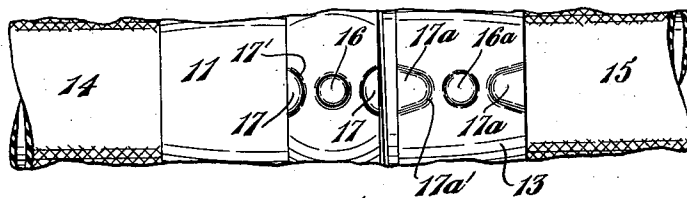


Fig. 2

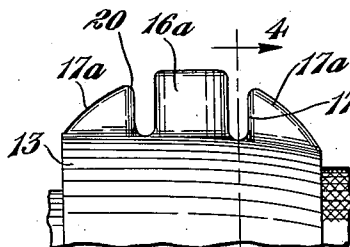


Fig. 3

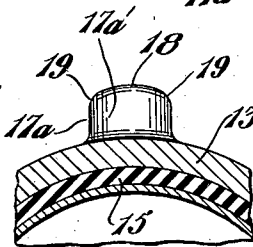


Fig. 4

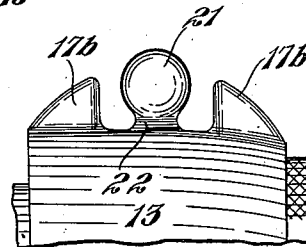


Fig. 5

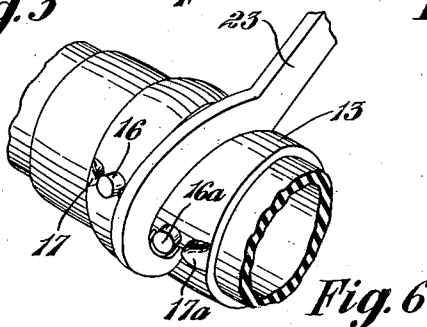


Fig. 6

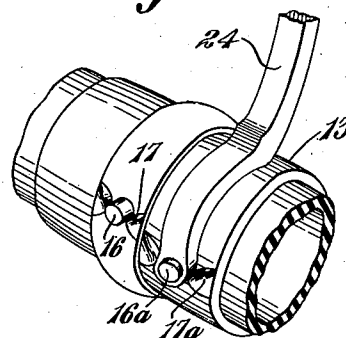


Fig. 7

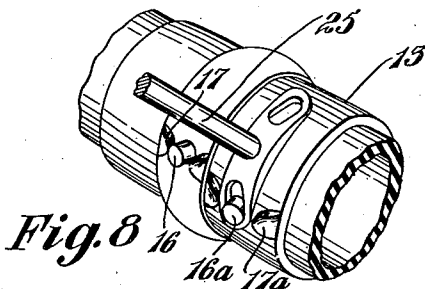


Fig. 8

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HOSE COUPLING CONSTRUCTION

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3 Claims. (Cl. 285—75)

The invention relates to hose couplings and more particularly to fire hose couplings having projections or lugs adapted to be gripped by a spanner wrench for coupling and uncoupling sections of hose.

Originally, practically all fire hose couplings were provided with cylindrical projections called pin lugs, and among the several forms of spanner wrenches used with pin lug couplings, those most common include the eye type and the Tabor type. The eye type spanner wrench is merely a bar curved to fit around a portion of the coupling and having a hole or eye at one end for fitting over the pin lug.

The Tabor type spanner wrench has a curved head for fitting around a portion of the coupling, and said curved head is provided with a slot for fitting over a pin lug. The main advantage of the Tabor spanner is that it can be used to tighten or loosen a coupling part without reversing the position of the wrench, as is required with the eye type spanner and with substantially all other types of spanners.

In recent years other forms of lugs for fire hose couplings have been introduced, including curved or rounded ears extending longitudinally of the coupling. The major advantages of these ears are that they do not catch on obstructions or corners when being dragged to a fire; do not cut the hose when it is folded or rolled for storage or transportation; and provide safe hand grips for tightening or loosening the coupling by hand.

However, the eye spanner or Tabor spanner cannot be used with these rounded ears, because they require a special hook type spanner to engage behind the side of the ear, and with other forms which are variations of the rounded ears other forms of special spanners are required.

Consequently, if a fire department adopts one of the various forms of rounded ear lugs as standard, they must necessarily adopt a spanner wrench to fit the same and discard all other types of wrenches, because there is no time to search for the right spanner at the scene of a fire and precious time is lost if a spanner which does not fit is picked up in a hurry.

However, some fire departments insist on using one certain type of spanner wrench, as for instance the Tabor spanner, because of its ability to turn the coupling in opposite directions without reversing the wrench. This necessitates using pin lug couplings, and consequently these

fire departments do not and cannot obtain the advantages of the rounded ears.

We have invented a novel coupling lug construction which obtains all the advantages of the rounded ear type of lug, and in addition, is adapted for use with practically all common types of spanner wrenches including the eye type, the Tabor type, and the hook type.

Accordingly, the objects of the present invention include the provision of a hose coupling having spanner lugs which will not catch on obstructions or cut the hose, and with which practically all known kinds of spanner wrenches can be used.

Other objects include the provision of means for guiding the head of the spanner wrench into operative position, and for aiding in preventing it from slipping out of position.

Further objects include the provision of hose coupling lugs which are adapted safely to be used as hand grips when desired.

Still further objects include the provision of a lug construction which is simple and economical to manufacture, and strong and durable over long periods of use.

These and other objects are accomplished by the improvements comprising the present invention which is disclosed and described herein and defined in the appended claims, and which may be generally stated as including a pin lug having rounded guards spaced longitudinally therefrom at longitudinally opposite ends thereof.

Referring to the drawing in which preferred embodiments of the invention are shown by way of example,

Figure 1 is an elevational view of the improved hose coupling construction showing the novel lug construction in side elevation;

Fig. 2 is a fragmentary plan view thereof;

Fig. 3 is an enlarged fragmentary side elevation similar to Fig. 1 showing the improved lug construction on one of the end members;

Fig. 4 is a fragmentary sectional view as on line 4—4, Fig. 3;

Fig. 5 is a fragmentary view similar to Fig. 3 showing a modified form of lug construction;

Fig. 6 is a fragmentary perspective view of the improved hose coupling construction, showing the manner of using a hook spanner thereon;

Fig. 7 is a similar view showing the manner of using an eye spanner; and

Fig. 8 is a similar view showing the manner of using a Tabor spanner.

Similar numerals refer to similar parts throughout the several views of the drawing.

In the drawing the coupling shown is of usual construction except for the wrench lugs, and includes the center swivel member 10 which is journaled or swiveled on the end member 11 in a well known manner. The swivel member 10 has the usual internal threads for receiving the external threads 12 of the other end member 13. As shown, a hose section 14 is attached to end member 11 and a hose section 15 is attached to end member 13 in a usual manner.

The swivel member 10 and end member 13 are each provided with diametrically opposite circular wrench receiving lugs projecting radially outward therefrom, and as shown in Figs. 1, 2 and 3 these circular lugs may be cylindrical lugs 16 and 16a similar to the ordinary pin lug. Rounded guard projections 17 and 17a are provided at longitudinally opposite ends of the pin lugs 16 and 16a respectively, and the guard lug projections extend longitudinally of the coupling and are spaced from the circular lugs.

Preferably, the guard projections 17 have a maximum height at their inner ends substantially equal to or slightly less than the height of the lug 16, and are rounded gradually longitudinally downward toward the swivel member 10 and terminate at the ends thereof.

Likewise, the guard projections 17a have their maximum height at their inner ends substantially equal to or slightly less than the height of lug 16a, and are rounded gradually longitudinally downward toward the end member 13 and terminate at the ends thereof.

The guard projections 17 and 17a preferably have their top surfaces slightly transversely rounded as shown at 18 in Fig. 4, and the corners 19 between the top surfaces and side surfaces of the projections are also preferably rounded. As best shown in Fig. 3, the top edge of the circular lugs 16 and 16a is slightly rounded, and the edges of the guard projections 17 and 17a have their inner corners adjacent to the circular lugs rounded as indicated at 20 and their vertical surfaces adjacent the lug rounded convexly as shown at 17' and 17a'.

Thus the circular lugs 16 with their adjacent guards 17 and the circular lugs 16a with their adjacent guards 17a provide in effect rounded ears extending longitudinally substantially the full length of the swivel and the end member 13 respectively, so that when the hose sections are pulled to and from a fire the rounded guards and lugs will ride over obstructions such as railroad tracks, curbs, ties or stairways without catching on the same.

In the modified form of the invention shown in Fig. 5, the guard lug projections 17b are identical with the guard lugs 17a in the form of the invention shown in Figs. 1, 2, 3 and 4, but the circular lug 21 between the guard projections is substantially ball-shaped and at its base where it joins the coupling member 13 is provided a circular recess or groove 22. The guard projections 17b are spaced longitudinally from the ball-shaped lug 21 in the same way that the guards 17a are spaced longitudinally from the pin lugs 16a. Obviously, a ball-shaped lug like 21 can be substituted for the pin lug 16 on the swivel member 10.

Due to the fact that the spaces or slots between the circular lugs and the guard projections are formed by convexly round walls on both the circular lug and guards, said spaces or slots will

not catch and retain any material amount of ice or other foreign material to impair the operability of a spanner wrench used with said lugs.

In both forms of the improved lug construction the guard projections 17 and 17a or 17b protect the cylindric lugs 16 and 16a or the ball-shaped lugs 21 and permit the coupling to slide or glide over obstructions like a sled-runner, and at the same time the guards protect the pin lugs or ball-shaped lugs from breaking off or wearing down to any substantial extent.

The protection afforded by the guard projections also prevents the pin lug from becoming burred to form sharp edges which seriously damage the hose when it is folded or rolled for transportation. Such sharp burrs are also dangerous in that they cut the hands if the lugs are used as hand grips when the couplings are tightened or loosened by hand.

The pin lug with its longitudinally rounded projections provides a relatively large area for use as a hand grip, and since the outer edge of the pin lug is rounded and the longitudinal edges of the guard projections are also rounded, there is no danger of cutting the hands when the coupling is manipulated by hand. The same applies to the ball-shaped lug with the rounded guard projections, and the circular recess or groove 22 on the ball-shaped lug affords an even better hand grip than the pin lug, without any danger of sharp edges cutting the hands.

In the case of the ball-shaped lug with the rounded guards shown in Fig. 5, the protection of the rounded guards makes it possible to undercut the ball-shaped pin and form the circular groove or recess 22 at its base, without the risk of the recess weakening the lug to the extent that it might be broken off due to a sharp blow or impact.

In Figs. 6, 7 and 8 the manner of using three different types of spanner wrenches with the improved lug construction is illustrated. In Fig. 6 an ordinary hook type spanner 23 is shown engaging the pin lug 16a on the end member 13. This type of spanner is adapted primarily for engaging the side of a rounded ear type lug, but also may be provided at its front end with a slightly concave portion for engaging the old fashioned pin lug. Consequently, the spanner wrench 23 will engage the pin lug 16a or 16 as shown in Fig. 6, and it will be apparent that as the wrench is brought into operative position, the guard projections 17 or 17a will act as guides to position the end of the wrench in engagement with the pin, and after the wrench is positioned as shown in Fig. 6 the guard projections 17 or 17a function to prevent lateral slipping of the end of the wrench.

Obviously, the spanner wrench 23 is equally well adapted to engage the ball-shaped lug in the modified construction of Fig. 5, and the circular recess 22 thereof affords an even better wrench gripping surface than that obtained with the straight sided pin lug 16 or 16a.

In Fig. 7 an ordinary eye type spanner wrench 24 is shown with its eye fitting over and engaging the pin lug 16a on the coupling end member 13. Obviously, the spanner 24 is equally well or even better adapted for fitting over the ball type lug shown in Fig. 5.

When the spanner wrench 24 is used, the guard projections 17a or 17 will act as guides to position and hold the end of the wrench in engagement with the pin 16 or 16a or the ball-shaped pin 21.

In Fig. 8 a Tabor type spanner wrench 25 is shown with one end of the slot in its arcuate head fitting over and engaging the pin lug 16a on the coupling end member 13. Obviously this spanner 5 is also equally well or even better adapted for fitting over and engaging the ball type lug 21, and the guard projections 17 or 17a act to guide the wrench to operative position.

It is apparent that practically all other types 10 of spanner wrenches, which are designed to fit variations of pin lugs and rounded ear lugs, can be used with the present improved lug construction similarly to the three spanner wrenches illustrated and described.

15 Accordingly, the present novel lug construction combines all the advantages of the rounded ear lug and the pin lug, and is adapted for use with practically all common types of spanner wrenches.

20 Further, the novel lug construction has means for guiding the wrench into operative position and provides a safe and effective hand grip.

We claim:

1. A hose coupling member having a circular

wrench receiving lug projecting radially outward therefrom, and rounded guard lug projections positioned on said coupling member on longitudinally opposite sides of said circular lug and spaced therefrom for preventing said circular 5 lug from catching on obstructions.

2. A hose coupling member having a circular wrench receiving lug projecting radially outward therefrom, and longitudinally rounded guard lug 10 projections positioned on said coupling member on longitudinally opposite sides of said lugs and spaced therefrom, said guard lug projections being substantially the height of said circular lug at their near ends and tapering gradually therefrom toward the coupling member. 15

3. A hose coupling member having a circular wrench receiving lug projecting radially outward therefrom, said lug being substantially ball-shaped with a groove adjacent its base, and rounded guard lug projections positioned on said 20 coupling member on longitudinally opposite sides of said circular lug and spaced therefrom.

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