M. HARRISON.

SPANNER ATTACHMENT FOR HOSE COUPLINGS AND CONNECTIONS.

APPLICATION FILED SEPT. 22, 1914.

1,168,068.

Patented Jan. 11, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

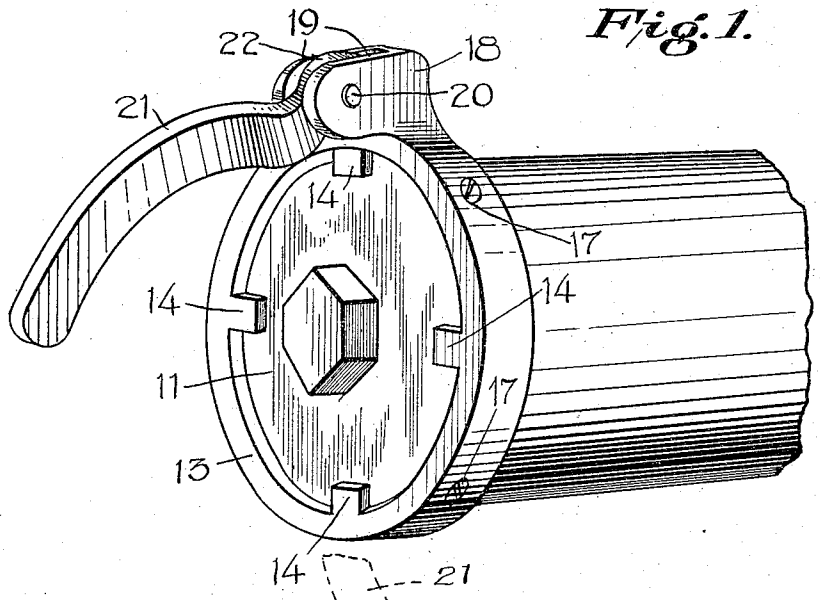


Fig. 2.

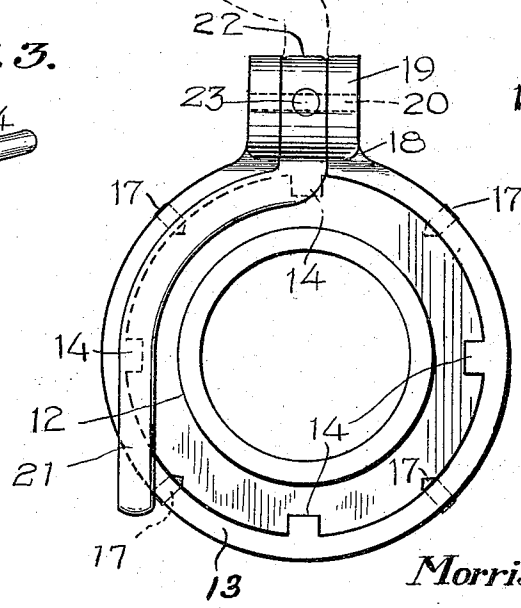


Fig. 1a

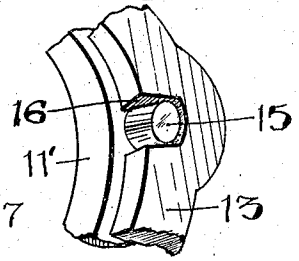
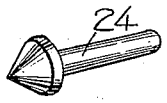


Fig. 3.



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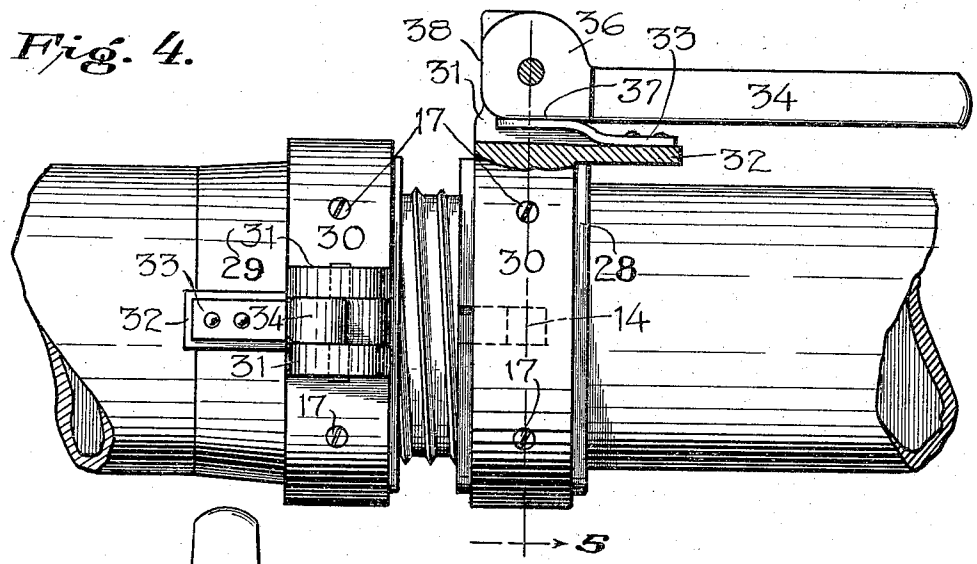
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2 SHEETS—SHEET 2.

Fig. 4.



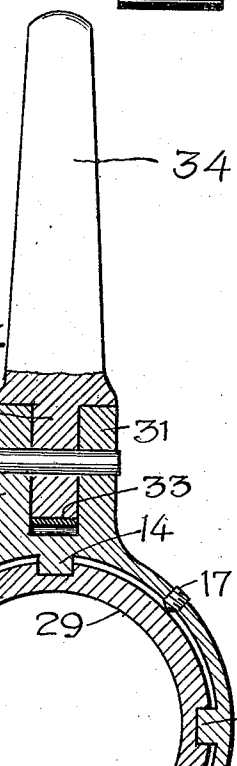


Fig. 5.

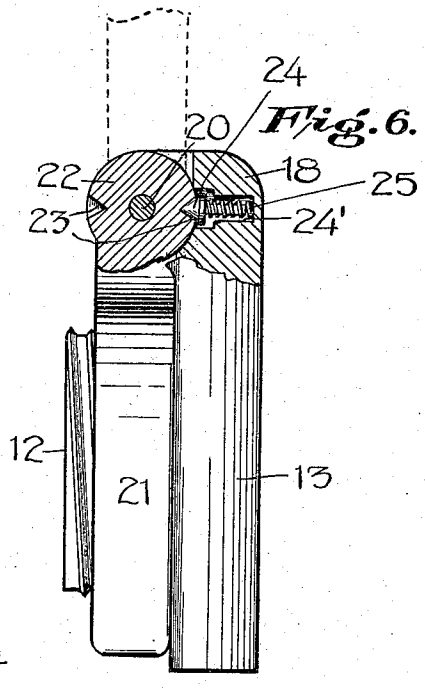


Fig. 6.

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SPANNER ATTACHMENT FOR HOSE COUPLINGS AND CONNECTIONS.

1,168,068. Specification of Letters Patent. Patented Jan. 11, 1916.

Application filed September 22, 1914. Serial No. 862,954.

To all whom it may concern:

Be it known that I, MORRIS HARRISON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Spanner Attachments for Hose Couplings and Connections, of which the following is a specification.

The invention has for an object to provide a connection for hose, of the type now customarily employed on fire hose requiring at present a spanner to tighten and loosen.

The invention obviates the necessity for the use of the separate spanner tool, enables the rapid attachment and detachment of hose sections without the delay involved in the use of the spanner, and yet permits the use of connections operating the same as those now used.

It is a particular object to provide means for converting the ordinary coupling already in use into a device operable without the spanner.

A further purpose is to enable the manufacture of the device economically and enable its application to use with facility and simplicity.

Another aim is to give a construction which will be durable and liable in a minimum degree to derangement.

Additional objects, advantages and features of invention will appear from the construction, arrangement and combination of parts hereinafter set forth and shown in the drawings, in which—

Figure 1 is a perspective view of one embodiment of my invention, Fig. 1ª, is a detail of a modification of the attaching means, where the device is made separate from the coupling, Fig. 2 is an end view thereof, Fig. 3 is a detail of a detent for the lever, Fig. 4 is a side view of another form, partly in section, Fig. 5 is a cross section thereof, Fig. 6 is a side view partly in section of the device shown in Fig. 1.

There is illustrated in Figs. 1, 2, 3, and 6, a device applicable alike to the male and female member of the ordinary hose connections, and also to plug caps and reducer connections therefor—particularly desirable for use on the plug devices. In Fig. 1, the ordinary cap 11 is shown, while in Figs. 2 and 6 a reducer 12 is illustrated. My invention in the present form includes an annulus 13 of suitable metal adapted to engage snugly over the cap or other connection, and having a suitable number of lugs 14 on its inner side spaced to engage the usual notches in the cap and connections, or, as in Fig. 1ª when trunnions 15 are provided on the cap or connection 11′, suitable notches 16 may be formed in the side of the annulus to receive them. The annulus is also provided with a suitable number of circumferentially spaced screws 17 engaged therethrough and having pointed inner ends to be embedded in the metal of the member engaged within the annulus. The annulus is formed with an extension or lug 18 at one point on the outer side, from which there project transversely of the major plane of the annulus two ears 19 suitably apertured to receive a pintle 20 carrying the lever 21 between the ears. The lever has its base portion curved to lie concentric with the annulus when at the inner limit of its movement, the curved part of the lever beginning immediately adjacent the ears 19. The outer part of the lever is extended rectilinearly a short distance beyond the curve, which includes an arc of 90 degrees. The ears 19 are of such length and the lever 21 is so pivoted therebetween that the lever may be moved inward to lie close against the annulus 13 at times, as shown in Fig. 6. Its base is slightly enlarged to form the circular head 22, having opposed notches 23 therein, and a pin 24 having a suitably beveled head is mounted in a recess 24′ in the extension 18 and borne outwardly against the lever by a spring 25, whereby the lever is held at opposite limits of its movement yieldably to a certain degree of pressure. With the lever at the outer limit of its movement as dotted in Figs. 2 and 6, it may be grasped to rotate a cap or the like engaged within the annulus 13, for loosening or tightening, and when not in use may be folded to lie close to the connection or the hose running therefrom, without offering objectionable obstruction to the customary handling of such devices, as will be apparent from Fig. 2.

In Figs. 4 and 5 there is presented the joint connection between hose sections, the male and female members 28 and 29 in this joint being each provided with a similar manipulating device as follows: An annulus 30 is provided, similar to annulus 13 before described, and having the securing screws 17 and lugs 14 or recesses 16 as required. Radial ears 31 are formed integrally on the annulus and intermediately of the ears a lateral extension 32 close to their bases, on

which there is secured a leaf spring 33 bearing outwardly between the ears against a lever 34, movable to lie close against the adjacent hose, or at right angles thereto. The head 36 formed on the base of the lever is flattened on the inner side parallel to the axis of the lever arm, and also on the side opposite the lever, in a plane at right angles to the first flattened face, as at 38. The pressure of the spring 33 will thus hold the lever yieldably in closed or open position. The length of the lever should be about five inches, which will enable the application of sufficient force in tightening the connection or loosening it, and will also not interfere with the convenient handling of hose equipped therewith.

While I have shown an attachment for ordinary hose couplings it will be apparent that in the manufacture of couplings the annuli 13 and 30 may comprise an integral part of the cap, reducer and coupling members—that is to say, the connections for the lever may be formed directly on the rotating part of the coupling. By the use of a breech-block thread in the couplings, the use of my invention would be further desirably enhanced. It is not believed necessary to illustrate this detail which is familiar enough to be understood without detailed showing or explanation.

In the use of my invention, the plug caps and reducers with the levers carried thereon may be inclosed in the plug covers where such are provided, or may be exposed, without detriment. In coupling hose sections, they should be started by hand as usual, and so screwed up as far as possible, and when difficult to turn, the levers 34 opened and used to turn the parts.

In the emergencies encountered in fire departments, where a minute's time lost may mean thousands of dollars in damage, the provision of a connection with self contained lever of this character is of the utmost value, and it will be obvious that the incorporation of the invention may be attained in a practical and inexpensive manner.

What is claimed:

1. A coupling device including a rotating element, a lever carried pivotally thereby for movement to position at right angles to the axis of the device at times and to lie closely thereagainst at other times, and yieldable means engaged with the lever to hold it at the inner limit of its movement.

2. A coupling device comprising a rotating element, radial ears carried thereby spaced circumferentially, a lever pivoted between the ears, and a resilient member carried between the ears and bearing against the lever, the lever being movable to lie close against a concentric member engaged with the rotating element.

3. In a device of the class described an annulus, a plurality of binding screws engaged therethrough for the purpose described, two circumferentially spaced ears formed on the annulus, a lever pivoted at its base therebetween, movable and shaped to lie close beside a concentric member connected to the annulus, and means to hold the lever releasably at the inner limit of its movement.

In testimony whereof I affix my signature in presence of a witness.

MORRIS HARRISON.

Witness:

I. H. GOTTLIEB.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."