R. G. HEDDEN.

HOSE COUPLING.

APPLICATION FILED DEC. 7, 1915.

1,245,912. **Patented Nov. 6, 1917.**

Fig. 1.

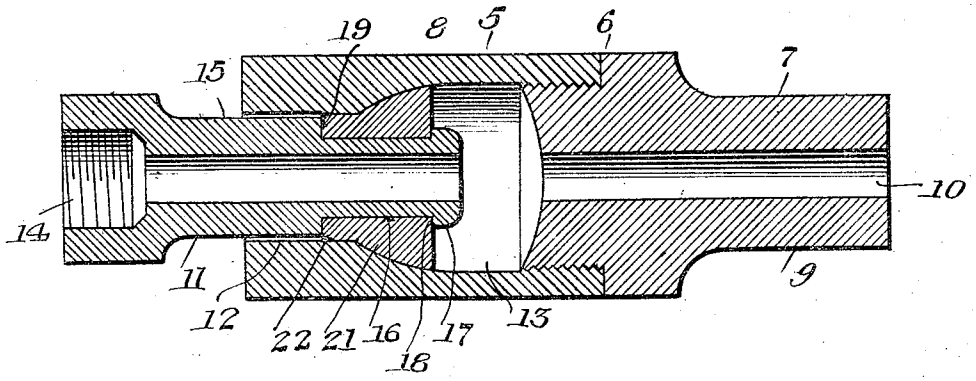


Fig. 2.

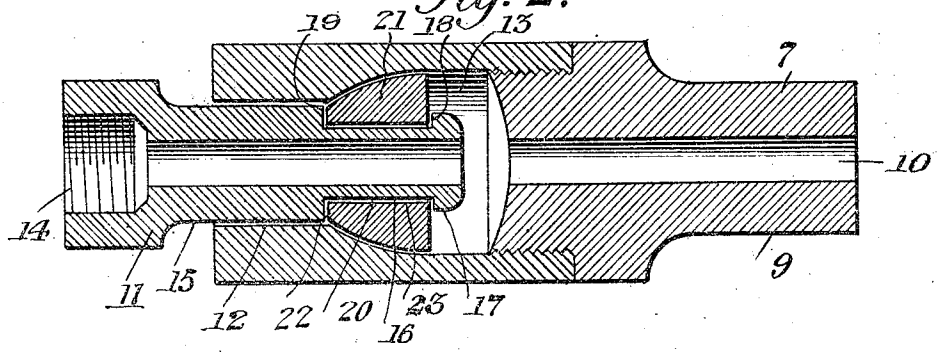


Fig. 3.

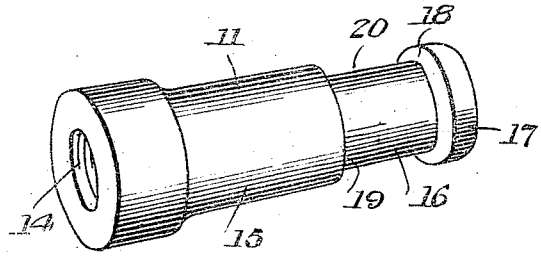
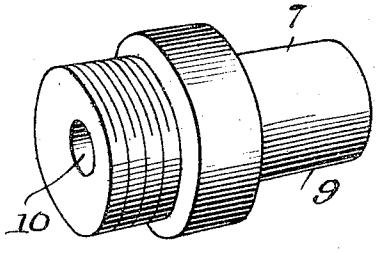


Fig. 4.



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HOSE-COUPLING.

1,245,912. Specification of Letters Patent. Patented Nov. 6, 1917.

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To all whom it may concern:

Be it known that I, RAY G. HEDDEN, a citizen of the United States, residing at Arrowrock, in the county of Boise and State of Idaho, have invented new and useful Improvements in Hose-Couplings, of which the following is a specification.

This invention has relation to an improved form of pipe coupling, and more particularly to a pipe coupling of that type which when connected together will establish a liquid tight connection therebetween and obviating the necessity of threading the pipe to accomplish such.

An object of the invention is the provision of a coupling of the above stated character wherein one of the sections constituting the union is dished out to accommodate the seating of a cushion member carried by a connecting tube; consequently when the cushion is subjected to the pressure of the liquid passing through the union will force the same into binding engagement with the walls of the dished out portion of the union and also with the circumference of the connecting tube, establishing a liquid tight joint.

With the above and other objects in view, the invention consists in the novel features, details of construction and combination of parts which will hereinafter be more fully set forth, illustrated in the accompanying drawing and pointed out in the appended claim.

In the drawings:

Figure 1 is a longitudinal section illustrating the parts in assembled position showing the cushion member under pressure.

Fig. 2 is a similar view illustrating the cushion member previous to being subjected to the pressure of a source of fluid supply.

Fig. 3 is a detail perspective of the coupling tube.

Fig. 4 is a detail perspective of one of the sections of the union formed with a concavity.

Referring more particularly to the drawing by way of reference characters, 5 denotes my improved form of pipe coupling primarily adapted to be employed in connection with air and steam working engines, and comprising a sectional union 6 comprising a pair of sections 7 and 8 threadedly connected together and constructed preferably of metal or the like material. The section 7 of the union 6 is provided with a reduced smooth coupling end 9 for permitting of the union being operatively connected with machines of the above stated character, not shown, and the said sections being formed with a centrally located longitudinally extending bore 10 for permitting of the entrance of the source of fluid supply from the machines. The operative section 8 of the union has slidably connected therewith a coupling tube 11 of lesser diameter than the diameter of the union and slidably mounted within the longitudinally extending bore 12 of the section 8. The walls of the bore 12 at the inner extremity thereof and for the greater portion of the length of the section 8 gradually diverge in a direction toward the meeting end of the section 8, to provide an enlarged annular chamber 13 of substantially cup-shaped configuration.

The coupling tube 11 is likewise constructed preferably of metal or the like material and having an enlarged internally threaded coupling end 14 adapted to be connected with a hose or the like, not shown. This tube is reduced throughout a portion of its length to a diameter slightly less than the diameter of the bore 12 as at 15, whereby the coupling tube may be slidably mounted within the bore 12 of the section 8 of the union. The member 15 terminates in a reduced annular extension 16 formed at its free terminal with an enlarged annular head 17. The head 17 is of greater diameter than the diameter of the extension 16, whereby defining between the annular shoulder 18 of the head and the annular shoulder 19 of the member 15 an annular groove 20, the purpose of which will be hereinafter pointed out. The extension 16 terminates within the chamber 13 and has loosely mounted thereon a cushioning member 21 composed of rubber or the like material and is of substantially frusto-conical configuration having its smaller end 22 reposed on the annular shoulder 19 and upon entrance of the fluid pressure in the chamber 13 will cause the cushioning member 21 to be forced in direct binding contact with the walls of the cup-shaped chamber 13 and contract the central opening 23 of the cushioning member whereby the walls therein will be brought downwardly in the groove 20 of

the coupling tube 11 and thereby prevent any accidental longitudinal creeping movement of the cushioning member upon the extension and establish a liquid tight connection between the union and the coupling tube.

The coupling tube 11 is further prevented from any outward longitudinal movement through the medium of the said cushioning member, when the opening of the cushioning member is contracted in rear of and below the marginal edge of the head of the extension and forced into sealing contact with the contracted end of the cup-shaped chamber 13.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of construction and of the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I have described the principles of operation of the device together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the claim appended thereto.

I claim:

A pipe coupling comprising a union formed with a cylindrical bore, and a chamber of substantially cup-shaped configuration, a hose coupling tube slidably connected within the cylindrical bore of the union and provided on its insertible end with a reduced extension forming an annular shoulder, an enlarged head formed on the extension opposite said shoulder and providing the extension with a groove, a frusto-conical cushioning member loosely mounted in the groove of the coupling tube and having a central opening, the said cushioning member being adapted to be distorted and forced into sealing contact with the cylindrical bore and said reduced extension.

In testimony whereof I affix my signature in presence of two witnesses.

RAY G. HEDDEN.

Witnesses:
HERBERT P. MOODY,
BENJ. ENGLE.

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