H. R. VAN METER.

HOSE PIPE COUPLING.

APPLICATION FILED MAY 22, 1914.

1,128,080.

Patented Feb. 9, 1915.

Fig 1

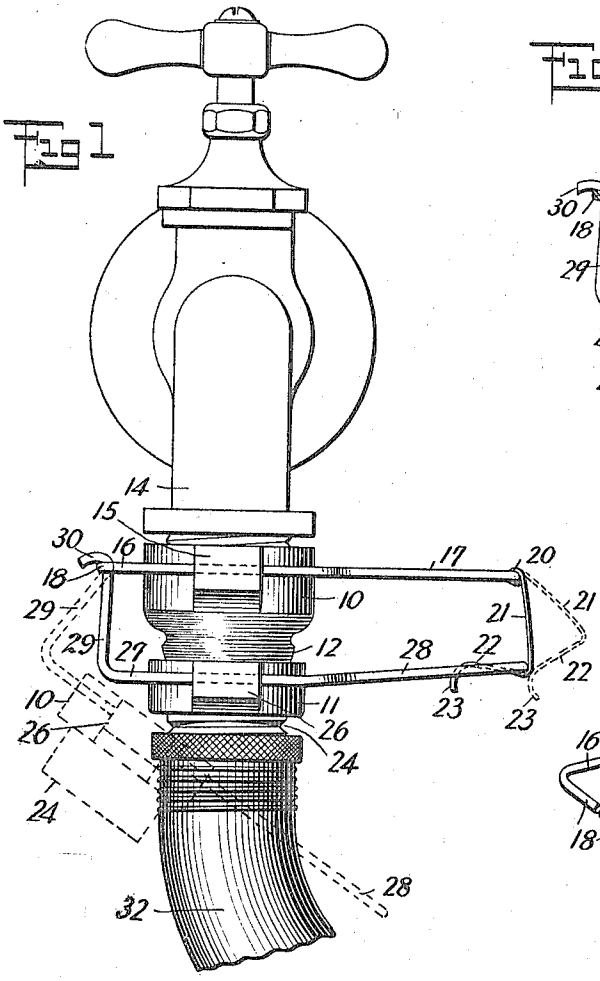


Fig 2

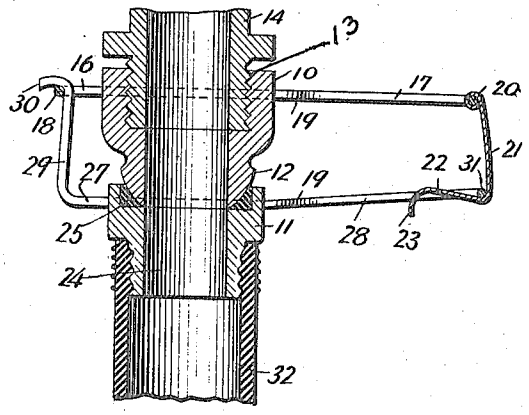


Fig 4

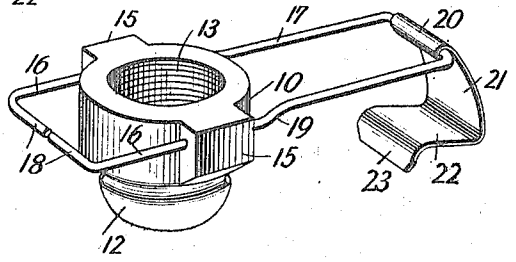


Fig 3

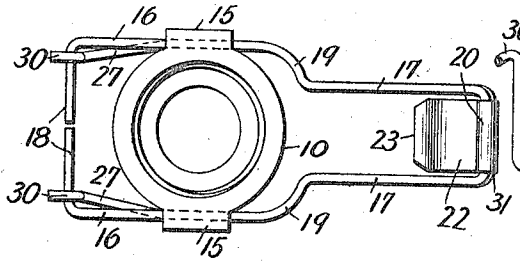
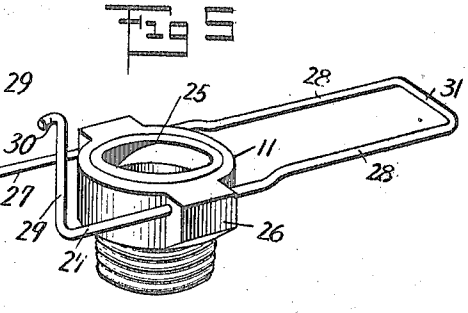


Fig 5



WITNESSES

C. J. Hachenberg.

E. M. Murdock

INVENTOR

Henry R. Van Meter

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

HENRY RHODES VAN METER, OF LOS ANGELES, CALIFORNIA.

HOSE-PIPE COUPLING.

1,128,080. Specification of Letters Patent. Patented Feb. 9, 1915.

Application filed May 22, 1914. Serial No. 840,225.

To all whom it may concern:

Be it known that I, HENRY R. VAN METER, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented a new and Improved Hose-Pipe Coupling, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide an efficient, simple and relatively cheap means for coupling hose-pipe sections or hose-pipe and plugs provided in water-supply systems; to provide means for rapidly connecting said sections or sections and plug; and to provide means, automatically adjustable, to accommodate couplings of different sizes or conditions.

In the drawings: Figure 1 is a front view of a water-supply faucet, a fragment of hose, and a coupler therefor constructed and arranged in accordance with the present invention; Fig. 2 is a longitudinal section of a coupler constructed and arranged in accordance with the present invention, showing in conjunction therewith a fragment of water-hose; Fig. 3 is a top view of the two coupling elements united; Fig. 4 is a perspective view of one of the coupling elements; Fig. 5 is a perspective view of the other of the coupling elements.

The coupling, as shown in the accompanying drawings, provides a ball-and-socket joint for a male element 10 and a female element 11. A frusto-spherical section 12 is integrally connected with the body portion of the male element 10. The body portion of the element 10 and the section 12 are bored concentrically. The bore of the body portion is enlarged and provided with a screw-thread 13 adapted to receive the threaded end of a faucet 14 or other suitable water-supply member.

Laterally extending from the body of the element 10 are lugs 15. The lugs 15 are pierced to receive spread extensions 16 of a wire loop 17. The ends of the extensions 16, after being inserted through the perforations in the lugs 15, are bent toward each other to form, conjointly, a rest-bar 18. As contrasted with the extension 16, the loop 17 is elongated, and the sides are drawn slightly toward each other to form stop portions 19 to limit the projections of the extensions 16 on the far side of the lugs 15. The cross end of the loop 17 forms a hinge member, over which a knuckle member 20 of a swinging latch plate 21 is bent to form a pivotal mounting for said latch plate. The latch plate 21 is provided with an apron 22, extending toward the coupling member, the end of said apron being turned down to form a lip 23, which may be forced under the corresponding or locking portion of the bridle element attached to the female element 11.

The body portion of the female element 11 and the neck 24 thereof are concentrically bored. The passage in the neck 24 corresponds with the passage in the section 12 of the male element. The bore in the body portion of the female element 11, has a relatively increased diameter to form an annular rabbet surrounding the passage in the neck 24, the rabbet being provided to receive yielding packing 25. The packing 25 is preferably constructed from rubber, but other suitable yielding material could be employed in its place, if desired. When the bridle draws the section 12 upon the packing, a water-tight joint is formed. The surface of the packing 25 against which the section 12 bears is cupped to conform to the spherical shape of said section 12. This construction and arrangement permits the flexing of the joint formed by the coupler herein disclosed.

The element 11 is provided with lugs 26 corresponding in shape to the lugs 15 on the element 10. These also are perforated to have passed therethrough, extensions 27 of a wire loop 28 forming the half of the connecting bridle carried by the female element 11. The extensions 27 are bent to form vertical upstanding members 29, at the upper ends whereof are formed hooks 30. The loop 28 corresponds in width to the loop 17 connected to the male element. The outer end of the loop 28 is closed by a cross bar 31 disposed to receive the apron 22 of the latch plate 21. The junction between the apron 22 and the plate 21 forms a seat for the cross bar 31 when the latch plate 21 is forced into engagement with the loop 28.

With a coupling constructed and arranged as shown and described, the operation required for uniting the hose or pipe sections having the elements 10 and 11, is as follows: The hose section 32 having the female element 11 is drawn toward the section having the male element, until the hooks 30 are placed over and above the

rest-bar 18. This being accomplished, the element 10 is swung around until the section 12 rests upon the packing 25. The loops 28 and 17 are now drawn together until the cross bar 31 is lifted above the apron 22 of the latch plate 21. By pressing upon the plate 21, it is moved until the cross bar 31 rests at the junction between the apron 22 and the body of the plate 21, as seen best in Fig. 2 of the drawings. The coupling is now complete. The springy character of the loops 17 and 28 and of the extensions 16 and 27 permits a limited degree of movement of the elements 10 and 11 relative each other, said elements moving about the center of the frusto-spherical section 12, as in all ball-and-socket joints. It will also be seen that, in the event of the hose being drawn upon, the bridle formed by the loops 17 and 28 and the extensions 16 and 27, will yield sufficiently to avoid the breaking strain which might otherwise be exerted upon the hose or wrapping thereof on the elements 10 and 11.

The rapidity with which this coupling can be made is obvious. It is also equally obvious that the hose may be rapidly uncoupled, requiring only that the latch-plate 21 shall be thrown to be out of engagement with the loop 28 and the cross bar 31 thereof. Said latch plate being removed, the element 11 is swung out of engagement with the section 12 and moved to disengage the hooks 30 from the rest-bar 18.

Claims.

1. A hose pipe coupling, comprising a plurality of coupling members, each having laterally-extending transversely-perforated lugs; a plurality of spring loops extending through said perforations, the loop of one of said members having a cross bar at one end and a clamp plate at the other, and the other loop having a cross bar to be engaged by said clamp plate at one end, and a plurality of hooks to engage the cross bar of the other coupling member at the opposite end.

2. A hose pipe coupling, comprising a plurality of coupling members, each having laterally-extending transversely-perforated lugs; and a plurality of spring loops extending through said perforations, the loop of one of said members having a cross bar at one end and a clamp plate at the other, and the other loop having a cross bar to be engaged by said clamp plate at one end, and a plurality of hooks to engage the cross bar of the other coupling member at the opposite end, said hooks being formed integrally with the last-mentioned loop.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY RHODES VAN METER.

Witnesses:
REUBEN T. STILES,
EARLE L. DIMON.