

No. 738,503.

PATENTED SEPT. 8, 1903.

F. R. WATERS.
PIPE COUPLING.

APPLICATION FILED DEC. 11, 1902.

NO MODEL.

Fig. 1.

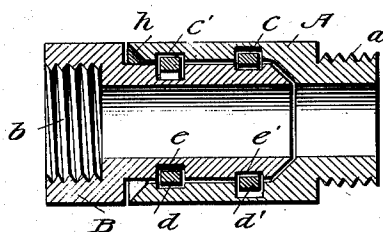


Fig. 2.

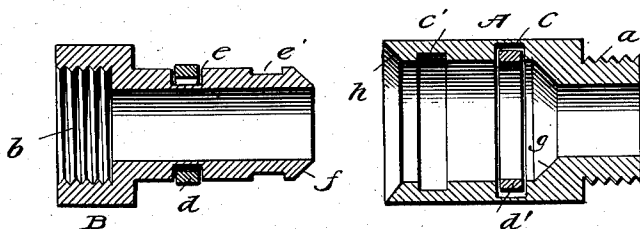


Fig. 3.

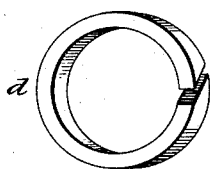


Fig. 4.



Witnesses.
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FREDERICK R. WATERS, OF SALEM, OREGON.

PIPE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 738,503, dated September 8, 1903.

Application filed December 11, 1902. Serial No. 134,836. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK R. WATERS, a citizen of the United States, residing at Salem, in the county of Marion and State of Oregon, have invented certain new and useful Improvements in Pipe-Couplings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in hose-pipe and similar couplings; and has for its object to provide a permanent coupling having a swivel-joint whereby the members may be completely rotated relatively to each other.

Reference is had to the accompanying drawings, in which—

Figure 1 represents a longitudinal sectional view of my improved coupling. Fig. 2 shows the members in detail. Fig. 3 represents a split band-ring, shown in perspective. Fig. 4 is an edge view of Fig. 3.

In the drawings, A represents the exterior member of the coupling, provided with screw-threads *a* for the attachment of the hose-pipe. The opposite end of the member A is enlarged, having the shoulder *g*, and at a short distance beyond said shoulder is an annular groove *c*, deeply cut and extending entirely around the inner side of the member. Farther toward the enlarged end of the said member A is a similar annular groove *c'*, but which is more shallow than groove *c*.

B represents the interior member of the coupling and is provided with screw-threads *b* for attachment to the supply-pipes, the opposite end being reduced, so as to be received by and accurately fit within the member A. A deep annular groove *e* is formed above the base of the reduced portion, so as to register with groove *c'* when the two members are in position, and a shallow groove *e'* is formed toward its extremity to register with the groove *c*.

The spring-band *d'* is adapted to fit tightly upon the member B in the groove *e'* and is of such length that the opening will be entirely closed. The band being thicker than the depth of said groove *e'* will project into groove *c* when the members are in position, thereby locking them together.

A similar split band-ring works in groove *c'* and by its resiliency presses tightly against the bottom of said groove. The band being thicker than the depth of the groove, in this case also projects into the groove *e* when in place.

In assembling the members of my improved coupling I compress the spring-band *d'* and place it within the member A beyond groove *c'*, where it is released and being forced to groove *c* springs open sufficiently to hold in place. The band *d* is sprung upon the member B in groove *e*. The member B is then inserted into the member A and as it is pressed home the beveled surface *f* operates upon the inner surface of the band *d'*, expanding it into the groove *c*. The band *d* is simultaneously compressed into the groove *e* by means of the beveled surface *h*, said grooves *c* and *e* being of a depth equal to the thickness of the bands, when the members will move into position, and as they do so band *d'* springs into the shallow groove *e'* and band *d* expands into the shallow groove *c'*, thus locking the members together and forming a water-tight joint.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A coupling for hose-pipes and the like, comprising an exterior member having a series of annular grooves in its inner surface, an inner member having a series of annular grooves registering with those of said exterior member, spring-bands operating in said grooves and means for forcing one of said bands into a groove of the inner member and means for simultaneously forcing another of said bands into a groove of the exterior member, substantially as specified.

2. A coupling comprising an exterior member having a shallow annular groove near the end, in its inner surface, and a deep annular groove toward the base of its inner surface; an interior member having a deep annular groove registering with the shallow groove of the exterior member, and a shallow groove registering with the deep groove of said exterior member, and spring-bands operating in said grooves, whereby said members are locked together, for the purpose specified.

3. A coupling comprising an exterior member having a deep annular groove in its inner

surface and a spring-band operating therein; an interior member beveled at the end and provided with a shallow annular groove to receive the inner edge of the said spring-band, substantially as specified.

4. A coupling for hose-pipes and the like, consisting of the member A, having annular grooves *c* and *c'* in which operate the spring-bands *d'* and *d* respectively; the member B, having the beveled end *f* and the grooves *e'* and *e* which receive the inner edges of the spring-bands *d'* and *d* respectively, for the purpose specified.

5. A coupling for hose-pipes and the like, comprising an interior member having an outwardly-beveled end and transverse annular grooves; an exterior member rotating about the interior member and having an inwardly-beveled end and annular grooves registering with those of said interior member, and means operating therein for locking the members together, substantially as specified.

6. A coupling for hose-pipes and the like, consisting of an interior member having a shallow groove near its end and a spring-band

clasping tightly therein, and a deep groove near the base of said member; an exterior member having a deep groove registering with the shallow groove of the interior member to receive the outer edge of the said spring-band, and a shallow groove near its end, in which another spring-band tightly fits, the inner edge of which spring-band is received by the said deep groove of the said interior member, substantially as specified.

7. A coupling for hose-pipes and the like, comprising an interior member having a series of transverse annular grooves; an exterior member rotating about the interior member and having annular grooves registering with those of the interior member and means operating therein for locking the members together, and means for forcing said locking devices into position, substantially as specified.

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

FREDERICK R. WATERS.

Witnesses:

J. N. WATERS,
F. W. WATERS.