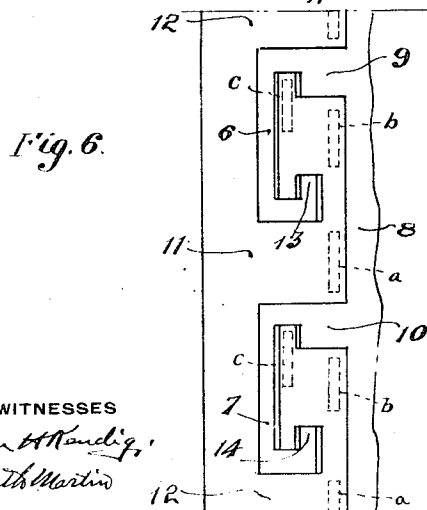
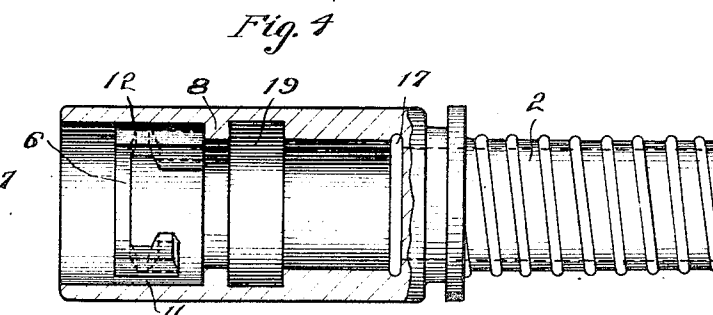
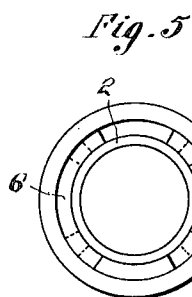
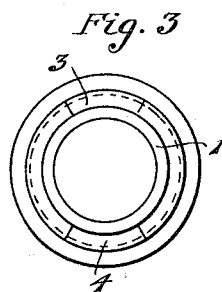
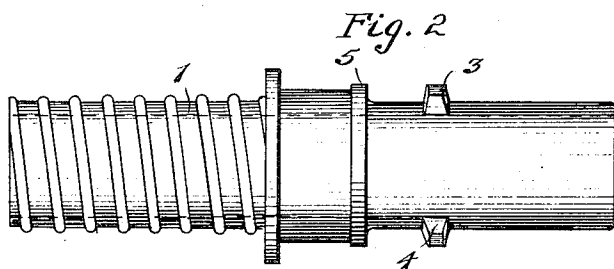
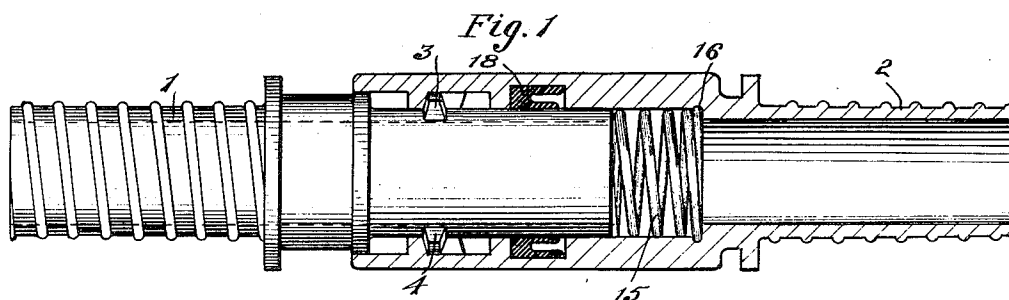


APPLICATION FILED SEPT. 29, 1913.

Patented Mar. 9, 1915.



WITNESSES

Julian H. Kending,
Archworth Martin

INVENTOR

INVENTOR
L. M. Greve

ing
S. J. Smith & Bradley
Attys.

UNITED STATES PATENT OFFICE.

LOUIS W. GREVE, OF CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND PNEUMATIC TOOL COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

COUPLING.

1,130,726.

Specification of Letters Patent.

Patented Mar. 9, 1915.

Application filed September 29, 1913. Serial No. 792,329.

To all whom it may concern:

Be it known that I, LOUIS W. GREVE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Couplings, of which the following is a specification.

The invention relates to a coupling particularly designed for use in connection with hose. It has for its primary objects the provision of a coupling of improved type in which the access of fluid passing through the coupling to the lug and groove securing means and the access of dirt to the interior of the coupling is prevented; and the provision of improved means for preventing accidental relative movement of the two coupling members when in coupled position. One embodiment of the invention is illustrated in the accompanying drawings, wherein—

Fig. 1 is a longitudinal section through the two coupling members in assembled relation, Figs. 2 and 3 are side and end elevations respectively of the plug member, Figs. 4, and 5 are side and end elevations respectively of the sleeve member, and Fig. 6 is a development of the interior surface of the sleeve member.

As indicated in Fig. 1, 1 is the plug member of the coupling, and 2 is the sleeve member, the parts interfitting and locking in position as indicated in Fig. 1. The plug member is provided with the locking lugs 3 and 4 spaced apart circumferentially 180 degrees, and located at a considerable distance from the inner end of the member, as indicated in the drawings. To the rear of the lugs 3 and 4 is an enlargement or sleeve 5.

The sleeve 2 is provided upon its interior surface with the ribs 6 and 7, such ribs being in approximately the form of the letter C, with their upper ends connected to the rib 8 by means of the portions 9 and 10 as indicated in the development of Fig. 6. The spaces 11 and 12 between the ribs are sufficiently wide to permit the passage of the lugs 3 and 4. In assembling the two coupling members, they are first moved longitudinally with respect to each other until the lugs 3 and 4 moving through the spaces 11 and 12 reach the positions marked *a*—*a* in dotted lines on Fig. 6. One of the members

is then rotated until the lugs reach the dotted positions marked *b*—*b*, after which the members are moved longitudinally in the reverse direction, and then circumferentially until the lugs reach the positions *c*—*c*, when the members are in complete locked position. If desired, the last relative rotation might be made in the reverse direction so that the lugs would lie behind the shoulders 13 and 14. This arrangement constitutes in effect a bayonet joint. Various other types of bayonet joint connections might be employed, although the one shown and described is preferred.

Mounted in the sleeve member 2 opposite the end of the plug member 1 is a coil spring 15 which is placed under compression when the parts are interlocked as indicated in Fig. 1. This spring serves to yieldingly maintain the lugs and ribs in interlocking engagement and prevents the accidental relative movement of these parts. The end coil 16 of the spring is preferably made slightly larger than the other coils of the spring, and engages an annular recess 17 in the sleeve member (Fig. 4). This engagement between the coil 16 and the recess prevents the spring from accidentally dropping out when the coupling members are disengaged.

Intermediate the lugs 3 and 4 and the inner end of the plug member 1 is a packing means 18 U-shaped in cross section, such packing means fitting into an annular groove 19 in the sleeve member (Fig. 4), so that accidental removal is prevented. This packing means prevents the passage of fluid from the interior of the coupling to the exterior thereof, and cuts off the access of the fluid to the interlocking members, which is advantageous in case the fluid be of a character tending to injure the interlocking parts. In order to prevent the access of dirt from the outside of the coupling the collar 5 heretofore referred to is employed, such collar snugly fitting the opening at the end of the sleeve member. The advantages of the structure will be readily apparent from the foregoing description.

What I claim is:—

1. In combination in a coupling, a plug member, a sleeve member having its interior of substantially uniform diameter telescopically arranged with respect thereto with a

shoulder upon the interior of the sleeve member at the inner end thereof, a bayonet joint connecting means on the interfitted surfaces of the two members, an annular recess in the surface of one of the members between the bayonet joint connecting means and the inner end of the plug member and at a point removed from such inner end, a compression spring between the inner end of the plug member and the said shoulder at the inner end of the sleeve member, and a packing means in the said recess, the said plug member slidably engaging the interior of the sleeve member in advance of the said packing means and to the rear thereof.

2. In combination in a coupling, a plug provided at a point removed from its end with a lug and with a collar to the rear of such lug, a sleeve having its interior of substantially uniform diameter and having upon its interior and removed from its end an interrupted rib, a packing recess provided with packing to the rear of the front end of the plug, a shoulder at the inner end of the sleeve, and a coil spring interposed between the end of the plug and said shoulder, the said inner end of the plug being in sliding engagement with the interior of the sleeve in advance of the packing and said collar fitting slidably in the outer end of

the sleeve when the said lug is in locking position in advance of the said rib.

3. In combination in a coupling, a plug, a sleeve with a shoulder at its inner end telescopically arranged with respect thereto, bayonet joint connecting means on the interfitted surfaces of the sleeve and plug, a compression spring lying between the end of the plug and said shoulder comprising a plurality of coils in the sleeve member and pressing against the plug member when the members are in coupled relation, the sleeve having an annular groove in its side walls adjacent the end of the spring and the spring having one of its coils of larger diameter than the other coils and fitting the said groove, whereby the spring is held yieldingly against removal from the sleeve, and packing means between the end of the plug and the bayonet joint connecting means, the said plug having sliding engagement with the sleeve in advance and to the rear of said packing means.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

LOUIS W. GREVE.

Witnesses:

GEO. H. HALL,
J. DE MOOR.