

T. L. SUMMERS.  
Hose-Coupling.

No. 162,506.

Patented April 27, 1875.

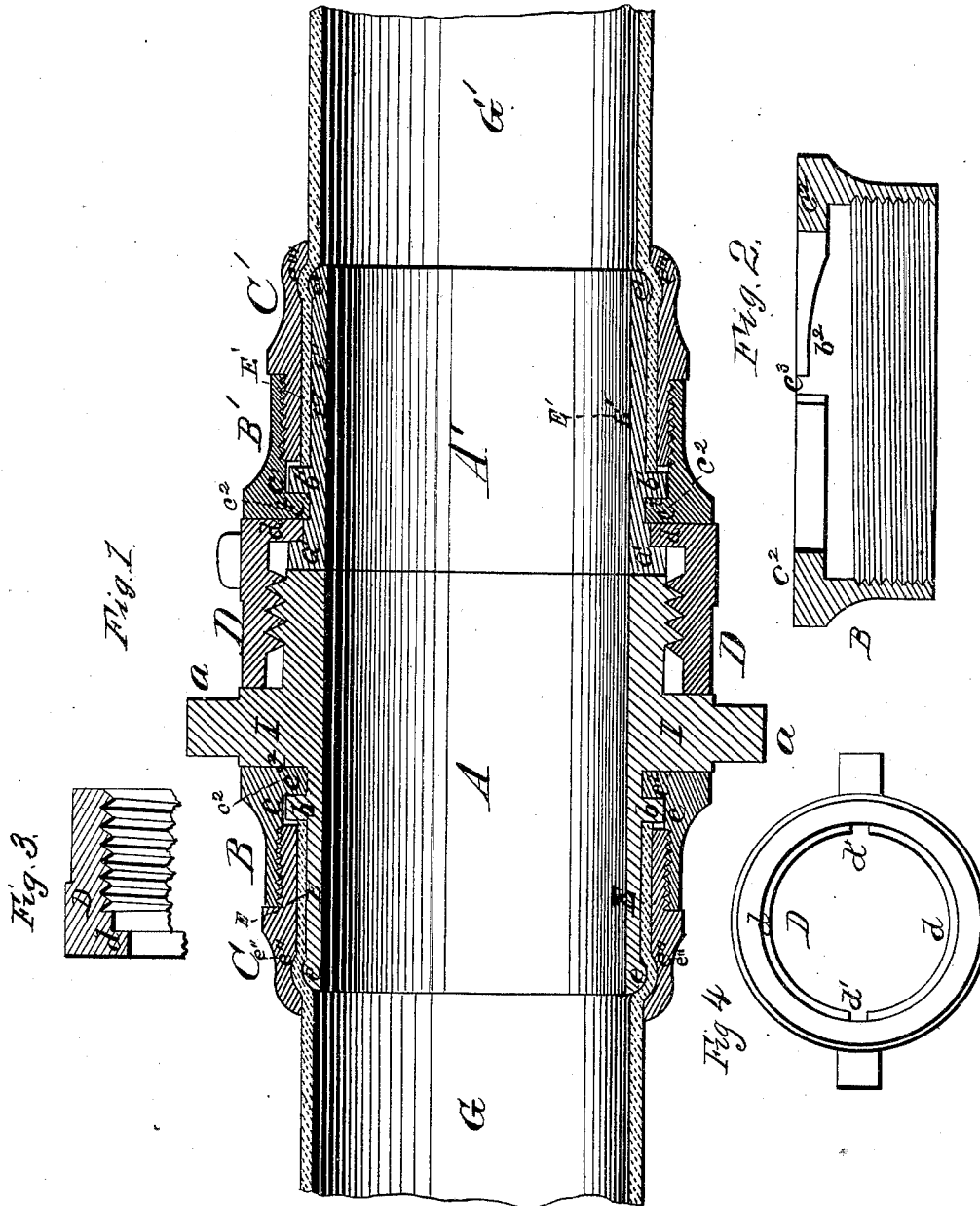


Fig. 3.

Fig. 1.

Fig. 2.

Fig. 4.

WITNESSES  
*Chas. Bates*  
*Robert Everett*

INVENTOR  
*Thomas L. Summers*  
*Chipman & Posner & Co.*  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

THOMAS L. SUMMERS, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN HOSE-COUPLINGS.

Specification forming part of Letters Patent No. 162,506, dated April 27, 1875; application filed October 24, 1874.

*To all whom it may concern:*

Be it known that I, THOMAS L. SUMMERS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and valuable Improvement in Hose-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a longitudinal central section of my coupling; and Figs. 2, 3, and 4 are detail views of the same.

This invention has relation to devices for attaching hose-pipe to the coupling by means of which sections of hose are connected together or to the eduction-pipe of a fire plug or engine.

The object of this invention is to secure a speedy attachment of the hose to the coupling, which, while perfectly water-tight and secure, is readily and as speedily detachable when necessary; and the novelty consists in the construction and arrangement of the parts, as will be hereinafter more fully described.

In the annexed drawings, A A' designate the main portions of my improved coupling, the former of which has a screw-threaded end, an annular enlargement, I, upon which are the usual spanner-pins *a*, next to which is the shank E, having rectangular studs *b* diametrically opposite each other, a slight distance from the enlargement I, and an annular rounding raised portion, *e*, upon its outermost end edge. The latter, A', has studs *b*<sup>1</sup> and a lip or raised portion, *e*', both serving a purpose which will be hereinafter explained. B designates a detachable ring having a female screw-thread and an annular lip, *e*<sup>2</sup>, within its inner cylindrical portion, the latter having notches *c*<sup>2</sup> cut through it diametrically opposite each other. This ring is inserted over the shank E, its notches registering with the studs *b* thereof, and is removably secured thereto by giving it a turn to the right, when the studs will be caused to ascend the beveled surfaces *b*<sup>2</sup> inclining upward from the notches *c*<sup>2</sup>, thus, by the wedging action produced, securely but removably attaching the ring B to the body A of the coupling. C designates a second ring

having a depressed screw-threaded inner end adapted to be received into the female screw-threaded end of the ring B, and a rounding annular depression, *e*', conforming as to its concavity to the convexity of the raised portion *e* of the shank E, as shown in Fig. 1.

The manner of attaching the hose, indicated by the letter G in the drawings, is as follows: The ring B is slipped over the shank E of the coupling and there secured by means of the studs *b* and notches *c*<sup>2</sup>, as above described. The ring C is then passed over the end of the hose G, which is then slipped over the end of the shank. It is then forced up to the ring B and screwed thereto, when the hose will be seized between the shoulder *e* of the shank and the depression *e*' of the ring C, holding it rigidly, and producing a perfectly water-tight joint.

The main portion A' of the coupling has, in addition to the studs *b*<sup>1</sup> and rounding shoulder or enlargement *e*', an annular enlargement, *a*', upon its rear upper edge, and it is passed through a ring, D, having a flange, *d*, and notches *d*', with its rounded end foremost, the studs *b*<sup>1</sup> of the part A' passing through the notches *d*' of the said flange. The ring B', corresponding in all respects to the ring B, is then passed over the shank E' of the part A', and is secured next to the ring D by passing the studs *b*<sup>1</sup> through the notches *c*<sup>2</sup>, (shown in Fig. 2,) the studs *b*<sup>1</sup> serving a double purpose, namely, to attach both the ring D and the ring B' to the part A' of the coupling.

The ring C' is of precisely the same construction as the ring C, and is used in connection with the section of hose G' in precisely the same manner.

It will be seen from the above description that when it is desired to attach a section of hose to a branch, A, of the coupling, it is requisite to unscrew the ring C from the ring B. The hose is then slipped over the shank E thereof, and the ring C, having been previously passed over the hose, is forced up against the ring B and screwed thereto, causing the concave depression *e*' to rigidly clamp the said hose against the rounded ridge *e* of the shank, forming a perfect water-tight and permanent joint. Also, that the stud *b*<sup>1</sup> serves a double purpose, namely, it connects and at-

taches both the rings D and the rings B' to the part A'. Furthermore, that by means of the inclined surfaces  $b^2$  of the rings B B', I am enabled to obtain a perfectly-tight joint or connection of the said ring with the parts A A' of the coupling.

What I claim as new is—

The combination, with either coupling-ring extended to form a tail having an annular end rib,  $e$ , adapted to be introduced into the end of the hose-section, of an outer inwardly-threaded collar engaging with the coupling-ring near its joint end, and an outwardly-

threaded end collar having an annular interior end groove adapted to secure the hose-section on said rib when said end collar is screwed into said outer collar, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

THOMAS L. SUMMERS.

Witnesses:

W. W. COWLES,  
JOHN BAYLISS.