J. GALVIN.

HOSE-COUPLING.

No. 188,886. Patented March 27, 1877.

Fig. 1.

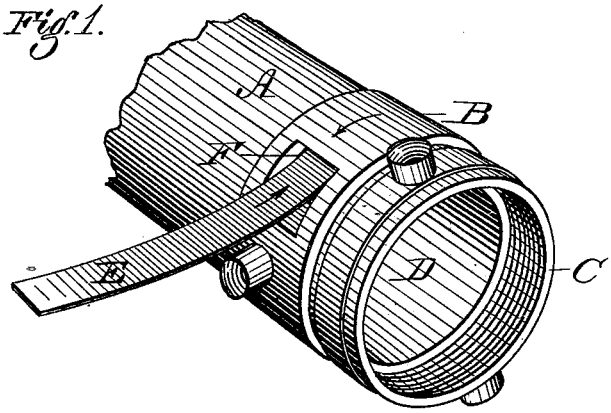



Fig. 2.

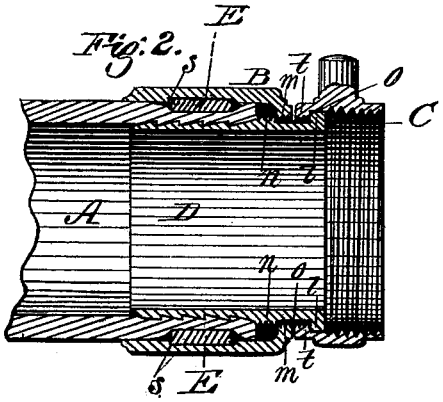



Fig. 3.

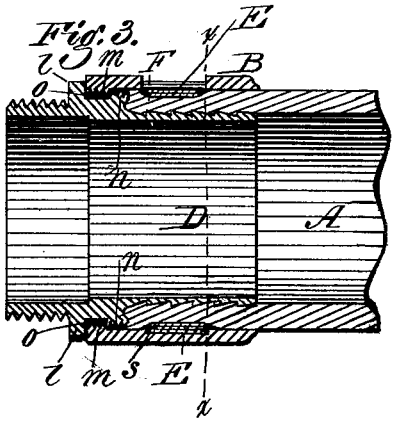
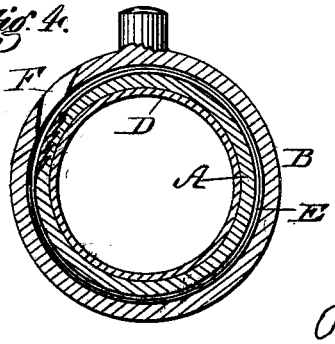



Fig. 4.




Witnesses:
Hill H. Dodge.
Donn A. Twitchell.

Inventor:
John Galvin
By his Attys.
Dodge & Son.

# UNITED STATES PATENT OFFICE.

JOHN GALVIN, OF DETROIT, MICHIGAN.

## IMPROVEMENT IN HOSE-COUPLINGS.

Specification forming part of Letters Patent No. **188,886**, dated March 27, 1877; application filed February 21, 1877.

*To all whom it may concern:*

Be it known that I, JOHN GALVIN, of Detroit, in the county of Wayne and State of Michigan, have invented certain Improvements in Hose-Couplings, of which the following is a specification:

This invention consists in a novel construction of hose-couplings, and in a peculiar manner of securing the same to the hose, as hereinafter more fully explained.

In the drawing, Figure 1 represents a perspective view of the improved device; Figs. 2 and 3, a longitudinal section through the two parts of the coupling, and Fig. 4 a cross-section of the same on the line *x x* of Fig. 3.

In constructing this improved coupling there is furnished an exterior or surrounding band, B, of metal, which is slipped on the end of the hose, in the position shown in Figs. 2 and 3, and an interior or supporting tube, D, which is provided at one end with a flange, *l*, projecting at a right angle from the body of the tube. A short distance from the flange *l* is formed a screw-thread, *n*, between which and the flange *l* is an annular groove, *o*, as shown in Figs. 2 and 3, this groove being somewhat wider in the tube which carries the swivel-ring C than in the other. Before this tube is placed in the hose, the swivel-ring C is passed over the small end of the interior or supporting tube D, and moved along on the same until the screw-thread *t* of the swivel-ring comes to the screw-thread *n* of the interior or supporting ring D, when it is screwed over the same, and passes into the annular groove *o*, where it is free to turn, it being prevented from passing off the tube D by the flange *l*. The exterior ring B being placed on the hose, as shown in Figs. 2 and 3, the tube D, carrying the swivel-ring C, is inserted in the end of the hose until the thread *n* of the tube comes to the thread *m* of the band B, through which it is screwed. By this means the thread *m* is brought into the annular groove *o*, and the thread *n* into an annular space in the band B, thus allowing the band B to turn freely on the hose without becoming detached from the inner tube D. This description relates to that portion of the coupling which carries the swivel-ring C; but both parts of the coupling are the same, with the exception that in one, instead of the swivel-ring C, the end of the inner tube D is extended outward and provided on its exterior with a screw-thread, to engage with that of the swivel-ring C of the other part. As shown in Figs. 1, 3, and 4, the exterior band B has an opening, F, formed in its side. The parts being arranged as above described, a thin flat strip or band, E, of metal or other suitable material, one end of which is inserted through the opening F, and passes between the exterior band B and the hose A, as shown in Figs. 2 and 3. The exterior band B is then turned around on the hose A and inner tube D toward the strip E, passing over the same, and thus winding the strip in between the hose A and band B, the end of the strip E which enters first being provided with teeth, as shown in Fig. 4, or with flutings, folds, or notches, to cause it to take hold on the hose A and prevent turning with the band B, while the inner face of the band B is provided with a slight groove or recess, *s*, to receive and guide the strip E in entering. The band B is thus turned as long as the strip E can be forced in, the strip becoming closely wound between the hose A and band B, and crowding the former down into notches or grooves in the inner tube D, as shown, thus preventing the hose and coupling from becoming detached one from the other. When a sufficient quantity has been wound in, the band or strip E is cut off, and the band B is turned a short distance farther, in order to bring the end of the strip E under the solid or closed portion of the band B. It will be observed that while the band B is thus held from turning, this arrangement does not in any way interfere with the turning of the swivel-ring C.

When it is desired for any purpose to remove the coupling from the hose it is only necessary to turn the exterior band in a reverse direction, when, as the opening F comes opposite the end of the band or strip E, the latter, owing to its tendency to straighten, will spring outward, and, riding upward on the bevel-face of said opening, will be wound out by the turning of the band B, thus allowing the coupling to be readily removed.

It is obvious that, instead of metal, wood, cloth, or any other suitable material may be

used with the same result; or that, instead of a band, wire or cord may be used without departing from the nature of this invention.

If preferred, the opening F may be made through the inner tube D, instead of through the exterior band B, in which case notches or grooves would be formed in the interior surface of said band B, and the strip E would be wound between the hose A and the inner tube D, thus pressing the hose outward and crowding it into the grooves in the ring or band B; but the form shown is considered preferable because more convenient.

It will be seen that this arrangement is extremely simple, cheap, and efficient, and capable of being very quickly applied, which latter fact is one of great importance when the hose is used for fire purposes.

The metal band or other material by which the coupling is secured to the hose is in this case entirely covered, which prevents its wearing or being cut.

It is obvious that this coupling is applicable to hose of any kind or size.

Having thus described my invention, what I claim is—

1. The combination of the hose A, internal metallic coupling-neck D, external collar B, and the packing strip or cord E, wound upon the hose and underneath or inside of the collar B, substantially as described.

2. In combination with the hose and the internal coupling-neck D, having the external teeth or ribs, the external collar B, provided with the opening F, and the metallic band E, wound within the collar upon the exterior of the hose, as shown.

3. In a hose-coupling, the combination of a neck or tube, D, to enter the hose, and a collar, B, to encircle the same, provided with an opening, F, through which to insert a fastening-band.

4. In combination with the hose A, the coupling-neck D, provided with the flange *l* and screw-thread *n*, the collar B, provided with the screw-thread *m*, and the fastening-band E, substantially as shown and described.

5. The combination of the neck D, provided with the flange *l* and screw-thread *n*, with the loose threaded collar or sleeve C and the collar B, provided with the screw-thread *m*, both applied thereto as shown.

6. In combination with the hose and the coupling constructed as shown, the metallic band or strip E, provided with teeth or corrugations at its end to engage with the hose, as and for the purpose described.

JOHN GALVIN.

Witnesses:
ROBERT H. BROWN,
JOHN T. R. BROWN.