No. 760,710. PATENTED MAY 24, 1904.

J. E. SIMPSON.

HOSE COUPLING.

APPLICATION FILED SEPT. 26, 1903.

NO MODEL.

Fig. 1.

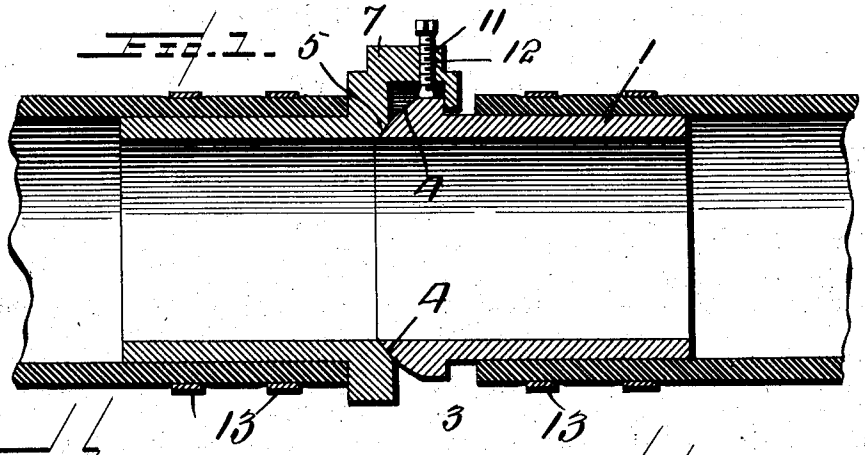


Fig. 2.

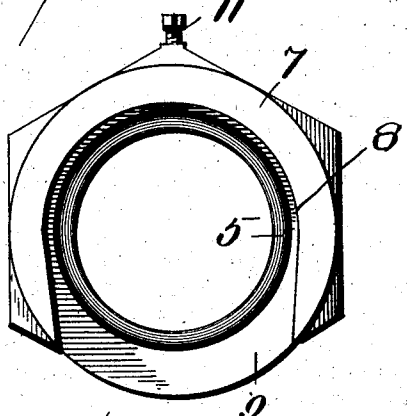


Fig. 3.

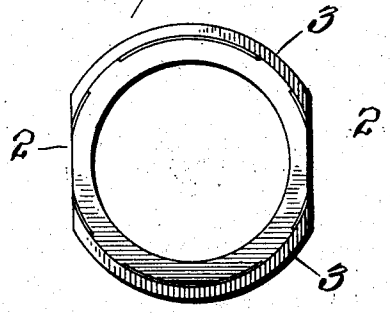


Fig. 4.

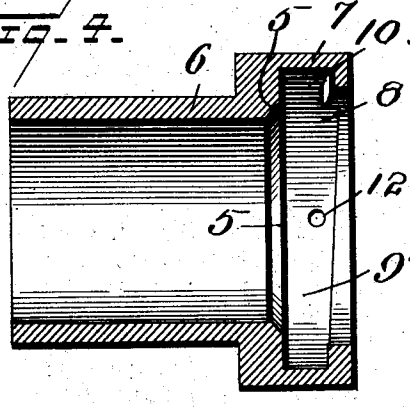


Fig. 5.

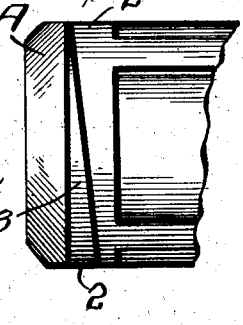
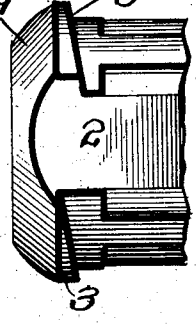


Fig. 6.



WITNESSES:

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No. 760,710. Patented May 24, 1904.

UNITED STATES PATENT OFFICE.

JAMES E. SIMPSON, OF FREDERIC, MICHIGAN.

HOSE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 760,710, dated May 24, 1904.

Application filed September 26, 1903. Serial No. 174,745. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. SIMPSON, a citizen of the United States of America, residing at Frederic, in the county of Crawford and State of Michigan, have invented certain new and useful Improvements in Hose-Couplings, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to certain new and useful improvements in pipe-couplings; and the primary object thereof is to so construct the two component sections that when the same are placed together and given a partial rotary movement the same will be securely locked together.

A further object of the invention is to provide a positive locking means which is arranged in such relation to the respective sections of the coupler that after the latter have been adjusted accidental displacement thereof will be prevented.

Other advantages and objects will be set forth in the following description.

In the accompanying drawings, in which like numerals of reference indicate like parts throughout the several views, forming a part of this specification, Figure 1 is a view in vertical cross-section of the present invention, the same being illustrated in connection with hose of ordinary construction, the latter being broken away. Fig. 2 is an end elevation of one of the coupler-sections, which I will designate the "female" section. Fig. 3 is a similar view of the other or male section. Fig. 4 is a vertical cross-sectional view of the female section detached. Fig. 5 is a fragmentary view, in side elevation, of the male section, showing more clearly the formation of the cam-faces thereof; and Fig. 6 is a similar view of the same member, showing the flat faces thereof.

1 indicates the male section, having the diametrically oppositely disposed flat or squared portions 2 arranged between the cam-shoulders 3, which, as will be apparent from Figs. 5 and 6, are both inclined in a similar direction, whereby they will both operate in unison when engaging the cam-recesses of the female member, which will hereinafter be referred to. The inner end of this section is beveled, as at 4, to snugly fit within the concave portion 5 of the female member 6. This construction materially aids in effecting a water-tight joint.

7 indicates an integral collar carried by the female section and having its inner end enlarged, as at 8, and its lower portion cut away, as indicated at 9, whereby the squared portions 2 of the male member will be permitted to pass in alinement with the opposite parallel edges of the collar 7, and thus permit the cam-shoulders thereof to enter within said sleeve for the coupling operation. When the sections are in this position, one of the cam-shoulders will lie in the cut-away portion of the sleeve, and as the male section is rotated this cam-shoulder will engage the groove 9^a of said sleeve simultaneously with the action of the other cam-shoulder within the groove 10.

11 indicates a set-screw, which is mounted in a screw-threaded aperture 12 of the sleeve 7 and being adapted to normally engage the male section for preventing any rotary movement thereof.

The outer ends of the coupler-sections are preferably of irregular formation, so that the hose can be readily clamped thereupon. The means for securing the hose to the coupler-section, as illustrated in the present drawings, consists of a plurality of metallic rings 13. It will be obvious, however, that any other equivalent means can be employed without departing from the spirit of the invention.

In operation the two coupler-sections are forced together in a plane common to both, the diameter of the male section through the flat sides thereof being approximately equal to the width of the opening 8 between the opposite vertical walls thereof and the respective sections rotated in opposite directions, whereby through the medium of the cam-action produced by construction heretofore specified a close joint is effected. The set-screw is then operated to engage the male member, as heretofore described.

Various minor changes can be made in the details without departing from the spirit of the invention.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. A coupler comprising male and female sections, said male section having its exterior formed with diametrically oppositely disposed square portions and similarly-inclined cam-shoulders positioned therebetween, a sleeve formed integral with the inner end of said female section, said sleeve having its inner end formed with an enlarged opening and its interior formed with cam-grooves to receive the cam-shoulders of said male section, the wall of the enlarged opening of said sleeve at diametrically opposite points being formed with approximately parallel straight portions adapted to aline with the squared portions of said male section and pass therebetween and then be given a partial turn, and means for positively locking said sections independent of the first-named means.

2. A coupler comprising two sections having their contiguous ends projecting one into the other, the male section being formed with a pair of cam-shoulders spaced apart by oppositely-disposed squared portions, a sleeve formed integral with the female section and having its interior formed with cam-grooves to receive the cam-shoulders of said male member, the inner end of said sleeve being formed with an enlarged opening having its lower portion cut away and its walls on opposite sides thereof lying in approximately parallel planes and being adapted to aline with the squared portions of said male member, whereby said square portions can pass into the sleeves and the common shoulders of said section register with the common grooves of the female section, and a set-screw arranged in said sleeve for engagement with the male member, substantially as described.

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

JAMES E. SIMPSON.

Witnesses:
B. J. HECOX,
WM. EYRE.