

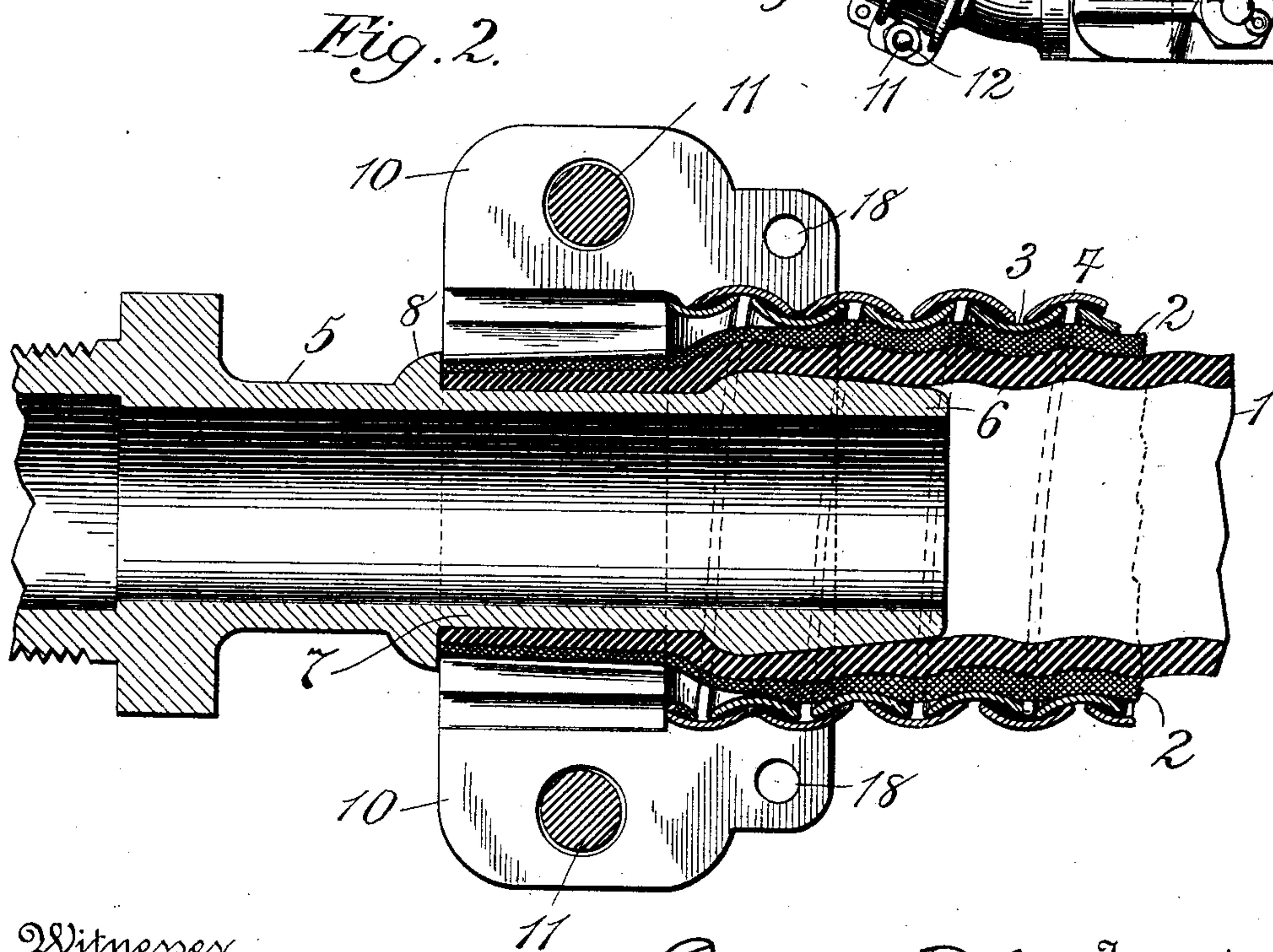
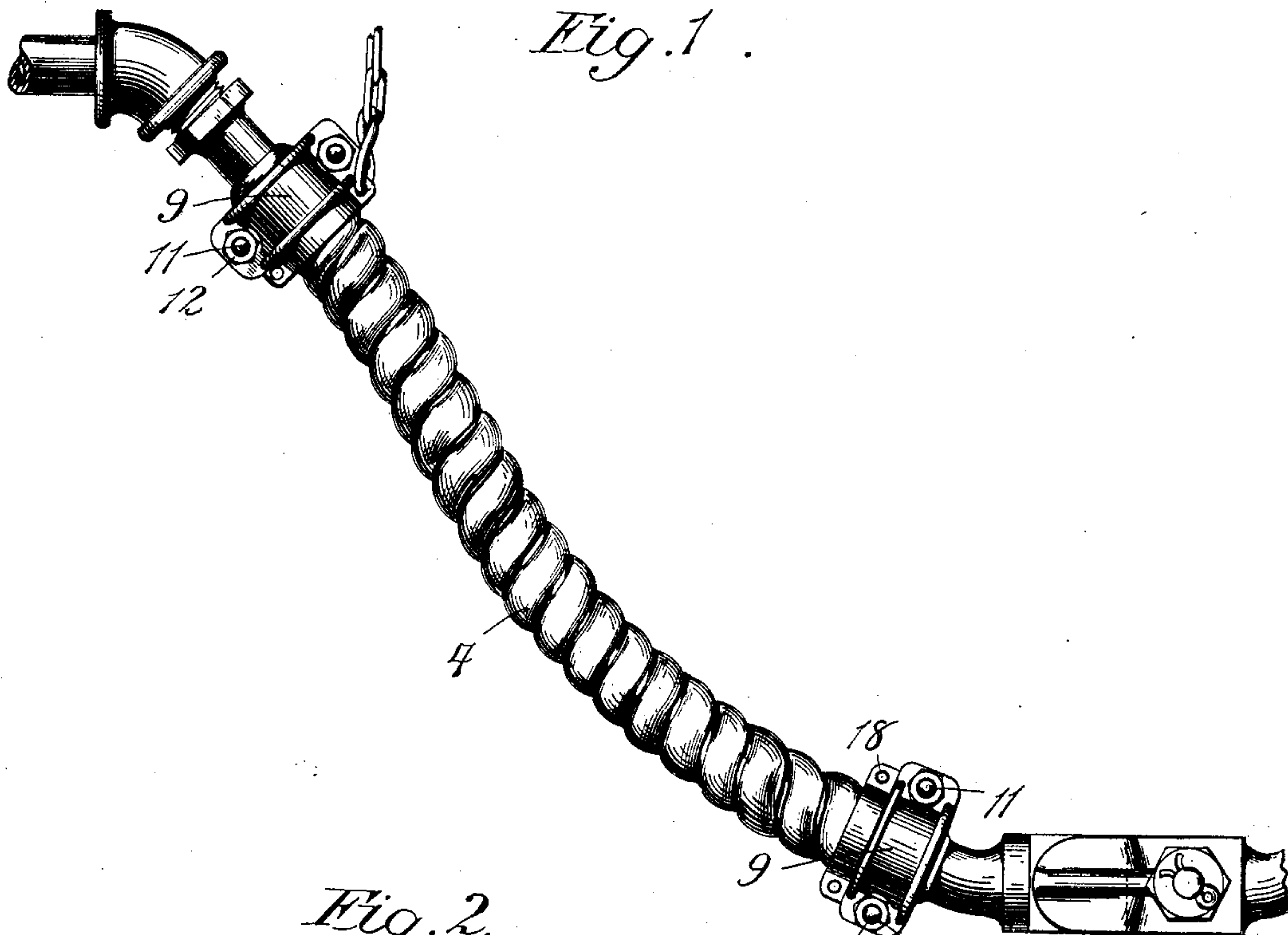
No. 746,497.

PATENTED DEC. 8, 1903.

E. T. GREENFIELD.
COUPLING FOR ARMORED HOSE.
APPLICATION FILED MAR. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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APPLICATION FILED MAR. 10 903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.

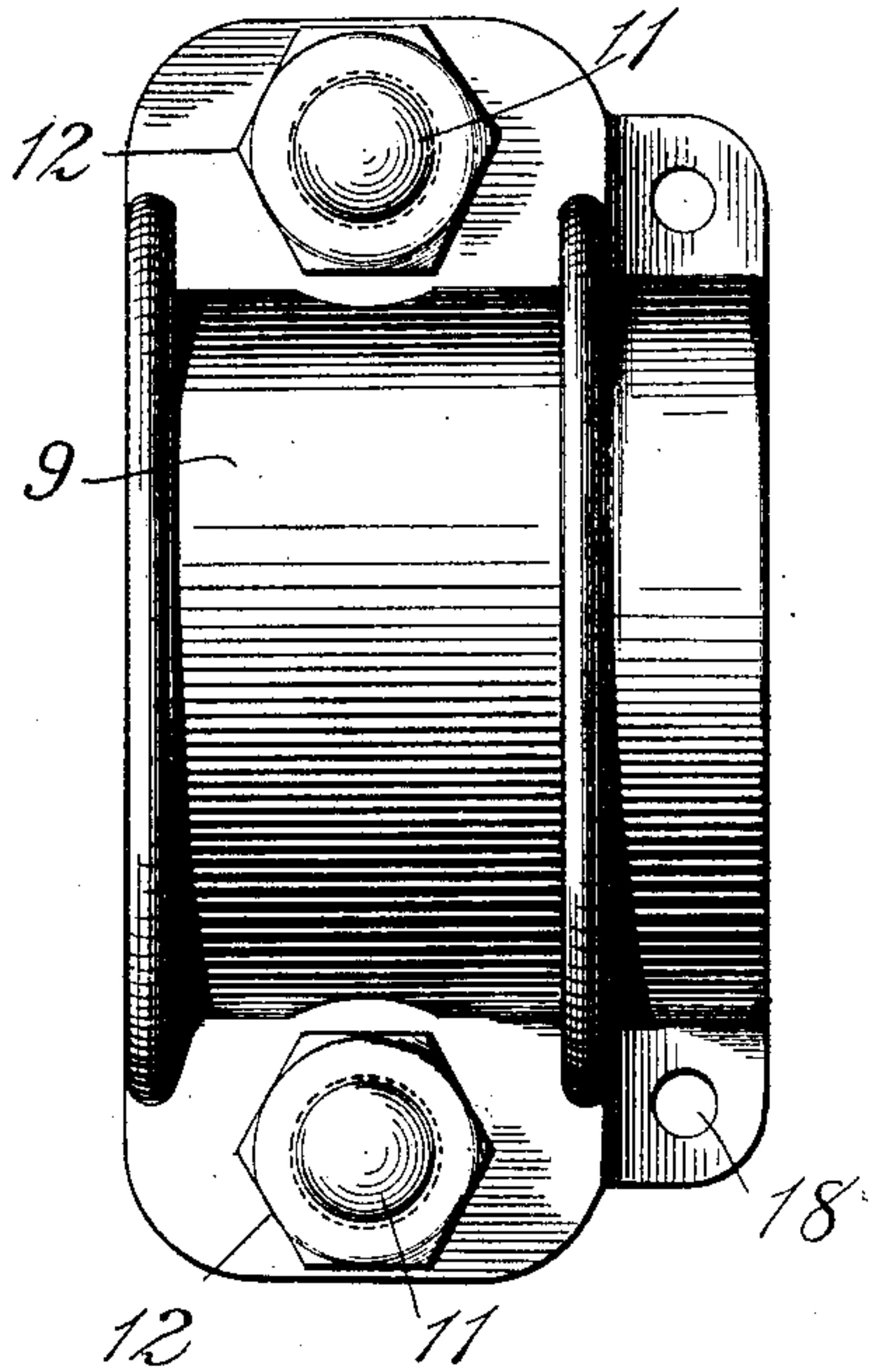


Fig. 4.

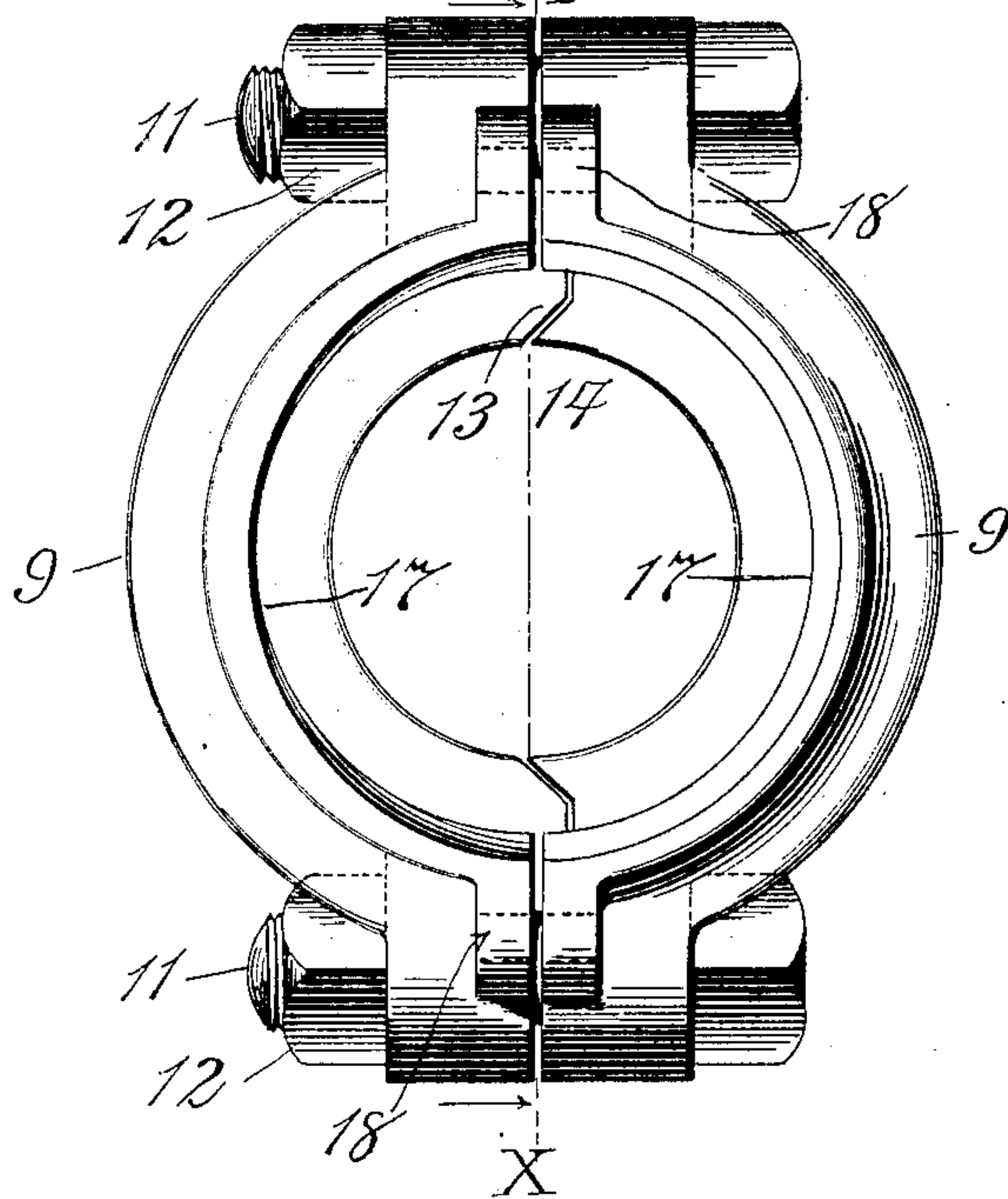


Fig. 5.

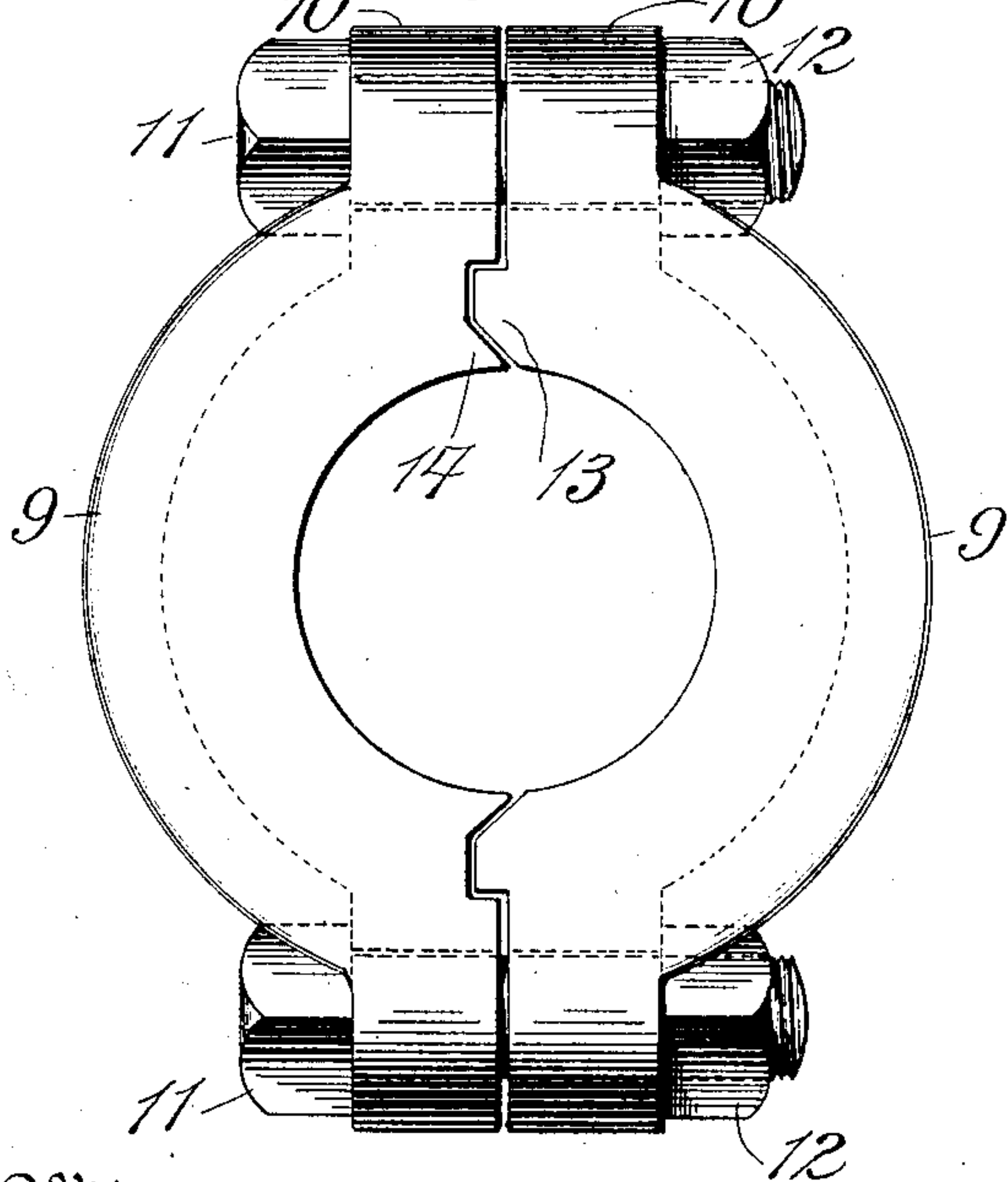
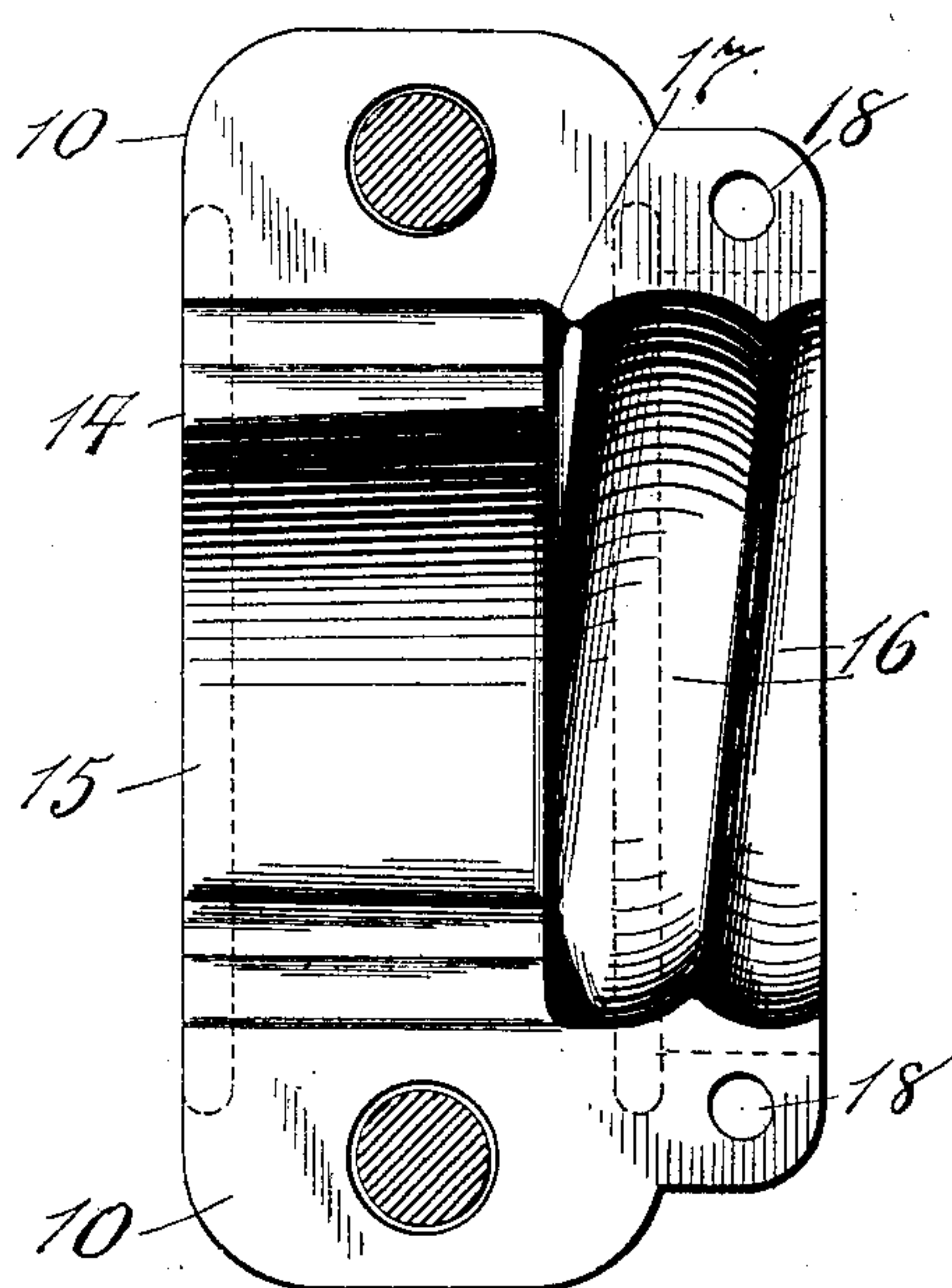


Fig. 6.



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UNITED STATES PATENT OFFICE.

EDWIN T. GREENFIELD, OF MONTICELLO, NEW YORK.

COUPLING FOR ARMORED HOSE.

SPECIFICATION forming part of Letters Patent No. 746,497, dated December 8, 1903.

Application filed March 10, 1903. Serial No. 147,070. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. GREENFIELD, a citizen of the United States, residing at Monticello, in the county of Sullivan and State of New York, have made a new and useful Invention in Couplers for Armored Hose, of which the following is a specification.

My invention comprehends a novel form of coupler for connecting armored hose either to another section thereof or to a nozzle or the hollow connecting-neck of a steam or air pipe—such, for instance, as is found in general use upon all railway-trains where air-brakes and steam-heating apparatus are employed.

For a full and clear understanding of the invention, such as will enable others skilled in the art to construct and use the same, reference is had to the accompanying drawings, in which—

Figure 1 illustrates the invention complete as applied to the adjoining ends of a main train-pipe between two cars of a train where steam-hose and air-brakes are used. Fig. 2 is an enlarged sectional view taken through the hollow connecting-neck at the end of the train-pipe and through the adjacent end of my novel form of hose, one-half of my novel form of coupler being shown in elevational view and the connecting-bolts in section. Fig. 3 is a side elevational view of the coupler. Fig. 4 is an end elevational view thereof as seen looking at Fig. 3 from left to right, and Fig. 5 is an end elevational view as seen looking at Fig. 3 from right to left. Fig. 6 is a side elevational view of the interior of the coupler as seen looking at Fig. 4 from left to right in the direction of the arrows, the coupler-bolts being shown in sectional view taken on the line X X.

Referring now to the drawings in detail, in all of which like numerals represent like parts wherever used, one end of my novel form of hose is illustrated in enlarged or full-size view in Fig. 2, and the same consists, first, of an interior pipe or tube 1, preferably of rubber or of such yielding material as is water and steam tight; second, an exterior pipe or tube 2, made, preferably, of braided cotton or analogous fabric and such as ordinarily constitutes the exterior coating of existing forms of hose.

3 4 represent an exterior armor composed of interlocking metal strips secured about the outer pipe or tube 2 and of spiral form and in the same manner as the like interlocking armor is formed around a pipe, tube, or cable, as disclosed in a number of United States patents heretofore granted to me, and particularly effected by the mechanism disclosed in United States Patent No. 630,502, granted to me on the 8th day of August, 1899.

I will now describe my novel form of coupler for coupling together sections of such armored hose or for coupling the same to hydrants, main train-pipes, or in places generally where flexible hose is used.

5 represents a hollow connecting coupling-neck having a coned end 6, a cylindrical body part 7 of smaller exterior diameter than the base of the coned end 6, and a shoulder 8, said coupling-neck being of well-known form and found in general use on all railway-trains carrying steam-heating and air-brake systems.

My improved coupler is composed of two semicylindrical parts having interiorly-disposed cylindrical or slightly cone-shaped surfaces at one end and corrugated or screw-threaded surfaces at the other end thereof, the arrangement being such that when the parts are put together about the adjacent ends of the hose and the armor and secured by bolts and nuts there will be a perfectly steam and water tight joint and of the greatest possible strength.

9 9 represent the cylindrical halves of this coupler, and 10 10 ears or lugs having bolt-holes for receiving the bolts 11 11, and male and female aligning parts 13 and 14. The interior clamping-surfaces 15 15 of these half-couplers are cylindrical or slightly cone-shaped, as shown, and adapted when held together by the bolts 11 11 and nuts 12 12 to compress the extended ends of the pipes or tubes 1 and 2 in the manner shown and as in existing hose-couplers. Integral with one end of each of the half-couplers is cast, preferably, two or more female screw-threads 16 16, having substantially the same pitch and relative dimensions as do the armor-strips 3 4, and in this structural arrangement is found the generic essence of my novel form of coupler, in that when the parts are put together as shown in

Fig. 2 and the bolts 11 11 and nuts 12 12 firmly secured with a wrench the outer or exposed ends of the flexible tubes 1 2 will be effectually clamped about the coupling-neck 5 and the outer or exposed end of the united spiral armor-strips 3 4 will likewise be clamped and will at the same time be forced endwise in the direction of the length of the hose, thereby causing all of said parts to firmly grip or hold the hose against the outer surface of the hollow connecting-neck 5 in the best possible manner, the outer edge of the extreme end of the armor-strips being bound firmly in the angular recess 17 near the enlarged base of the conical part 15. This structural form of hose and coupler is especially adapted for use in connection with steam and air brake systems as now generally adopted on railway-trains, and I have illustrated such an application in Fig. 1 of the drawings, wherein the two adjoining ends of a train-pipe are coupled together in the usual manner and one of the couplers is provided with a chain for holding it from a car-platform through the agency of an eye or opening 18, such as is ordinarily found in connection with steam and air brake couplers.

In putting the couplers in place I prefer to couple one end of the armored hose directly to one coupling-neck, then to bend the hose to its limit of curvature, and then affix the other coupler, thereby placing the interior flexible hose to its greatest test of bending rupture, after which the other end coupler is secured and the hose released, so that the wearing stress put upon the hose will be under the best possible conditions in use.

I believe it is broadly new with me to provide a coupler for an armored hose, which not only effects the coupling between the flexible part of the hose and a coupling-neck, but also between the armor thereof and the parts in such manner as to give a united binding action to all of the parts, and my claims are generic as to this feature.

Although my novel form of coupler is particularly adapted for use in connection with

armored hose having a metal armor, I do not limit it to this especial use, as obviously it may be utilized in connection with a hose having any exterior surrounding sheathing which would be possessed of great tensile strength.

I make no claim in the present application to an armored hose such as is hereinbefore described, and illustrated in the accompanying drawings, as this feature constitutes the subject-matter of a divisional application filed by me in the United States Patent Office on the 29th day of April, 1903, and bearing Serial No. 154,777.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A coupler for an armored hose consisting of two half-couplers adapted to grip the hose to a coupling-neck, said halves being provided with additional means for gripping and holding the armor also.

2. A coupler for an armored hose consisting of two half-couplers having ears, bolt-holes and inner coupling-surfaces, together with an interior integral screw-threaded part for each half and all adapted, when put together, to grip the hose to the coupling-neck and to surround and grip a spiral armor thereon.

3. A coupler for an armored hose consisting of two half-couplers having semicylindrical inner surfaces at one end and semi-screw-threaded inner surfaces at the other end.

4. A coupler for an armored hose consisting of two half-couplers having semicylindrical inner surfaces at one end and two semi-screw-threaded surfaces at the other end; together with ears, bolt-holes and bolts for holding said parts together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN T. GREENFIELD.

Witnesses:

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M. F. KEATING.