

(No Model.)

J. E. MARBLE.
COUPLING FOR FLEXIBLE STEAM PIPES.

No. 495,896.

Patented Apr. 18, 1893.

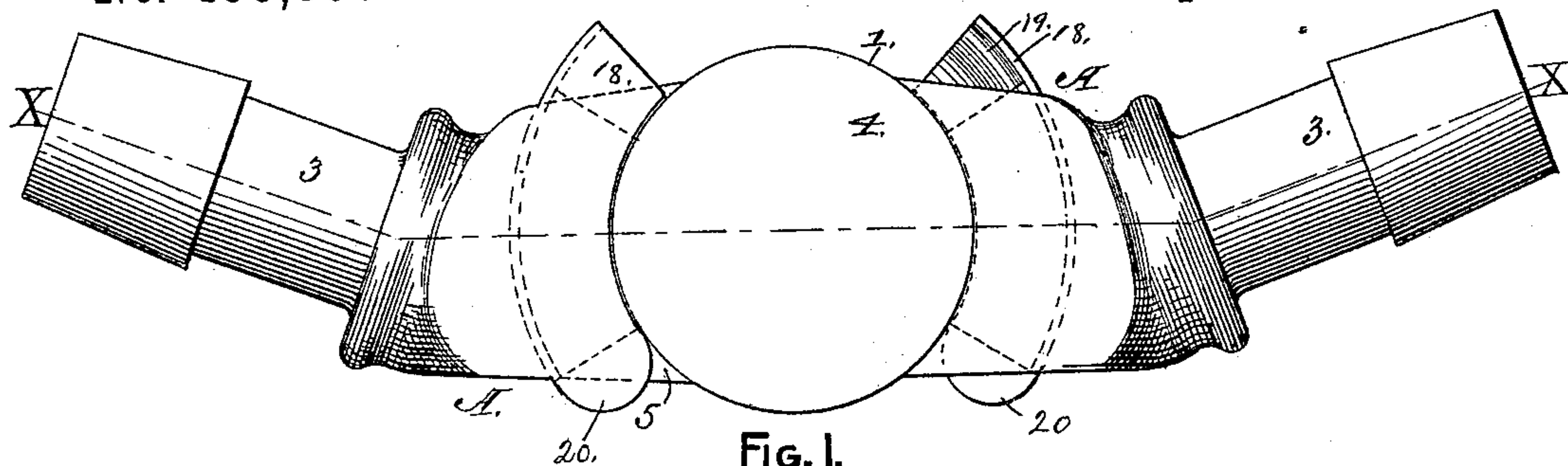


FIG. 1.

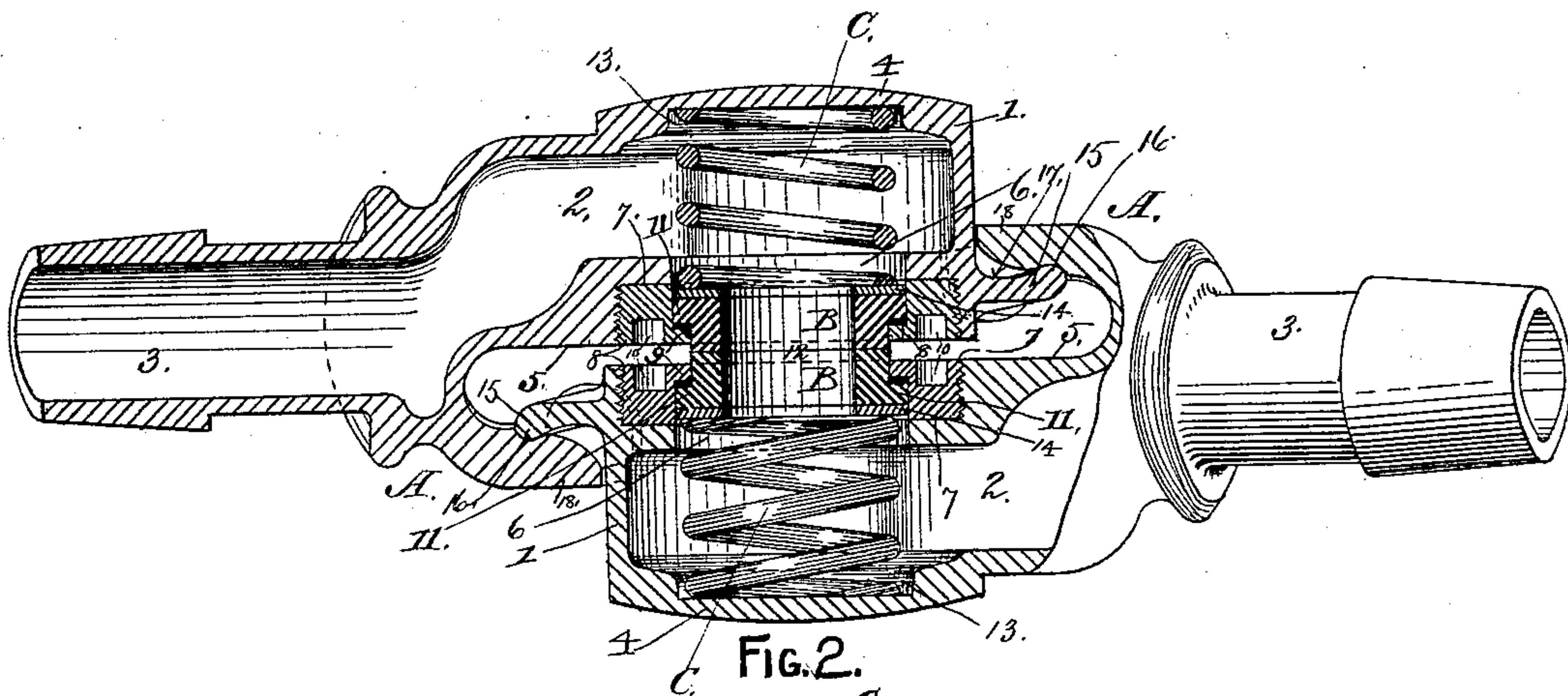


FIG. 2.

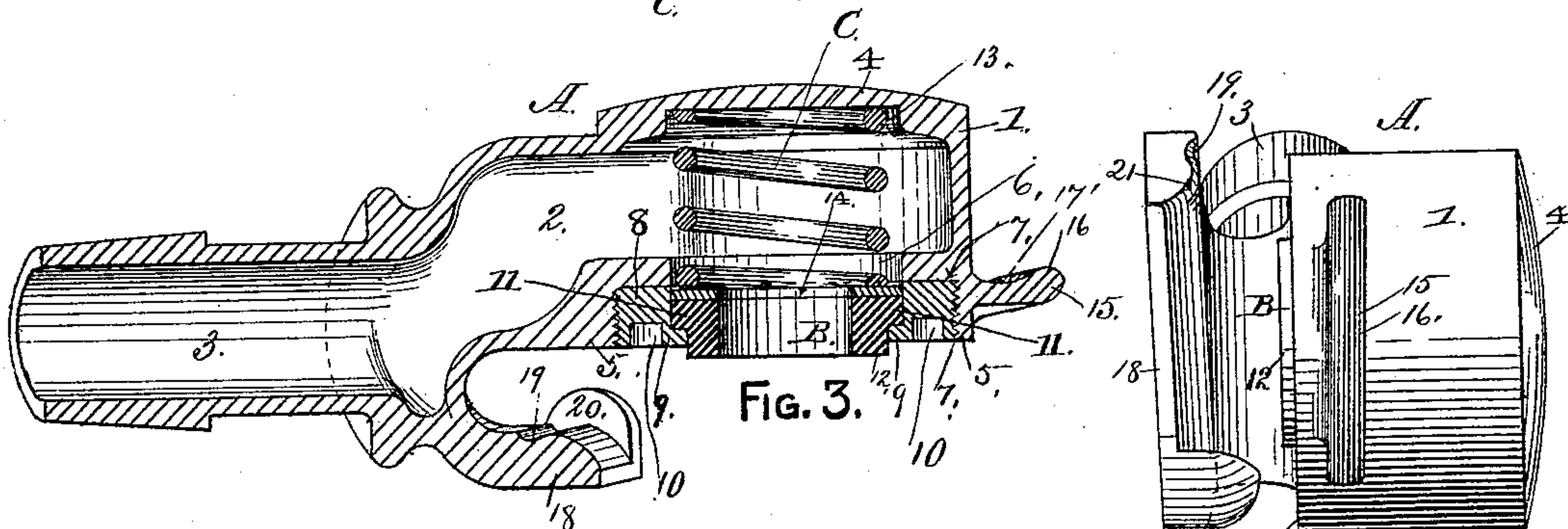


FIG. 3.

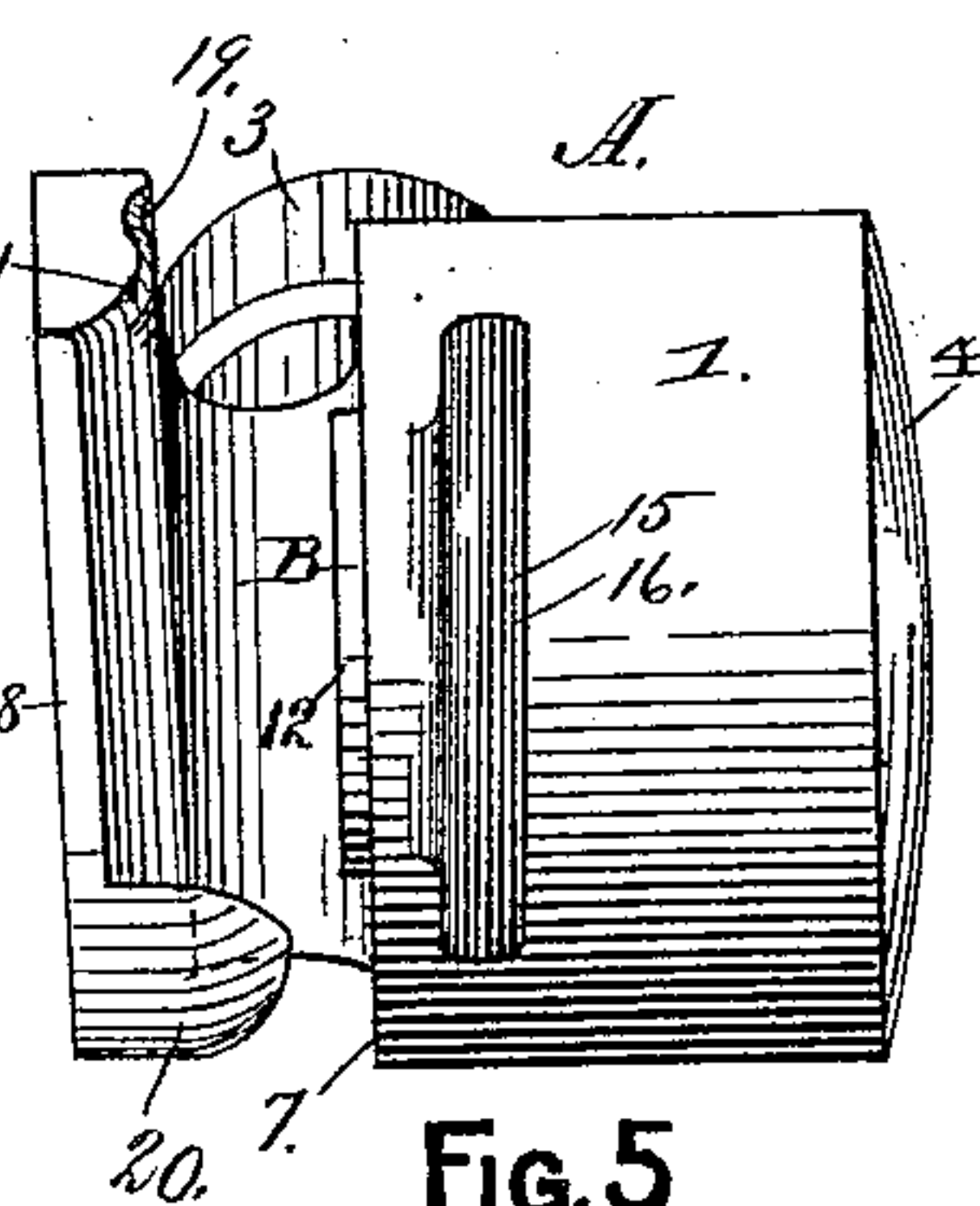


FIG. 5.

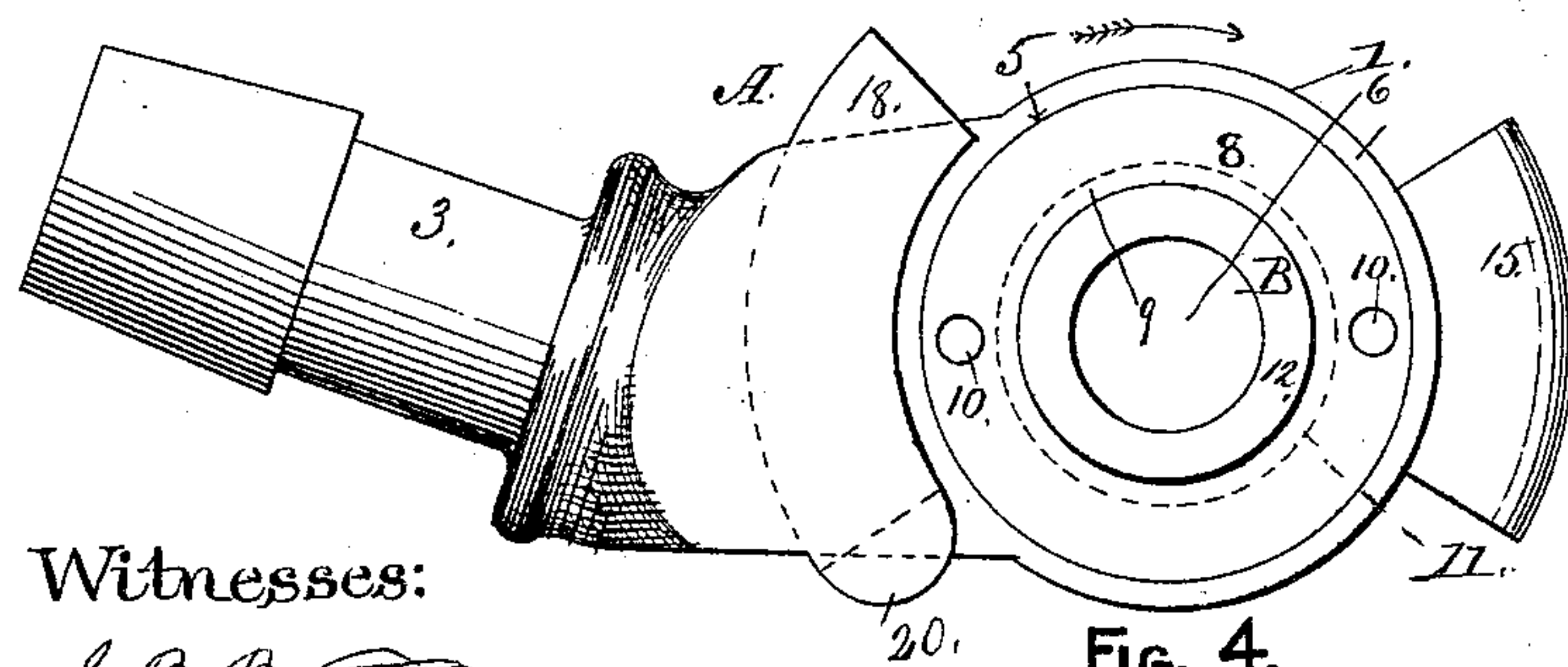


FIG. 4.

Witnesses:

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COUPLING FOR FLEXIBLE STEAM-PIPES.

SPECIFICATION forming part of Letters Patent No. 495,896, dated April 18, 1893.

Application filed September 12, 1892. Serial No. 445,614. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. MARBLE, of the city and county of Albany, in the State of New York, have invented new and useful Improvements in Couplings for Flexible Steam-Pipes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a side elevation of the two sections of my coupling when connected together. Fig. 2 is a longitudinal section of the same at the irregular line X X, part of one of the sections being shown in plan view. Fig. 3 is a detached longitudinal section of one of the counterpart sections of my coupling. Fig. 4 is a detached side elevation of the inner face of one of the counterpart sections of my coupling; and Fig. 5 is an end elevation of the same. My invention relates to improvements in couplings for connecting the pipes of a steam-heating system of one railway-car with the like pipes of a conjoining car, so as to form a continuous passage for the steam from one end of a train of railway-cars to the opposite end of said train; and it consists of the particular construction herein shown and described.

As illustrated in the drawings, A designates the sections of my coupling, which are preferably counterpart in form, and each consists of a chambered head, 1, having a lateral passage, 2, which forms a communication between the chamber of said head and a tubular stem, 3, that is preferably bent to an angle with the center line with the head 1, so as to adapt said sections to the loop-form assumed by the flexible hose connections between conjoining cars. The head 1 is preferably made in a cylindrical form, its outer end being closed by a back, 4, and its inner end partially closed by a face, 5, provided with a central opening, 6; said face is provided with a screw-threaded recess, 7, into which an annulus, 8, is fitted to screw. The annulus 8 is provided with an inturned annular flange, 9, and with holes, 10, or other suitable provision, for receiving a wrench or other implement for screwing said annulus into the recess of the face 5. A gasket, B, provided with a peripheral flange, 11, which is fitted to bear upon the flange 9 of the annulus, and having an

annular rim, 12, which protrudes outwardly from the face 5, as shown in Fig. 3. The greatest diameter of the gasket B—across the flange 11—should be slightly less than the diameter of the opening 6, so that said flange can pass loosely into the opening if occasion requires; the annular rim 12 is arranged to bear against a like rim of a conjoining section preparatory to the operation of connecting the two sections together.

C designates a spring that is arranged to force the gasket B outwardly, one end of said spring being preferably placed in a recess, 13, formed in the inner face of the back 4, and the opposite end of said spring is fitted to bear against an annulus, 14, which is interposed between the end of the spring and the gasket B. The annulus 14 is made of metal for the purpose of preventing the wearing away of the gasket by the spring C, but, when preferred, the annulus 14 may be omitted. The head 1 is provided with a segmental flange, 15, which is located on the periphery of said head opposite the passage 2, and said flange preferably made on a spiral twist and has an engaging-rim, 16, formed on its outer edge, and a groove, 17, formed between said rim and the periphery of the head 1. A second segmental flange, 18, which is located diametrically opposite to the flange 15, extends inwardly to overlap the face 5, and is provided with a groove, 19, for engaging with the rim 16 of a conjoining section, as shown in Fig. 2. For the purpose of limiting the rotative movement by which two sections of my coupling are connected together, a stop, 20, is formed on the higher end of the flange 18, and the opposite end of said flange is preferably rounded or beveled, as shown at 21, for the purpose of facilitating the engagement of the flange 15 of a conjoining section therewith.

It will be seen that the inner face of the gasket B is at all times exposed to the pressure of the steam passing through the coupling, and said pressure aids the spring C in forcing the gasket into close contact with a like member of a conjoining coupling.

To connect two sections of my coupling together, as required in coupling the cars of a railway-train, the following procedure must be observed: The two sections are placed face

to face with the projecting rims of gaskets B in contact with each other and a partial revolution is imparted to either or both of the sections in the direction indicated by an arrow on Fig. 4 whereby the segmental flanges 15 and 18 will become engaged to effect the drawing of the two sections together, and the projecting rims of the gaskets B will be pressed together to form a steam-tight joint between the conjoining sections. A disconnection of the two sections can be effected by reversing the operation just described. When two cars equipped with my couplings are accidentally separated or are designedly uncoupled and the train is started, the unusual strain thereby thrown upon my coupling will cause the two sections to separate longitudinally, the gaskets B being forced inwardly to allow the segmental flanges of the two sections to slide from their engagement without inflicting damage to the flexible hose commonly used for connecting such couplings to the pipes of the steam-heating system of the cars.

The gaskets B should be made of a material which, possessing a slight degree of elasticity, will not become sticky when exposed to the action of steam.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coupling for flexible steam-pipes, composed of two like sections fitted to interlock and join together longitudinally, each of said sections comprising a chambered head having a tubular neck leading laterally therefrom, a central opening formed in the inner face of

said head and having its outer end enlarged and provided with an internal screw-thread, an annulus provided with a peripheral screw-thread fitted to screw into the enlarged bore of said central opening and having an inturned annular flange in its bore, an annular gasket fitted to move reciprocally in said annulus and provided with a peripheral flange which—when engaged with the flange of said annulus—will limit the outward movement of said gasket, and a spring interposed between the inner face of said gasket and the back of the chamber of the section, as and for the purpose herein specified.

2. In a coupling for flexible steam-pipes, the combination of a chambered head provided with a central opening whose outer end is enlarged in diameter and provided with an internal screw-thread, an annulus fitted to screw into the enlarged bore of the central opening of the head and having an inturned annular flange, an annular gasket fitted to reciprocate in the bore of said annulus and provided with a peripheral flange which takes against the flange of said annulus, and a spring interposed between said gasket and the back of said head; the inner face of said gasket being exposed to pressure of steam passing through said coupling, as and for the purpose herein specified.

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Witnesses:

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S. B. BREWER.