

W. S. SUTTON.  
PIPE COUPLING.  
APPLICATION FILED SEPT. 31, 1909.

978,957.

Patented Dec. 20, 1910.

Fig. 2.

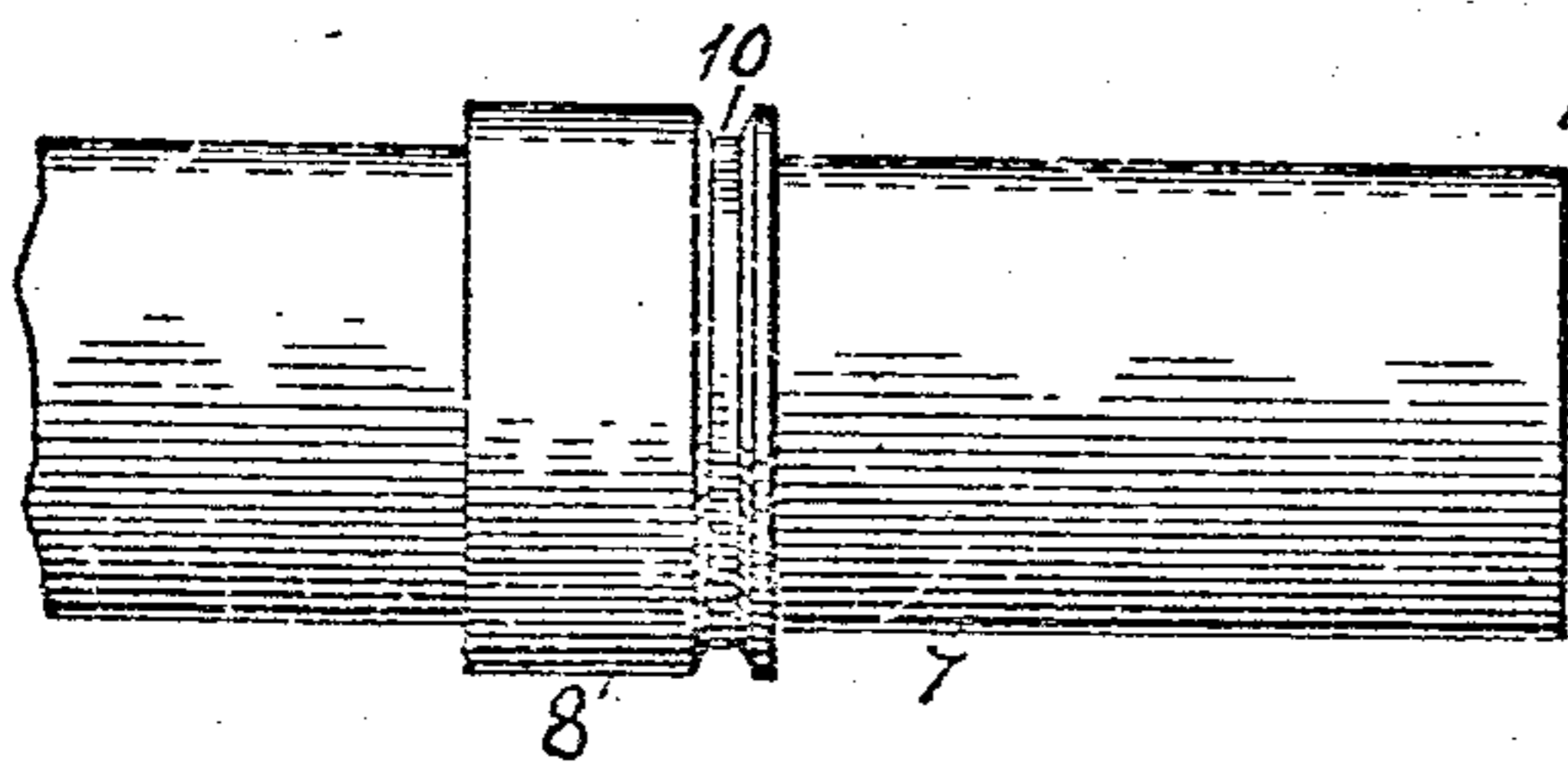


Fig. 1.

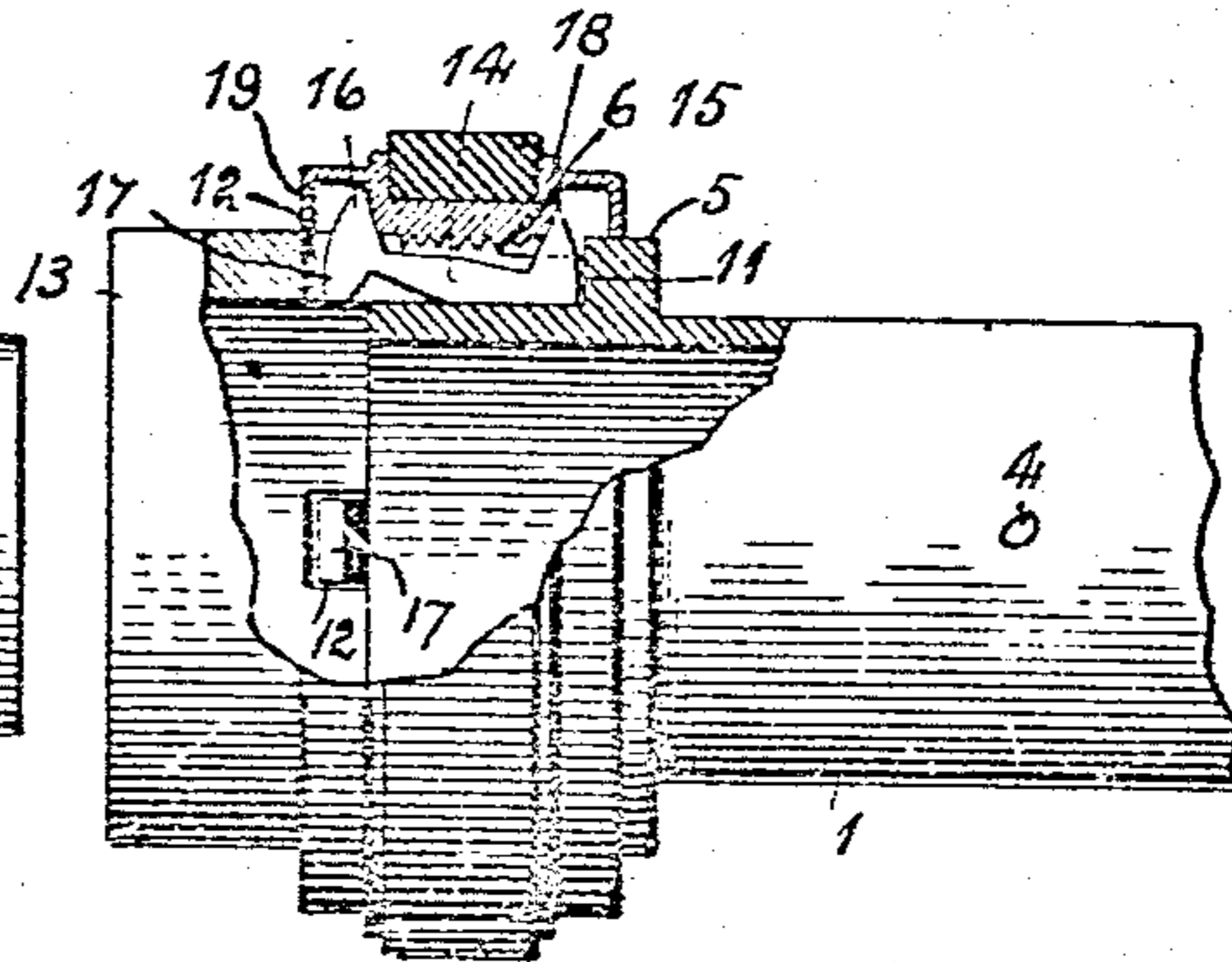


Fig. 3.

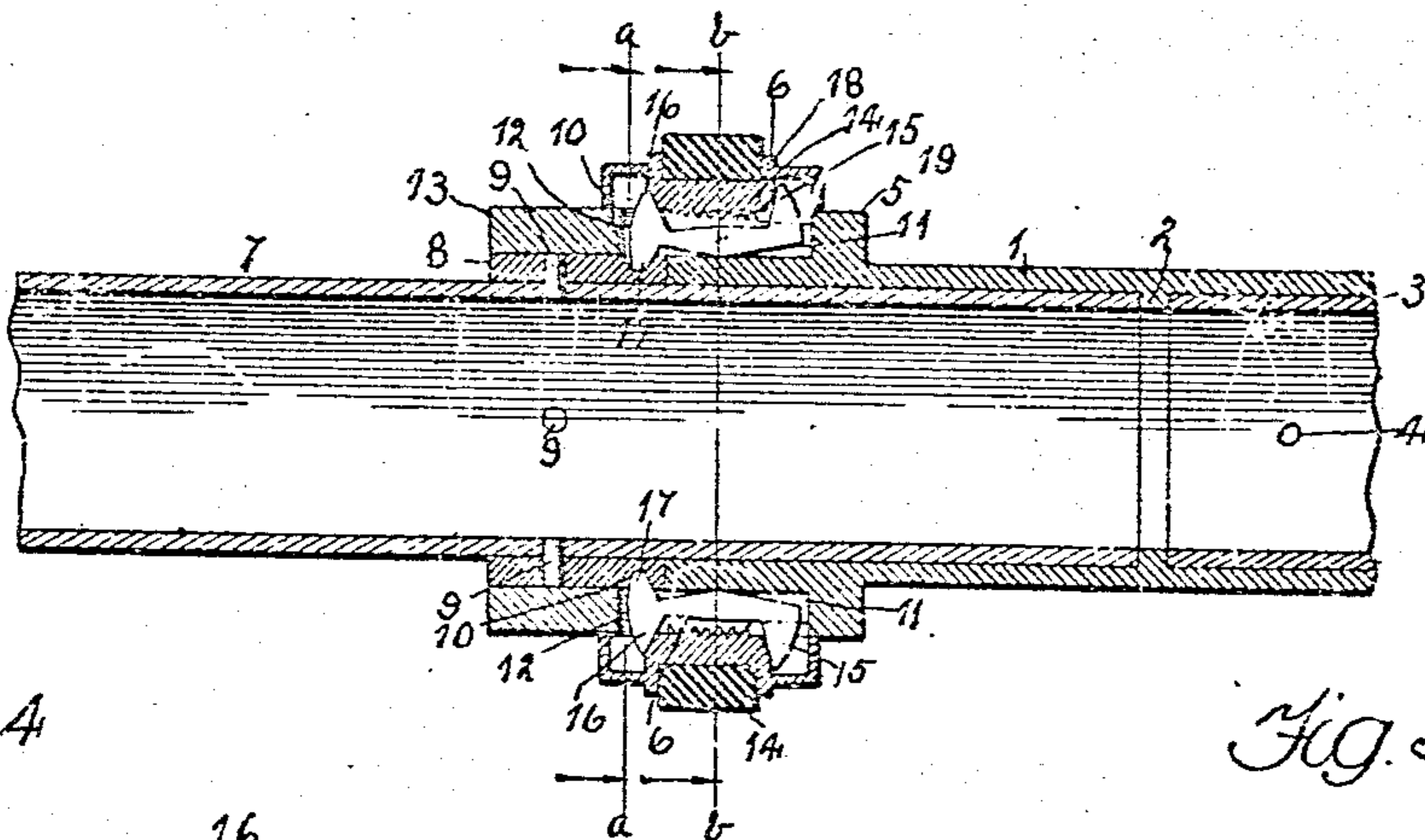


Fig. 4.

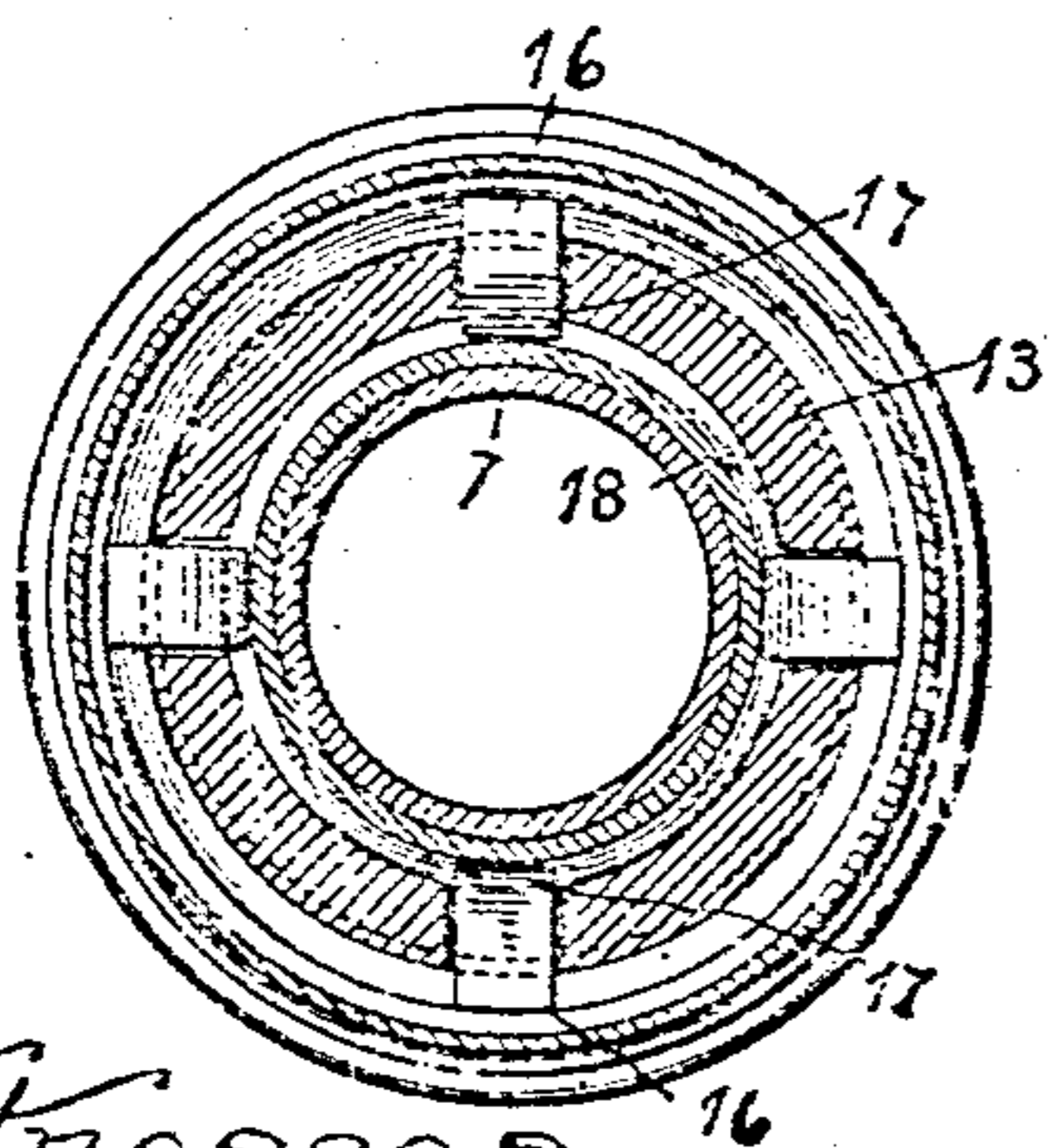
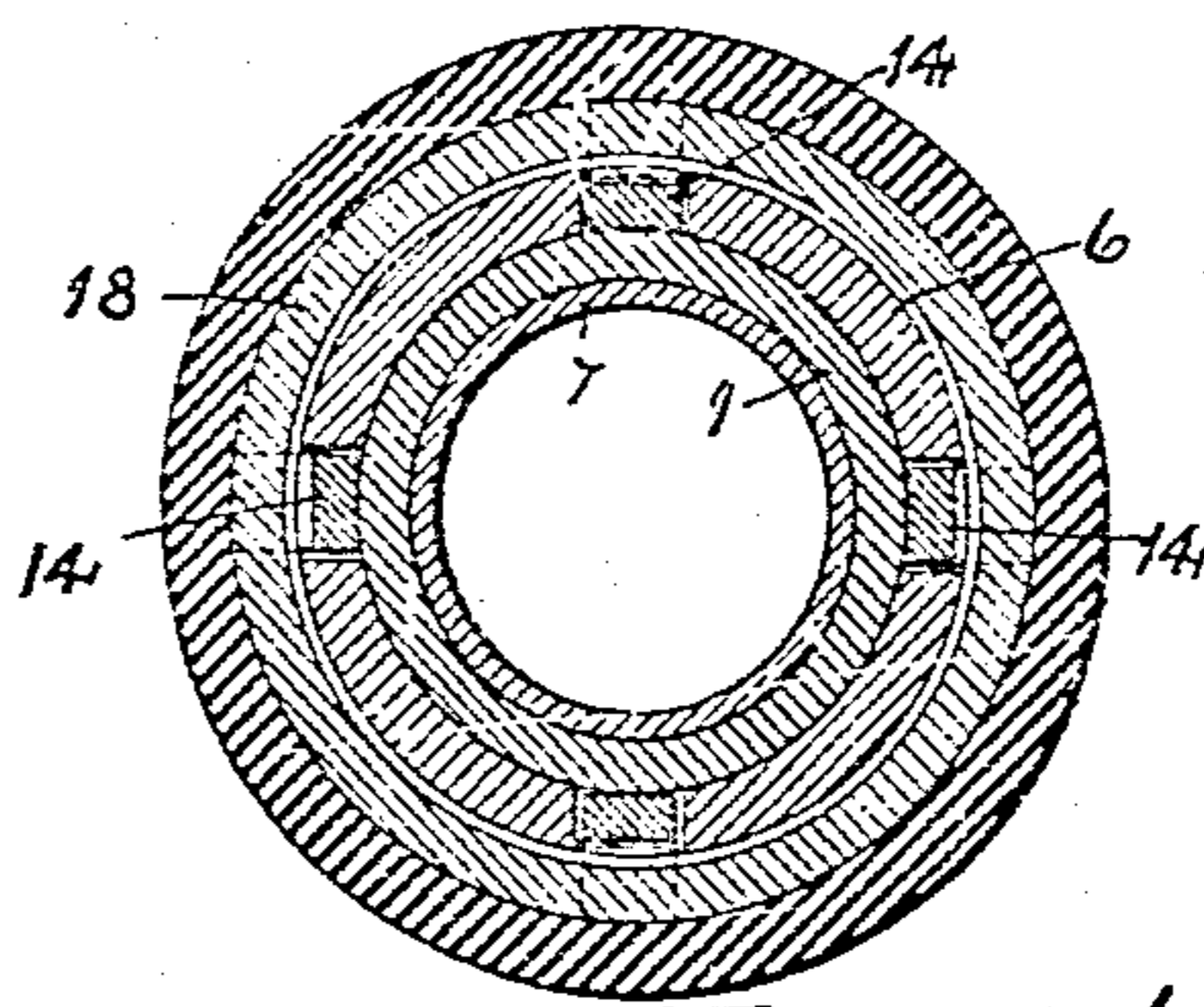


Fig. 5.



Witnesses:  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

WILLIAM S. SUTTON, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HOUSTON MANUFACTURING COMPANY, OF ROCKFORD, ILLINOIS, A CORPORATION OF ILLINOIS.

## PIPE-COUPLING.

978,957.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed September 21, 1909. Serial No. 518,862.

*To all whom it may concern:*

Be it known that I, WILLIAM S. SUTTON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Pipe-Couplings, of which the following is a specification.

The object of this invention is to unite two sections of pipe and is especially adapted for the cleaning tubes of vacuum cleaning machines.

In the accompanying drawings, Figure 1 is an elevation partly in section, of the main section of the coupling. Fig. 2 is an elevation of the removable section of the coupling. Fig. 3 is a lengthwise section through the complete coupling. Fig. 4 is a transverse section on dotted line *a a* Fig. 3. Fig. 5 is a transverse section on dotted line *b b* Fig. 3.

The coupling comprises two sections, the main section has a sleeve 1 provided with an annular flange 2 located interiorly and against which is located the section 3 of the exhaust pipe, and is held in place by the pin 4. This sleeve 1 has an annular flange 5 located exteriorly thereof, and a screw-threaded section 6 located adjacent to the flange 5. The section 7 of the pipe carrying the cleaning head has a collar 8 secured thereto by the pins 9 and is formed with an annular groove 10.

The screw-threaded section 6 is provided with four grooves 11 extending in the lengthwise direction of the main section of the coupling, and openings 12 are formed through the projecting end 13 of the section, one located at the end of each groove 11. Four dogs 14 are provided, one located in each groove 11. One end of each dog has an outstanding cam shoulder 15, and the other end has an outstanding cam shoulder 16 and an inwardly extending hook 17, the hooks 17 are located in the openings 12. A collar 18 has a screw-threaded connection with the screw-threaded section 6, and has inward turned edges 19. This collar is located between and its edges operate against the cam shoulders 15 and 16 of the dogs 14, and the inward turned edges 19 rest on the annular flange 5, and the projecting end 13.

When the sections of the coupling are separated, they will appear as shown at Figs. 1 and 2, and when connected will appear as shown at Fig. 3. When the sections are separated, the collar 18 will be moved

toward the flange 5 which will tip the dogs 14 so that their hooked ends 17 will not project through the openings 12. The tubular section 7 will be inserted within the extension 13 and rest against the flange 2 and the collar 8 will rest against the end of the sleeve 1. The collar 18 is then turned in connection with the screw-threads 6 which will move it bodily toward the free end of the extension 13 which will cause it to engage the cam shoulders 16 of the dogs 14, thereby forcing the hooked ends 17 of the dogs inward through the openings 12 and into the circular groove 10 in the collar 8, which will securely unite the two sections of the coupling. The reverse movement of the collar 18 will rock the dogs free of the annular groove 10 in the collar 8, thereby liberating the section 7 free of the main section of the coupling. As the groove 10 extends around the collar 8, the section 7 of the coupling may be readily inserted within the main section, as the dogs will enter the annular groove in any position of the section 7 within the main section.

While I have shown, described and claimed my improvements in connection with pipes, it is to be understood that the connection can be employed to connect hose or pipe and hose without departing from the scope of my invention.

I claim as my invention.

1. In a coupling of the character set forth, the combination with coacting members, of a rocking dog mounted on one member and having a detachable interlocking engagement with the other member, said dog being disposed longitudinally of the members and having outstanding cam shoulders, and a dog operating device rotatably mounted on the said member transversely of the dog between the shoulders thereof and having an interfitting engagement with the member to cause its movement longitudinally of said member on its rotation, said device upon its rotation in opposite directions alternately engaging the cam shoulders to effect the rocking of the dog.

2. In a coupling of the character set forth, the combination with coacting members, of a rocking dog mounted on one of the members and having a detachable interlocking engagement with the other member, said dog being disposed longitudinally of the members and having outstanding cam shoulders

ders, and a dog operating ring threaded on the member between the shoulders and having its opposite edges engaging said shoulders to effect the rocking of the dog.

5 3. In a coupling of the character set forth, the combination with coacting members, one of which has an enlarged portion provided with longitudinal grooves and peripheral threads that intersect the grooves, of a plu-  
10 rality of rocking dogs mounted in the grooves and movable into and out of interlocking engagement with the other member, said dogs having outstanding cam shoulders, and a ring screwed upon the threaded  
15 portion of the member and having its edges movable into engagement with the dogs to effect the rocking movement thereof.

4. In a coupling of the character set forth, the combination with coacting coupling

members, one of which is provided with 29 longitudinal grooves and peripheral threads that intersect the grooves, of rocking dogs located in the grooves and movable into and out of detachable interlocking engagement with the other member, said dogs each hav- 25 ing spaced outstanding cam shoulders, and a ring threaded on the member and having edge portions that engage the dogs to rock the same, said ring having extending in-turned marginal portions that cover the 30 cam shoulders.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM S. SUTTON.

Witnesses:

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E. D. E. N. BEHEL.