

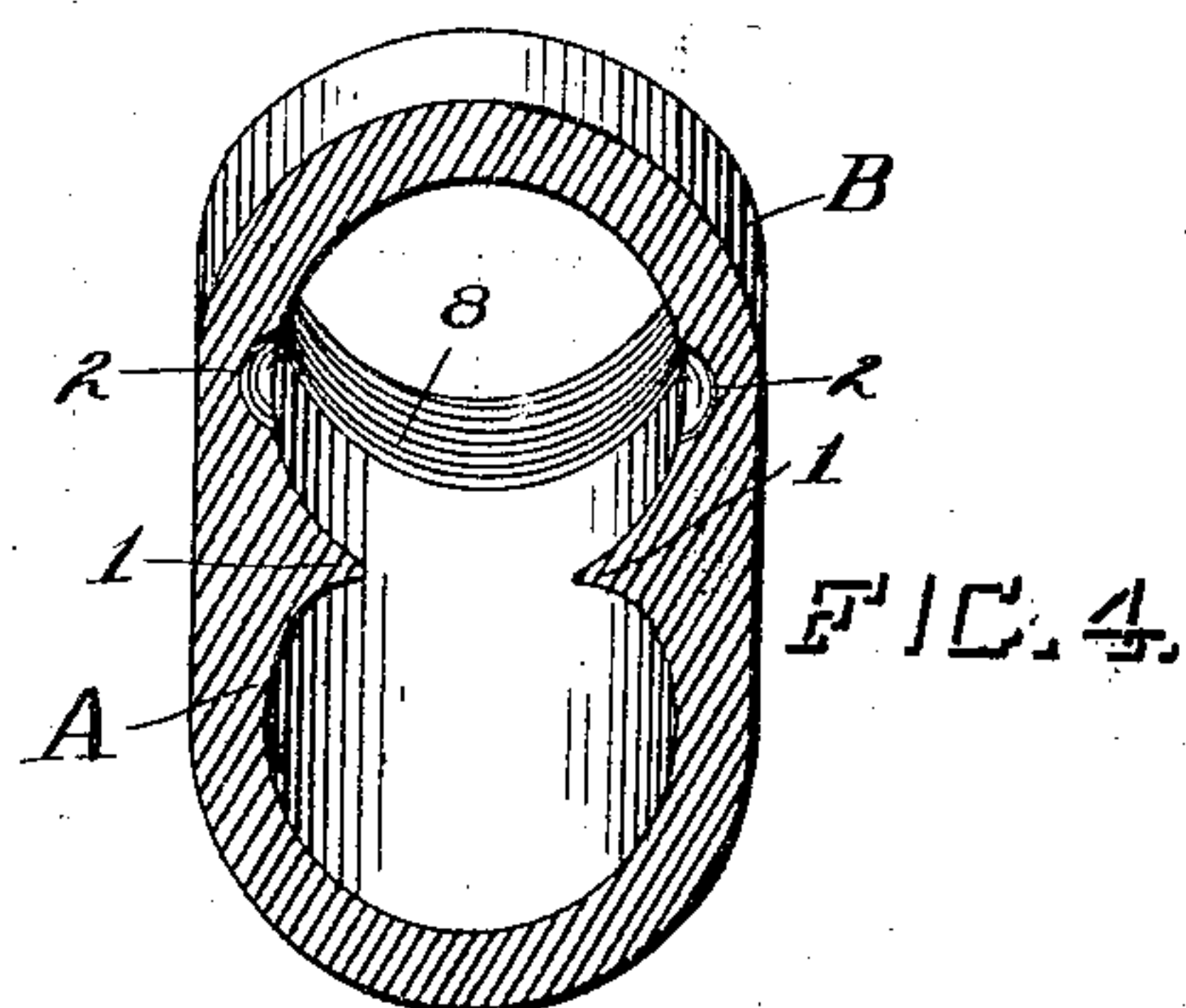
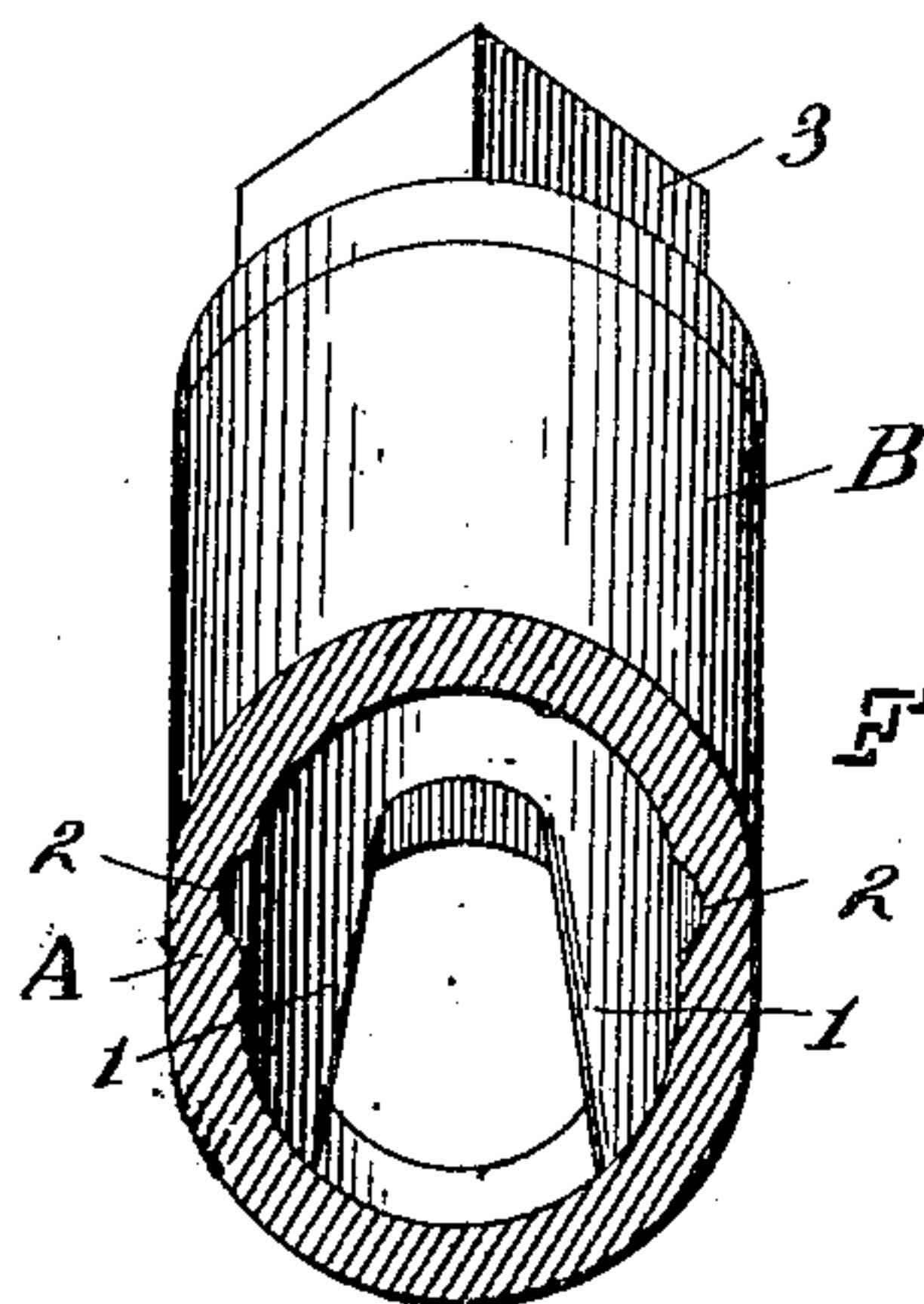
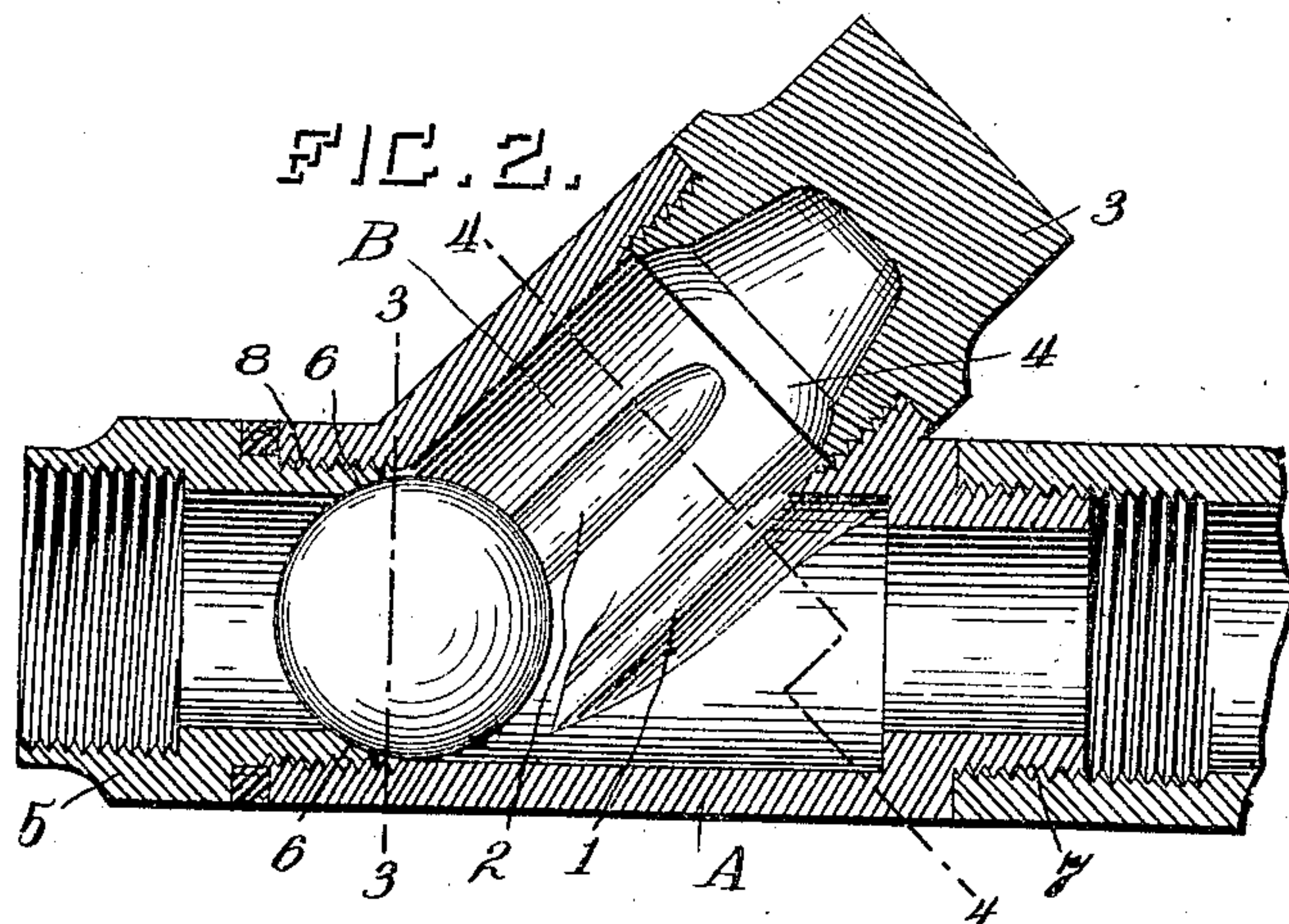
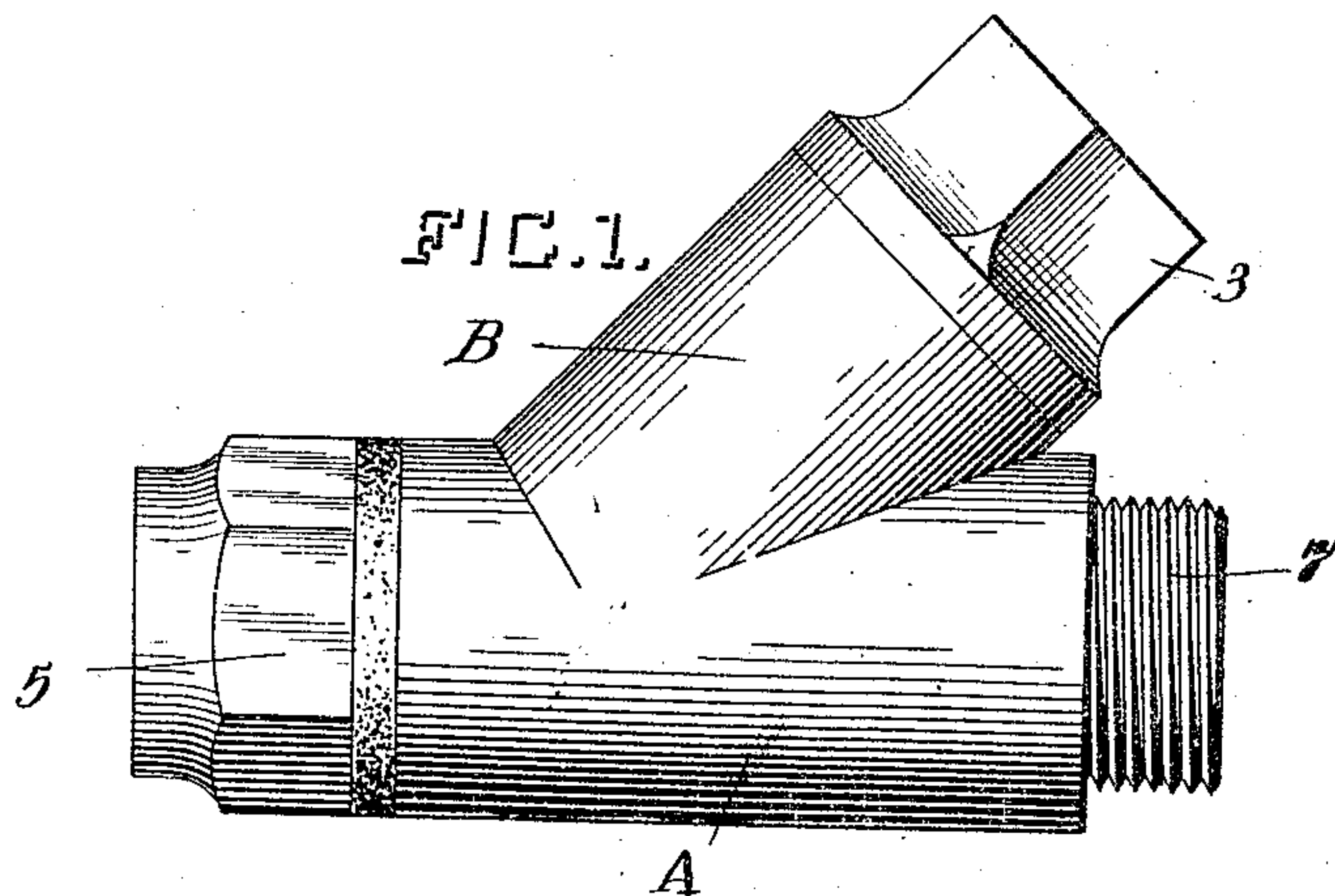
No. 841,474.

PATENTED JAN. 15, 1907.

E. F. WENDELKEN.

CHECK VALVE.

APPLICATION FILED MAY 10, 1904.



Witnesses

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# UNITED STATES PATENT OFFICE.

EDWARD F. WENDELKEN, OF MARIETTA, OHIO.

## CHECK-VALVE.

No. 841,474.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed May 10, 1904. Serial No. 207,242.

*To all whom it may concern:*

Be it known that I, EDWARD F. WENDELKEN, a citizen of the United States, and a resident of Marietta, in the county of Washington and State of Ohio, have invented a new and useful Improvement in Check-Valves, of which the following is a specification.

My invention relates to an improvement in ball check-valves, an object being to provide a straight passage the full area of the pipe for the flow of liquid therethrough in one direction without its being checked.

A farther object is to provide a stop-valve capable of being placed vertically, horizontally, or in any intermediate position without in any wise affecting or impairing its perfect efficiency in operation.

Further objects are to provide a simple and inexpensive and at the same time effectual means for the accomplishment of the purposes sought; and with these objects in view my invention consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation. Fig. 2 is a vertical longitudinal section. Fig. 3 is a vertical transverse section on the line 3 3 of Fig. 2, and Fig. 4 is a similar section on the line 4 4 of Fig. 2.

A represents the body of the check-valve, and B is a lateral chamber or extension diverging therefrom at an angle of about forty-five degrees and in communication with the interior of the main passage through the body portion A. This lateral extension or chamber is integral with the body portion A, as also are the inclining ways 1 1, which extend diagonally into the main passage-way and really constitute a portion of the wall of the lateral chamber or extension and serve to prevent the passage of the ball-valve C through the main chamber, deflecting it into the lateral chamber or extension, while permitting the water to flow on unobstructed between the inclining ways or ribs 1 1. By reason of this relative arrangement of the main and lateral chambers at an angle other than a right angle it is possible to place the valve in any direction, as the ball will always return to its seat when the pressure of the inflowing water back of it is shut off. To permit the air which is caught or would be caught in the outer end of the chamber B to pass out,

the recesses or grooves 2 2 are provided in the sides or wall of chamber B. A screw-plug 3 at the outer end is provided as a means for closing the chamber, and through which access is gained to it, if such should be desired. The inner end of this plug or cap 3 is provided with a ground seat 4, which prevents the ball-valve from becoming worn or dented, which is very important, as otherwise the surface of the ball-valve soon becomes irregular and does not fit its seat. The coupling 5 at the bottom has a ground seat 6 similar to ground seat 4, which also fits the valve, which is equally important for the reasons mentioned—namely, that it does not mar the surface of the ball-valve, and, furthermore, makes a water-tight closure when the valve is seated therein, thereby preventing back-flow.

The male thread 7 is formed at one end of the body portion A and the female thread 8 at the other end, so as to permit my improved valve to be used without changing the thread on any pipe.

From the foregoing it will be observed that I provide a simple, inexpensive, and effectual check-valve, the main or operative parts, and especially those subjected to wear, strain, and punishment of any sort, being integral and the parts disposed in such a way with relation to one another that the valve may be placed at any angle in operation and be equally effective. It will also be observed that the parts composing my valve are few, simple, and compact and not liable to get out of order and when worn can be easily replaced at trifling expense.

Slight changes might be resorted to in the form and arrangement of the several parts described without departure from the spirit and scope of my invention, and hence I do not wish to limit myself to the precise construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A check-valve comprising a body portion and a lateral inclined extension communicating therewith, a pair of ribs spaced apart from each other and extending diagonally across and on opposite sides of the bore of the body portion, the ribs being in alinement with and constituting a continuation of the shorter wall of the lateral extension and lying parallel with the opposite longer wall of the extension, the shorter wall and ribs together



being of approximately the same length as the longer wall, and a ball-valve receivable in the bore of the body portion and adapted to ride up on the ribs into the lateral extension out of the path of liquid in the bore of the body portion.

2. A check-valve comprising a hollow body portion and a lateral inclined extension communicating therewith, a pair of ribs spaced apart from each other and extending diagonally across and on opposite sides of the bore of the body portion, the ribs being in alignment with and constituting a continuation of the shorter wall of the extension, the lateral extension provided with internal grooves lying approximately parallel with the ribs and a ball-valve receivable in the bore of the body portion and in the lateral extension.

3. A check-valve comprising a hollow body portion, a lateral extension integral therewith, the point of juncture between the two terminating in and being defined by the integral ribs 1, 1, which are parallel with the outer wall of the extension and the extension having oppositely-located chambered walls 2, 2, and means screwed to the ends of the body portion and extension for confining the ball-valve therein, said means having valve-seats ground at their inner ends.

4. A check-valve comprising four elements, namely, a hollow body portion externally threaded at one end and internally threaded at the opposite end, this body portion provided with a lateral extension integral therewith with inclined ways or ribs 1, 1, between the body portion and lateral extension, the bore of the body portion having internal recesses or grooves 2, 2, therein, a ball-valve adapted to operate within the body portion and lateral extension, plugs and couplings screwed to the ends of the body portion and lateral extension, said plug and one of the couplings having ground seats at their inner ends to receive the ball.

5. A check-valve comprising a hollow body portion, a lateral extension integral therewith, inclined ways or ribs formed integrally between the body portion and the lateral extension, and grooves or recesses formed in the wall of the lateral extension.

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

EDWARD F. WENDELKEN.

Witnesses:

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FRED L. MAURY.