

No. 776,215.

PATENTED NOV. 29, 1904.

W. F. BRODRICK.

MEANS FOR SECURING VALVES TO CANS WITHOUT THE USE OF SOLDER.

APPLICATION FILED DEC. 26, 1903.

NO MODEL.

Fig. 1.

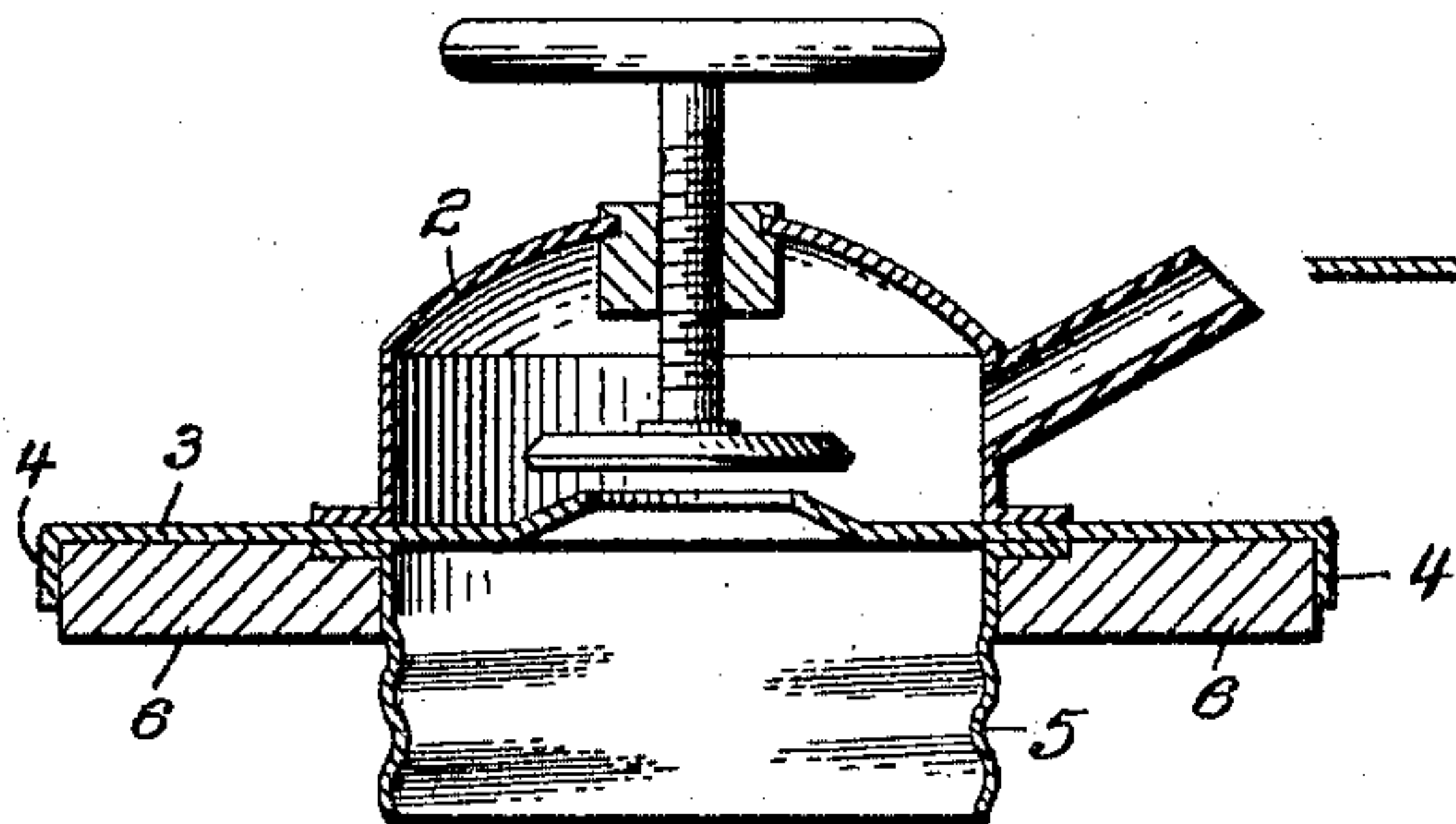


Fig. 2.

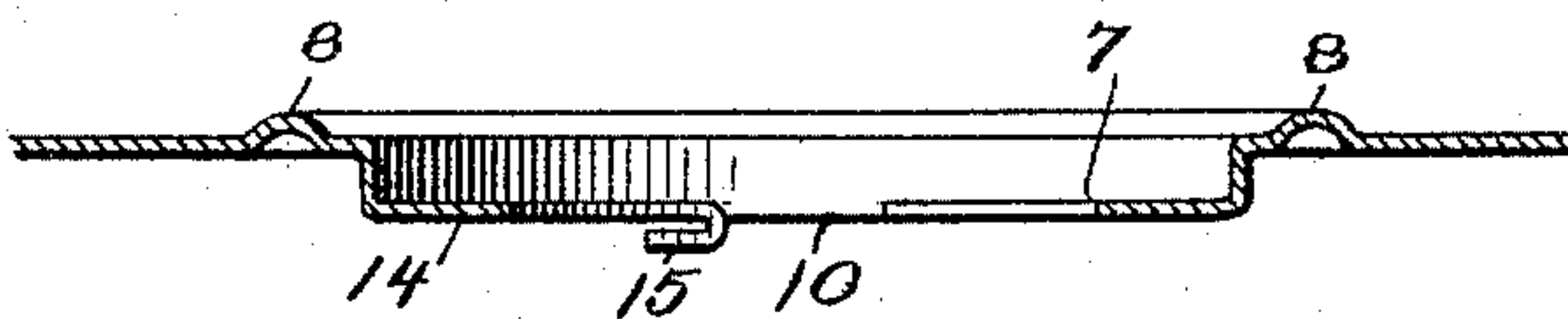


Fig. 3.

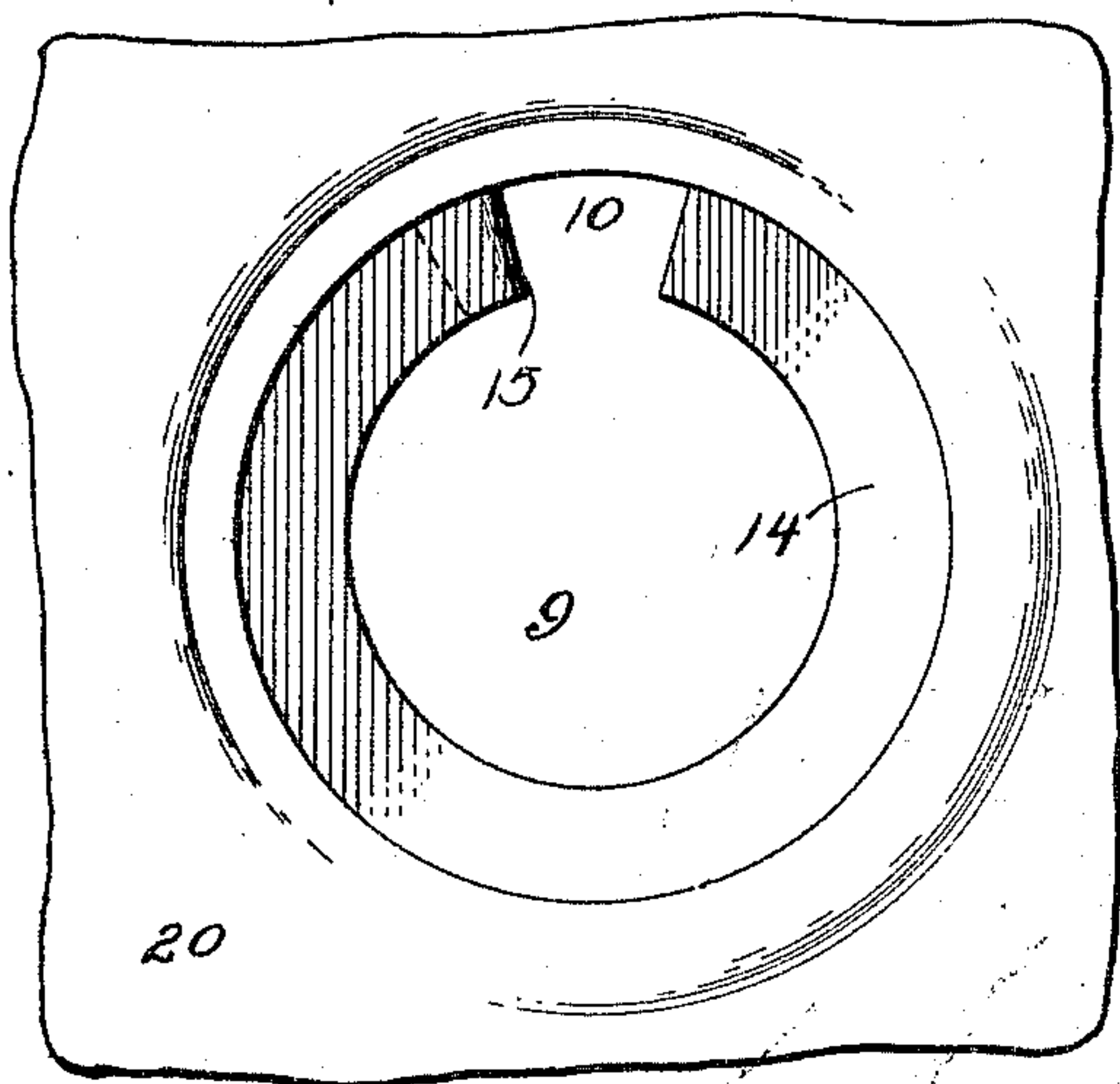


Fig. 4.

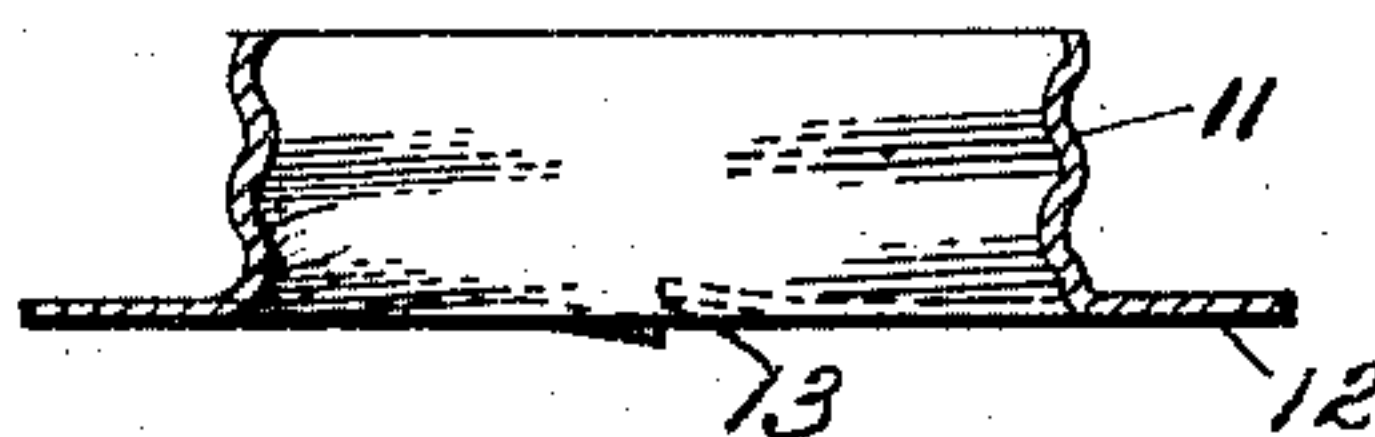
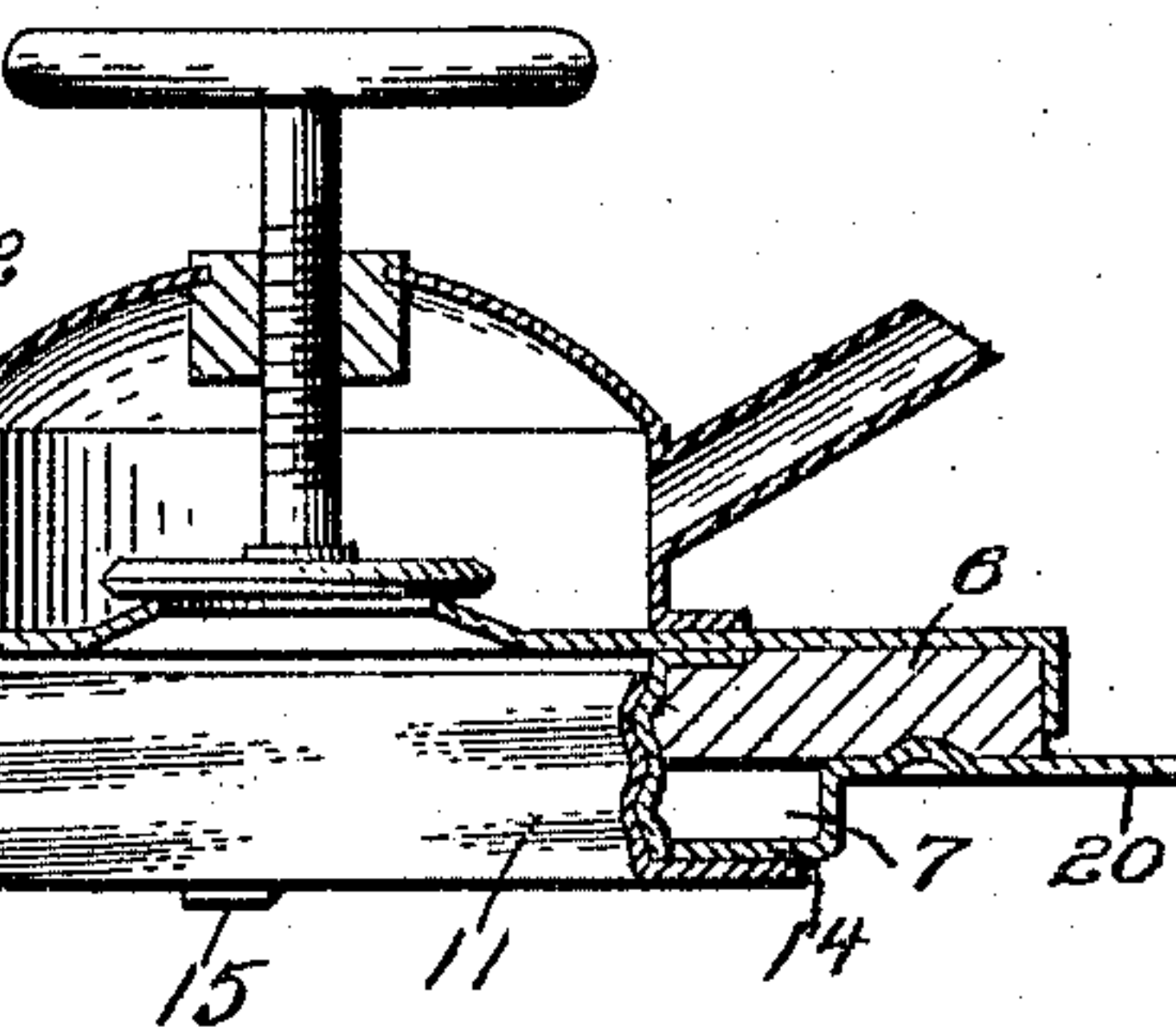
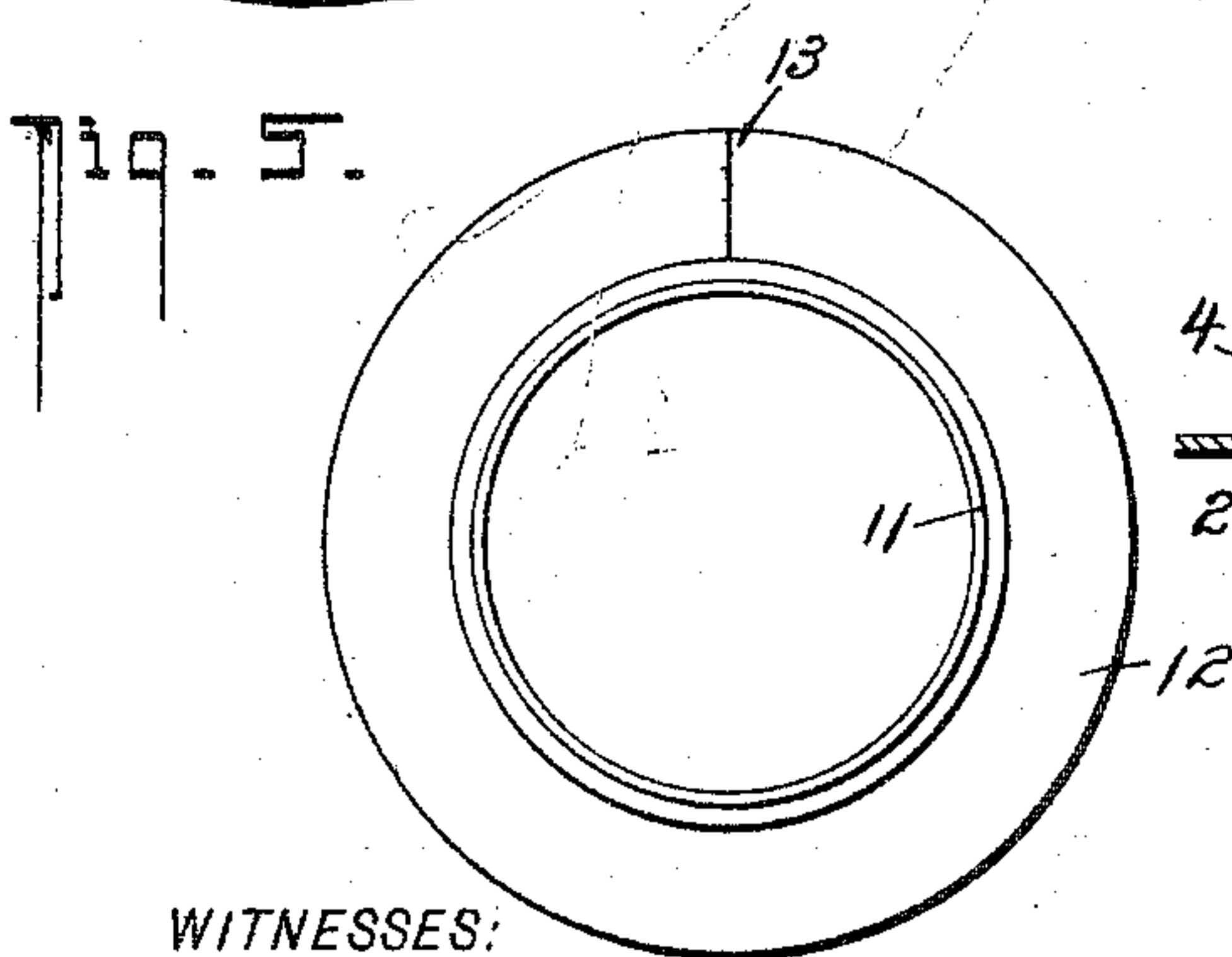


Fig. 5.



WITNESSES:

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WILLIAM F. BRODRICK, OF VANCOUVER, CANADA.

MEANS FOR SECURING VALVES TO CANS WITHOUT THE USE OF SOLDER.

SPECIFICATION forming part of Letters Patent No. 776,215, dated November 29, 1904.

Application filed December 26, 1903. Serial No. 186,703. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. BRODRICK, a citizen of the Dominion of Canada, residing at the city of Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Means for Securing Valves to Cans without the Use of Solder, of which the following is a specification.

My invention relates to an improved means of securing a stop-valve or screw-cap socket to cans or similar vessels without the requirement of solder.

The device has been particularly designed for use on the four-gallon cans used for coal-oil, where the presence of heat necessary for soldering on the stop-valves is a considerable source of danger in the filling-room, not only in the first filling, but also when refilling, as resorted to at a local agency's establishment. There are several other advantages accruing to the use of a removable non-soldered valve or cap-socket which are well known and fully appreciated by the trade, but which need not be enumerated in this connection.

The main objects to be aimed at in designing such a device as the one under consideration are (a) simplicity, particularly as regards the work on the can-top, which should have little requirement beyond the provision of a suitable aperture; (b) the joint must of necessity be capable of being rendered absolutely oil-tight; (c) the mode of attachment should be applicable to existing patterns of valves or caps, and (d) there should be no likelihood of derangement in use.

The particular manner in which I attain these several advantages in the device which is the object of this application is fully set forth in the following specification and illustrated in the drawings which accompany it, in which—

Figure 1 is a section of a valve, showing the provision of part of my invention thereto; Fig. 2, a similar view showing the aperture in the can-top prepared to receive the valve; Fig. 3, a plan of the same; Fig. 4, a section of the flanged attaching-screw; Fig. 5, a plan of the same, and Fig. 6 a vertical section through a valve secured in position on a can-top by my fastening.

In the case of application of my device to a

coal-oil can, which I select for illustration as being typical, the valve-casing 2 is provided with and soldered or otherwise secured to an enlarged circular base 3, having a downwardly-turned outer edge 4. Toward the center of the base 3 and concentric with its outer edge is a screwed portion 5, also downwardly projecting, which screwed portion may form a part of or be secured in any suitable manner to the base 3 or the valve-casing 2. Within the annular space formed between the edge 4 and the screw 5 is a ring 6 of cork or other suitable material, which will form an efficient joint to retain the oil or other liquid which the can may be designed to hold, clearance being left between the inner edge of the packing-ring and the screw 5, if such forms the interior screw of the connection; but I prefer 5 to be the exterior screw and the packing-ring 6 to fill the annular space.

The top of the can 20, to which the valve is to be attached, is provided with a recess 7 of a diameter as much smaller than that of the base 3 as will afford a sufficient seat for its packing-ring 6, and to insure a more effectual joint a raised annular ridge 8 may be formed concentric with the recess and within the diameter of the base 3. Concentric within the recess 7 is the filling-aperture 9, and the annular portion 14 left between the diameter of the recess 7 and that of the aperture 9 is cut radially, as at 10, for a reason which will be explained later.

The screw 11, which forms the means of attachment of the valve and its casing 2 to the can-top 20, is formed to correspond preferably internally with that, 5, of the valve-base and has an outwardly-turned flange 12, the diameter of which is adapted to that of the recess 7 and is also cut radially, as at 13. With this provision the flange 12 may be inserted in the recess 7 and the cut 13 of the screw-flange 12 being brought opposite to that, 10, of the recessed portion 14. If the screw 11 is rotated, its flange 12 may from the outside be passed to the under side of the recessed portion 14. The edge of the radial cut 10 is doubled back, as at 15, (see Figs. 2 and 3,) to oppose further rotation in the direction of tightening up, and the doubled-over portion

will prevent the attaching-screw from dropping into the can. The screw 5 of the valve-base may then be brought into engagement with the attachment-screw 11, and the valve-base be thus screwed upon 11 until the base joint-ring 6 is drawn tightly against the annular seat on the can-top surrounding the recess 7 and an efficient oil-tight joint insured. It is obvious that, if found desirable, two radial cuts may be made in both the recess-seat and in 12, the doubled-over portions thus affording a more efficient support and check for the screw 11.

The recess in the can-top is not an essential feature in my construction, but is preferred, as it affords a convenient manner of removing the irregularity of the flange attachment of the screw from possible confliction with the joint-seat.

I do not desire to be confined to the use of my device for the attachment of a valve as drawn, as the manner of fastening is equally applicable to any connection which requires to be made with the interior of a can, tank, or vessel of that character.

What I therefore claim as my invention, and desire to be protected in by Letters Patent, is—

1. As a means for the attachment of a valve to a can or similar vessel; an enlarged base to the casing of the valve having a hollow screw downwardly projecting from and concentric with it, said hollow screw communicating with the under side of the valve, a detachable hollow screw adapted to engage that projecting from the enlarged base of the valve and provided with a flange radially cut to permit said flange to be rotated through similar radial cuts surrounding the aperture in the vessel and to be passed to the inner side thereof all substantially as described.

2. As a means for removably securing a valve to a can or similar vessel; a hollow screw projecting from and communicating with the valve-body, a shoulder or seat surrounding such screw, a hollow connecting-screw designed to engage the screw projecting from

the valve-body and provided with an interrupted flange, corresponding radial interruptions in the circumference of the aperture in the vessel with which the valve is designed to communicate, and a check or stop to limit the rotation of the flange of the connecting-screw on the inner side of the vessel whereby the valve may be screwed upon the connecting-screw and the shoulder of said valve drawn tight against the outside of the vessel.

3. As a means for removably securing a valve or similar attachment to a can; the enlarged base 3 on the attachment having the turned edge 4, the hollow screw 5, the packing-ring 6 in the annular space between 4 and 5, the aperture 9 having a radial cut or cuts 10 and doubled-over portion or portions 15, and the hollow screw 11 having the flange 12, provided with the radial cut or cuts 13.

4. As a means for removably securing a valve or similar attachment to a can; the enlarged base 3 on the attachment having the turned edge 4 and hollow screw 5, the joint-ring 6, the circular recess 7 concentric with the aperture 9 in the can, the raised ridge 8 surrounding the recess, the inwardly-folded portion 15 cut radially from the portion 14 surrounding the aperture 9, the attaching-screw 11, having the flange 12 provided with a radial cut 13 all substantially as described and for the purpose specified.

5. As a means for securing a valve or similar attachment to a can; the enlarged base 3 having a jointing-ring 6 secured thereto, the hollow screw 5 secured to the attachment and its base, the raised ridge 8 surrounding the aperture 9 in the can, the portion 15 inwardly folded from a cut 10 radial to the aperture 9, and the hollow screw 11 having the flange 12 provided with the radial cut 13.

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

WILLIAM F. BRODRICK.

Witnesses:

ROWLAND BRITAIN,
ELLICE WEBBER.