A. I. JONES.

DRAINAGE CONNECTION.

APPLICATION FILED DEC. 2, 1907.

958,876. **Patented May 24, 1910.**

Fig. 2.

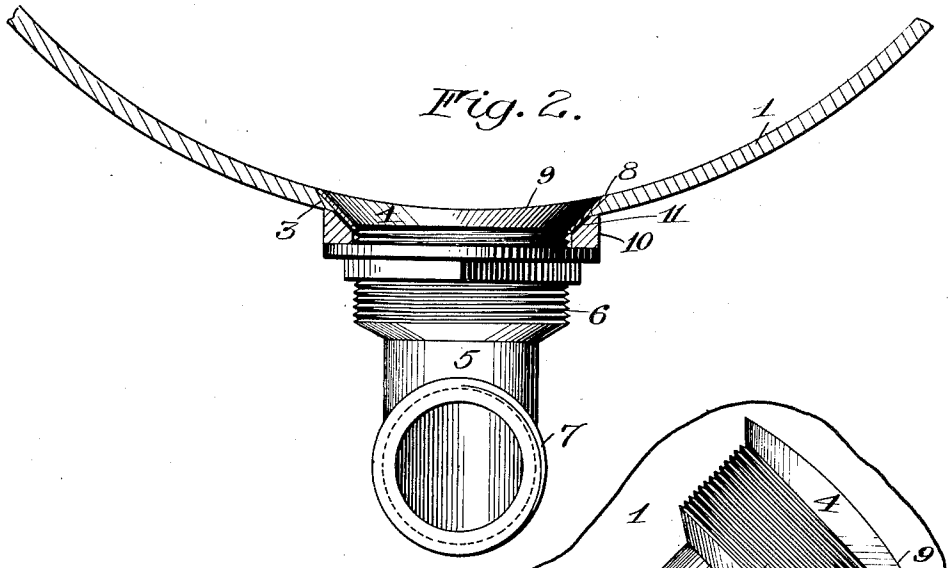
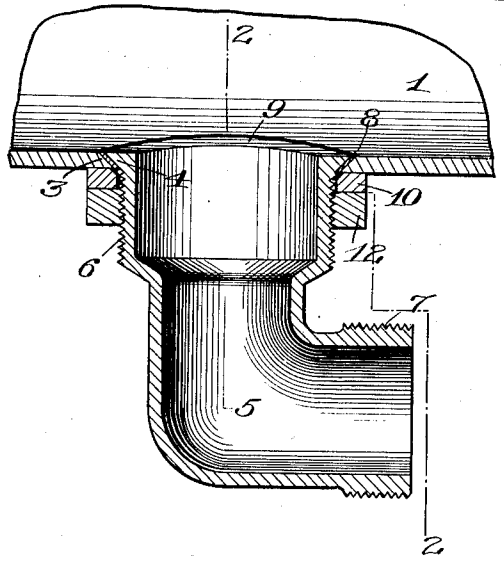


Fig. 1.



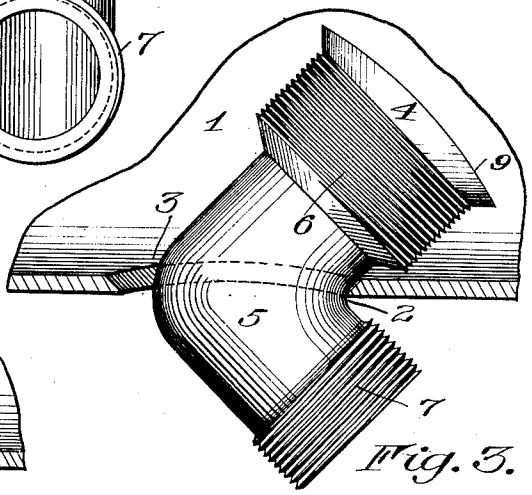
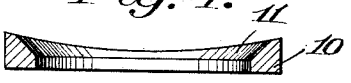


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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DRAINAGE CONNECTION.

958,876. Specification of Letters Patent. Patented May 24, 1910.

Application filed December 2, 1907. Serial No. 404,711.

To all whom it may concern:

Be it known that I, ALBERT I. JONES, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Drainage Connections; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to plumbing and particularly to drainage systems and it has for its object to provide a drain pipe connection suitable for use as a fitting for drawing off the contents of cylindrical beer or other tanks.

The improvements are directed toward preserving the regularity of the interior surface of the tank at the point of attachment of the pipe, so that the liquid contents of the latter will readily flow out at the lowest possible surface level, and permitting a thorough cleansing or scouring of the interior before refilling. The improvements are further directed toward forming a joint wherein crevices within which impurities would be liable to lodge are reduced to a minimum.

To these and other ends the invention consists in certain improvements and combinations of parts all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings: Figure 1 is a vertical section through a drain pipe and adjacent portions of a cylindrical tank to which it is connected the section being taken axially of the tank and the whole illustrating an embodiment of my invention. Fig. 2 is a vertical section through the tank and taken in a plane of curvature of the former on the line 2—2 of Fig. 1 and showing the drain pipe and securing member in elevation. Fig. 3 is a view similar to Fig. 1, but illustrating the manner in which the pipe is inserted from the interior of the tank before the securing attachments are applied and Fig. 4 is a detail section of the washer member correspondingly shown in its assembled position in Fig. 2.

Referring more particularly to the drawings wherein similar numerals of reference indicate similar parts, 1 indicates a portion of a cylindrical sheet metal tank section, such as is used by brewers for the storage of their products, the tank being usually arranged upon its side; that is, to rest in such manner that its curved wall will form the bottom of the receptacle with a slight longitudinal fall toward one end. At this lower end is provided a discharge opening 2 which, for the purposes of this invention, is countersunk from the inside to form a chamfered seat 3 for the expanded end 4 of a drain pipe elbow 5. The latter is provided with upper and lower threaded portions 6 and 7 respectively, the lower constituting the means of attachment to the discharge pipe, while the intermediate portion is of preferably smaller diameter than either, as shown. This permits of the elbow being inserted from the interior of the tank through a discharge opening of minimum diameter in the manner illustrated in Fig. 3, the inner side of the elbow being held in an angular position against the inclined seat 3, and then partially rotated until the upper portion is in a vertical position and can be slipped down upon the seat.

The expanded portion 4 of the elbow is in the shape of a section of an inverted cone conforming exactly to the countersunk edges of the opening, a packing ring or gasket 8 being inserted between the two. The end face 9 of the pipe, exposed upon the interior of the tank is made concave to lie flush with the surface of the latter and in substantial continuation therewith. There are thus no projecting portions surrounding the outlet behind which a small remainder of the contents of the tank could be retained and prevented from flowing off, while the only seam accessible to the fluid is presented by the narrow annular edge of the packing ring 8 which is held tightly compressed by devices about to be described. Cleanliness is an especially important consideration in brewing apparatus, particularly in storage tanks, and by the use of my construction the outlet as well as the other portions of the interior, can be readily cleaned and scoured and every particle of previously contained matter removed by the devices in ordinary use for such purposes.

Encircling the threaded portion 6 of the pipe and bearing upon the exterior of the tank is a washer 10, its upper surface conforming to the curvature of the latter, and

it being provided with an adjacent countersunk portion 11 which surrounds the base of the conical expanded portion 4 of the pipe. Below the washer is threaded a securing nut or member 12 which is tightened against it in the ordinary manner to draw and wedge the connection down firmly in its seat. The gasket 8 extends not only between the seat 3 and the part 4, but between the latter and the countersunk portion of the washer, and it will be noticed that the latter is held from turning because of the curvature of the tank as soon as engaged by the nut, so that it cannot turn therewith and cause mutilation or displacement of the gasket.

My invention simplifies considerably the difficulty ordinarily attending attempts to attach a pipe connection to the curved wall of a cylindrical tank, and a device of the type illustrated replaces to advantage the more cumbersome attachments often employed.

I claim as my invention:

1. The combination with a cylindrical container having a curved wall provided with a discharge opening, the edges of which are countersunk to form an inclined seat extending continuously from the inner to the outer surface of the container, of a pipe elbow having an expanded, conical head arranged in the seat, the end portion of said pipe exposed within the container being concave and forming a substantial continuation of the inner surface of the latter, a washer encircling the pipe and conforming to the cylindrical curvature of the outer surface of the receptacle and having a countersunk portion surrounding the pipe head, a nut threaded on the pipe and engaging the washer and a gasket surrounding the conical pipe head and adapted to be pressed against the latter both by the inclined seat and by the countersunk portion of the washer when the nut is tightened.

2. The combination with a container provided with a discharge opening, the edges of which are counter-sunk to form an inclined seat extending continuously from the inner to the outer surface of the container, of a pipe elbow having its ends threaded, the intermediate portion being of reduced diameter to permit the elbow to be inserted through an aperture of minimum diameter with a rolling motion while the crook of the elbow is held against the edge of the inclined seat, an expanded conical head at one extremity of the elbow arranged in the seat, a washer encircling the pipe and having a counter-sunk portion surrounding the pipe head, a nut threaded on the pipe and engaging the washer and a gasket surrounding the conical pipe head and adapted to be pressed against the latter both by the inclined seat and by the counter-sunk portion of the washer when the nut is tightened.

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