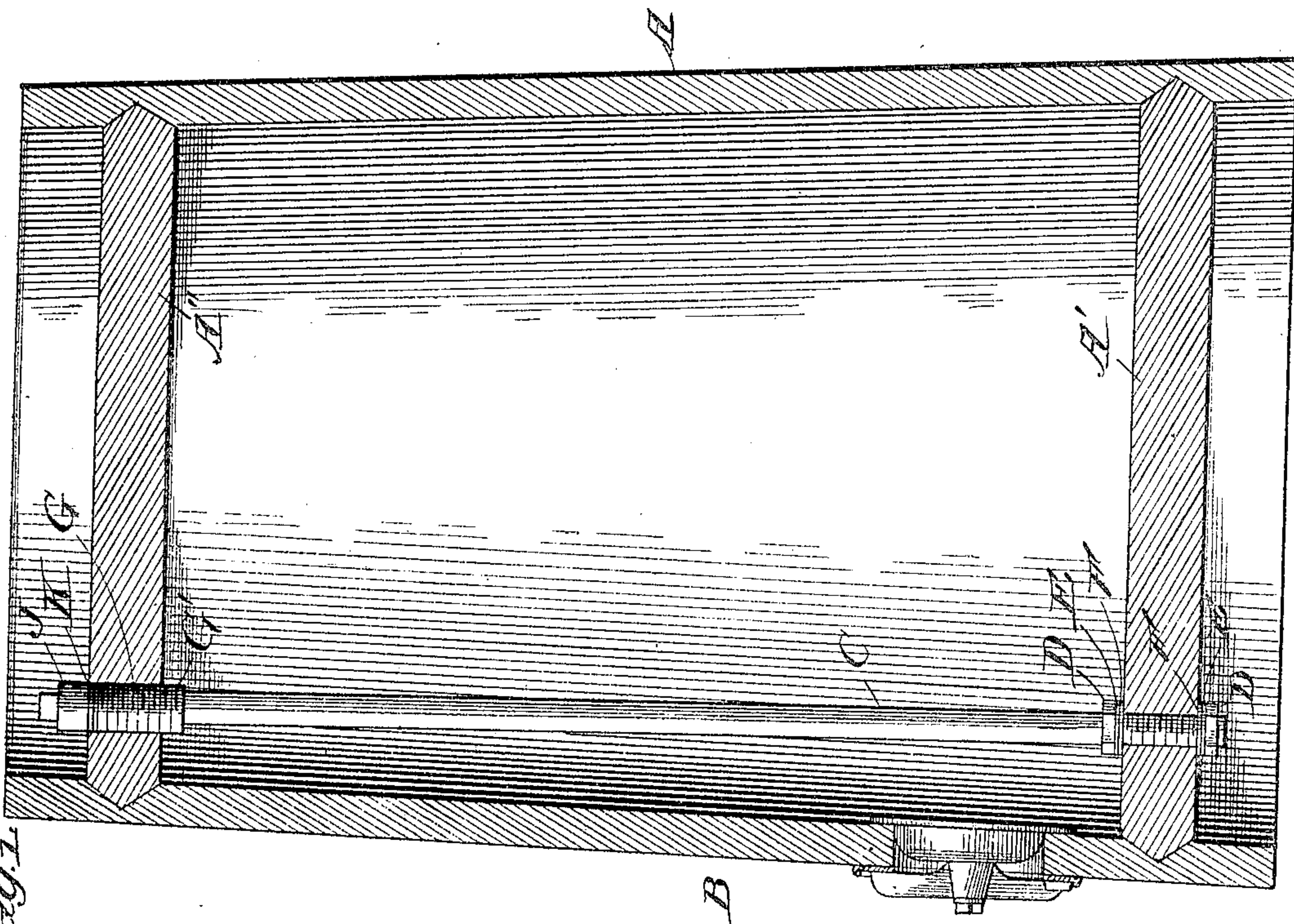
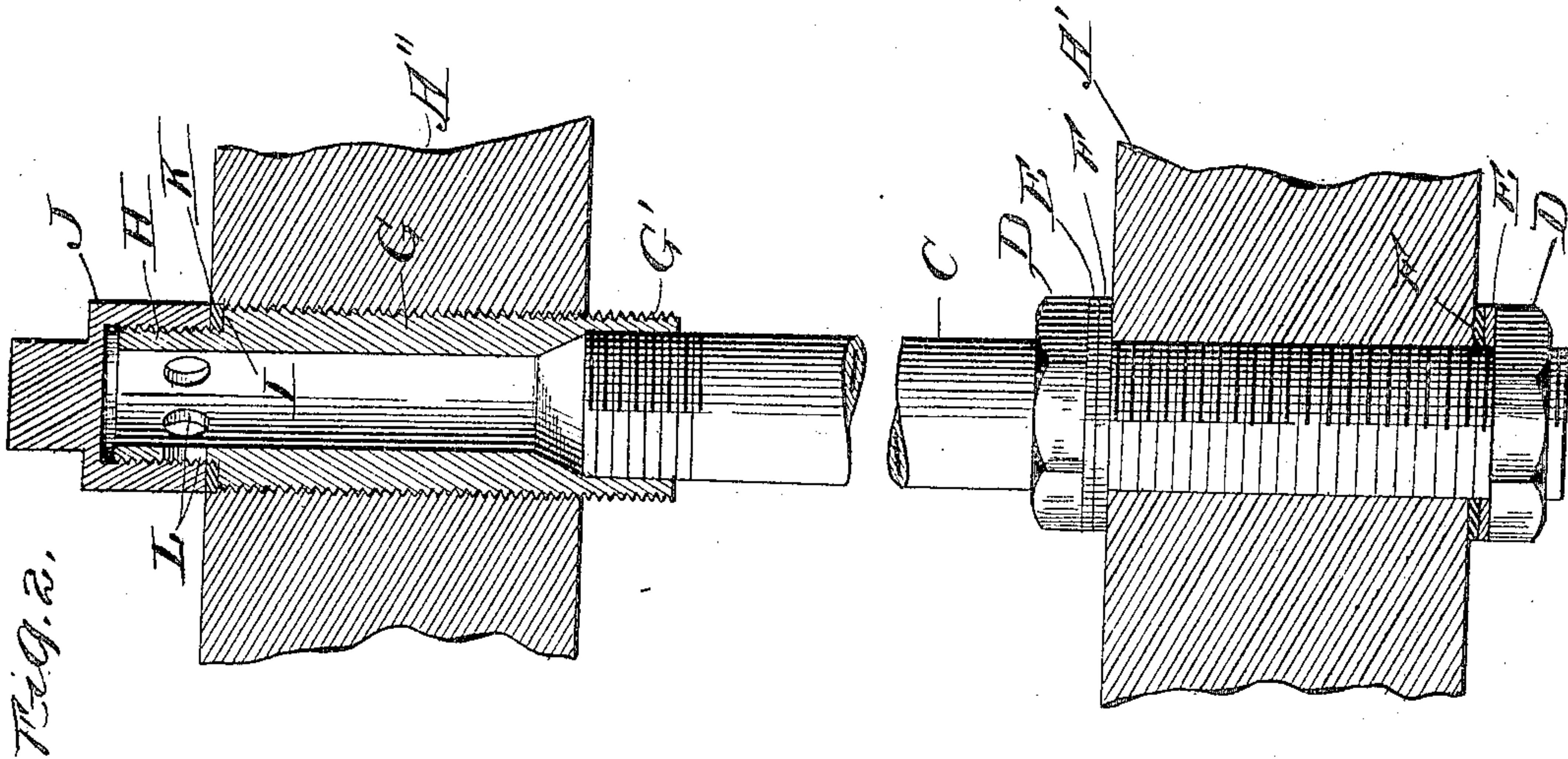


No. 818,088.

PATENTED APR. 17, 1906.

O. HJELKREM.  
TANK.

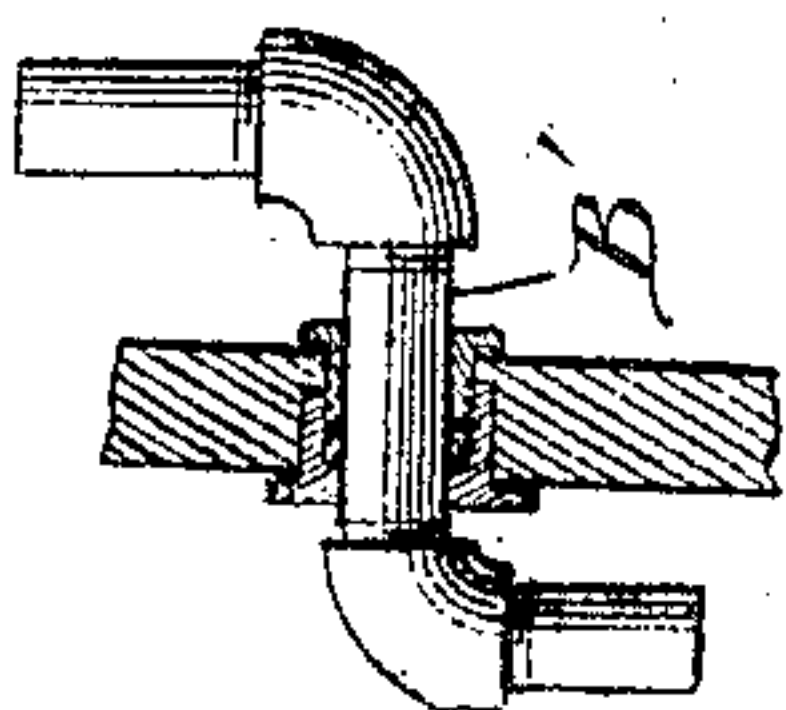
APPLICATION FILED FEB. 17, 1905. RENEWED JAN. 19, 1906.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## TANK.

No. 818,088.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed February 17, 1905. Renewed January 19, 1906. Serial No. 296,831.

*To all whom it may concern:*

Be it known that I, OLOF HJELKREM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tanks, of which the following is a specification.

Many tanks used in breweries and other places are of heavy construction, so that it is impracticable to handle them, and in some instances they are secured in place so that they are to all intents and purposes permanent. Usually the sides of the tanks used in breweries are built up of wooden staves, and the heads also are made of several pieces of wood held in place by the staves. Unless means be provided to prevent it the wood shrinks and the joints open and permit leakage above the level of the liquid in the tank, especially when, as in many instances, the tank is subjected to heavy internal pressure. To prevent this, it has heretofore been the practice to flood the head of the tank with water to a depth of several inches; but this water becomes foul and must be removed frequently if the tank and premises are to be kept in sanitary condition.

To provide simple, efficient, and inexpensive means whereby this may be done is the object of the present invention. To this end I provide the tank with a drainage-tube which extends through the head and downward into the tank and thence out through a wall of the tank to the outside thereof and is open at both its upper and lower ends, but is without any internal communication with the tank, and I provide manually-controllable means for closing the tube when the water is to be retained and for opening it when the water is to be drawn off. Preferably this closure is located at the upper end of the tube and is accessible from above the tank; but I desire to have it understood that the invention is not limited to details in the construction of the device. On the contrary, I believe myself to be the first to provide a tank with a drainage-tube arranged as described, regardless of the character of the means used for temporarily closing the tube when the water is to be retained on the head of the tank and for opening it when the water is to be drawn off, albeit retaining means of some sort are an essential feature of the invention. In this respect a tank embodying the invention differs from one in which a constantly open drainage-tube leads from

the head of the tank downward and through the bottom for the purpose of preventing the accumulation of any water on the head.

In the accompanying drawings, which are made a part of this specification, Figure 1 is a vertical section of a tank having a drainage-tube embodying the invention. Fig. 2 is an enlarged section of the improved tube, an intermediate portion being broken away to indicate indefiniteness of length. Fig. 3 is a fragmentary view of a modification.

A represents the tank, which may be of any desired capacity and of any desired construction and may be provided with those accessories that fit it for the purpose for which it is intended. My present invention is not concerned with these features, but may be applied to any tank of whatever construction so long as it is made of wood, and hence has joints that are liable to open and cause leakage. Usually the tank is so supported that its bottom and head slope to one side, and my improved drainage-tube, which is shown at B, is preferably passed through both the bottom and head at the low side of the head and at a distance of about two inches from the chime.

The tube as a whole may be made of as many parts or sections as convenience or circumstances may render desirable. In the drawings I have shown it as being made of two parts. The lower part C is a piece of galvanized-iron pipe threaded at its lower end for a sufficient distance from its end, and the threaded portion passes through an opening in the bottom A' of the tank and is there secured by means of a pair of clamping-nuts D, washers E, and gaskets F, being arranged between the nuts and upper and lower faces of the bottom for the purpose of making the joint absolutely liquid-tight. This pipe C extends upward nearly to the head A'' of the tank and at its upper end has threaded engagement with the upper one of the two parts, which latter consists of a hollow fitting G, of brass or other suitable material. It is threaded on its exterior and screwed through an opening in the head. It is provided within the tank with an enlarged polygonal head G', which is adapted to receive a wrench and which provides a shoulder that engages the under side of the head of the tank and limits its insertion in the opening. Its upper end is reduced, as at H, to provide a shoulder I, which is a little below the top face of the head of the tank, while the reduced portion pro-



jects above the head. The reduced portion also is threaded for receiving a correspondingly - threaded cap J, which screws down over the reduced portion H and is adapted to bear upon the shoulder I through the medium of a gasket or packing-ring K, of leather or other suitable material, interposed for the purpose of making the joint liquid-tight. The reduced portion of the fitting is provided with a suitable number of lateral openings L, which are located at about the level of the top surface of the head of the tank, so that when uncovered the water may flow through them and into the tube and thence downward through the tube, escaping from the lower end thereof below the bottom of the cask. The openings are uncovered by unscrewing the cap and are covered by screwing it down.

In the modification shown in Fig. 3 the drainage-tube (lettered B' for the sake of distinction) is led out through the side instead of through the bottom of the tank. It is made up of sections of straight pipe of suitable length and suitable elbows, a suitable packing device b being arranged in the opening through which the horizontal straight section passes.

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

1. A tank having a drainage-tube extending completely through it from top to bottom, said tube being open at its upper end to admit water from above the head of the tank and at its lower end to permit the water to escape below the bottom of the tank, and being without internal communication with the tank, and means for closing and opening the tube at will, substantially as described.

2. A tank having a drainage-tube extending through its head and downward therefrom, terminating at its lower end on the outside of the tank, said tube being open at both ends and being without internal communi-

cation with the tank and having a portion projecting above the head and provided with an opening for admitting water, and means for closing and opening said opening at will, substantially as described.

3. A tank having an opening through its head, a fitting secured in said opening and projecting above the upper surface of the head, the projecting portion being threaded and provided with lateral openings, a threaded cap fitting on said projecting portion and a tube extending from said fitting downward and through a second opening with which the tank is provided, said tank and tube being without internal communication, substantially as described.

4. A tank having an opening through its head, a fitting secured in the opening in the head and having a reduced portion projecting above the head and providing a shoulder, said reduced portion being threaded and provided with a lateral opening, a threaded cap fitting said reduced portion and adapted to be screwed thereon and into contact with the shoulder, and a tube extending downward from said fitting and passing out through a second opening with which the tank is provided, the tank and tube being without internal communication, substantially as described.

5. A tank having a drainage-tube extending through the head and downward into the tank and thence out through the tank to the outside thereof, said tube being open at its upper end above the head for the admission of water and open at its lower end, outside of the tank for the discharge of water, and a controllable closure for said tube, the tank and tube being without internal communication, substantially as described.

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Witnesses:

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