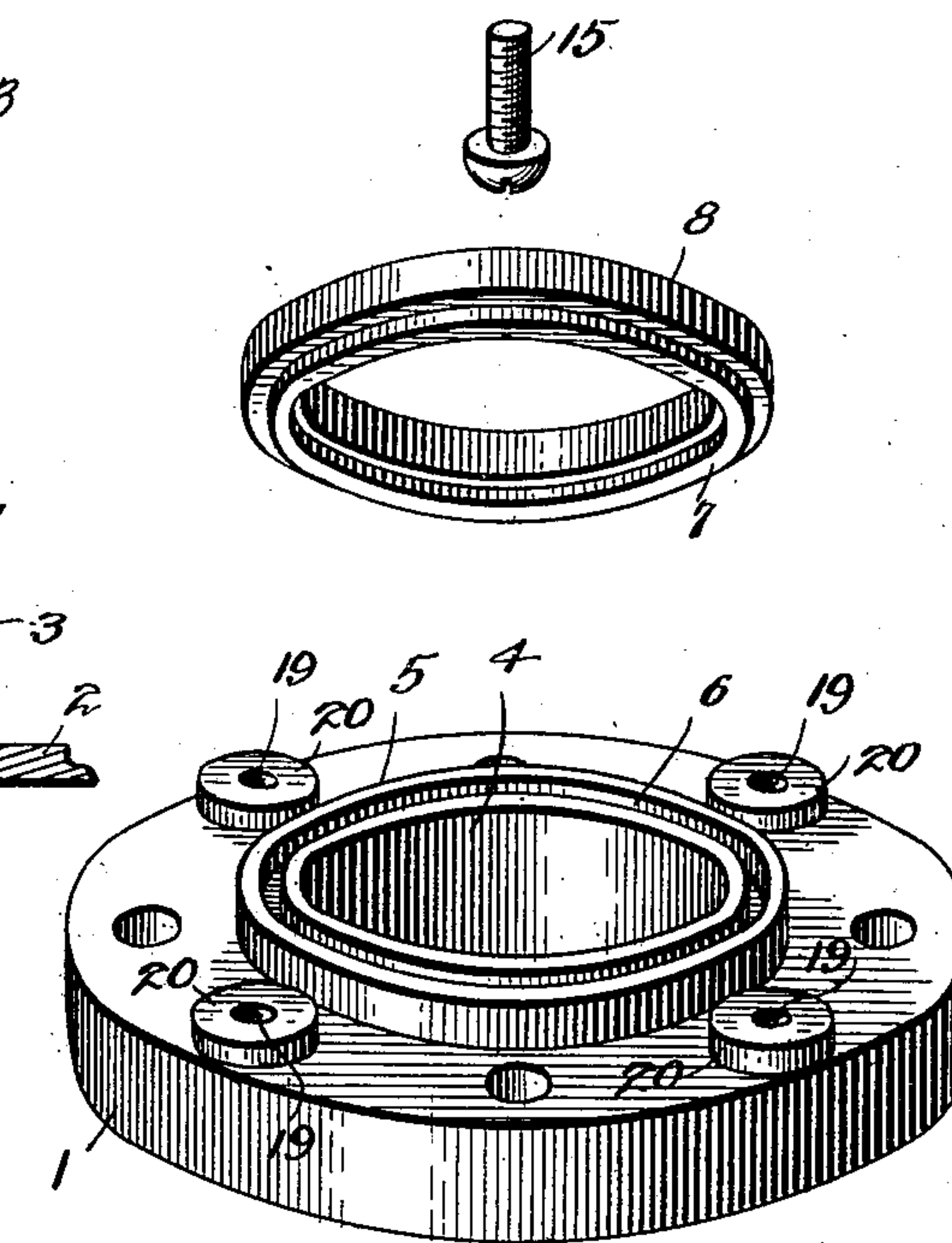
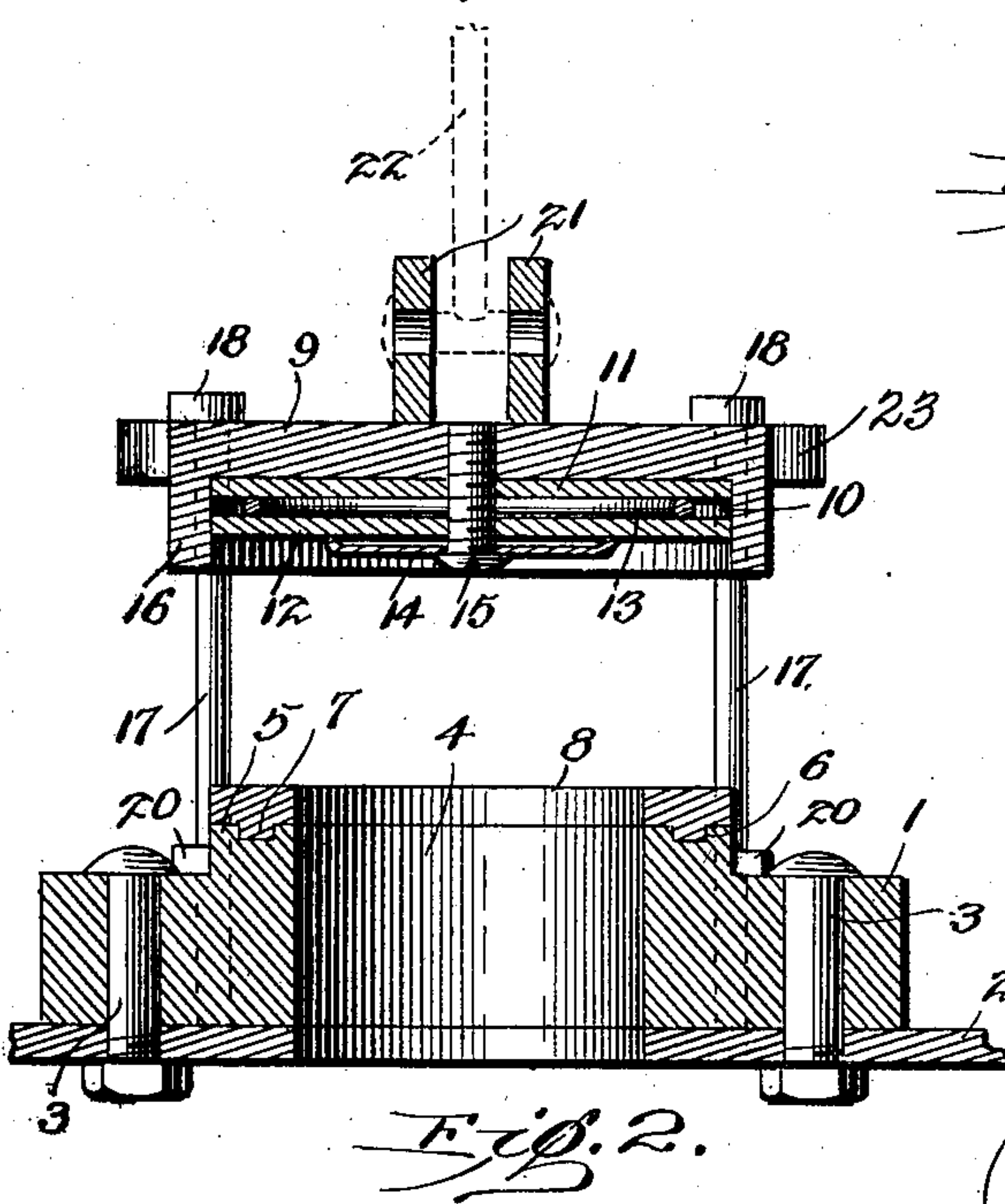
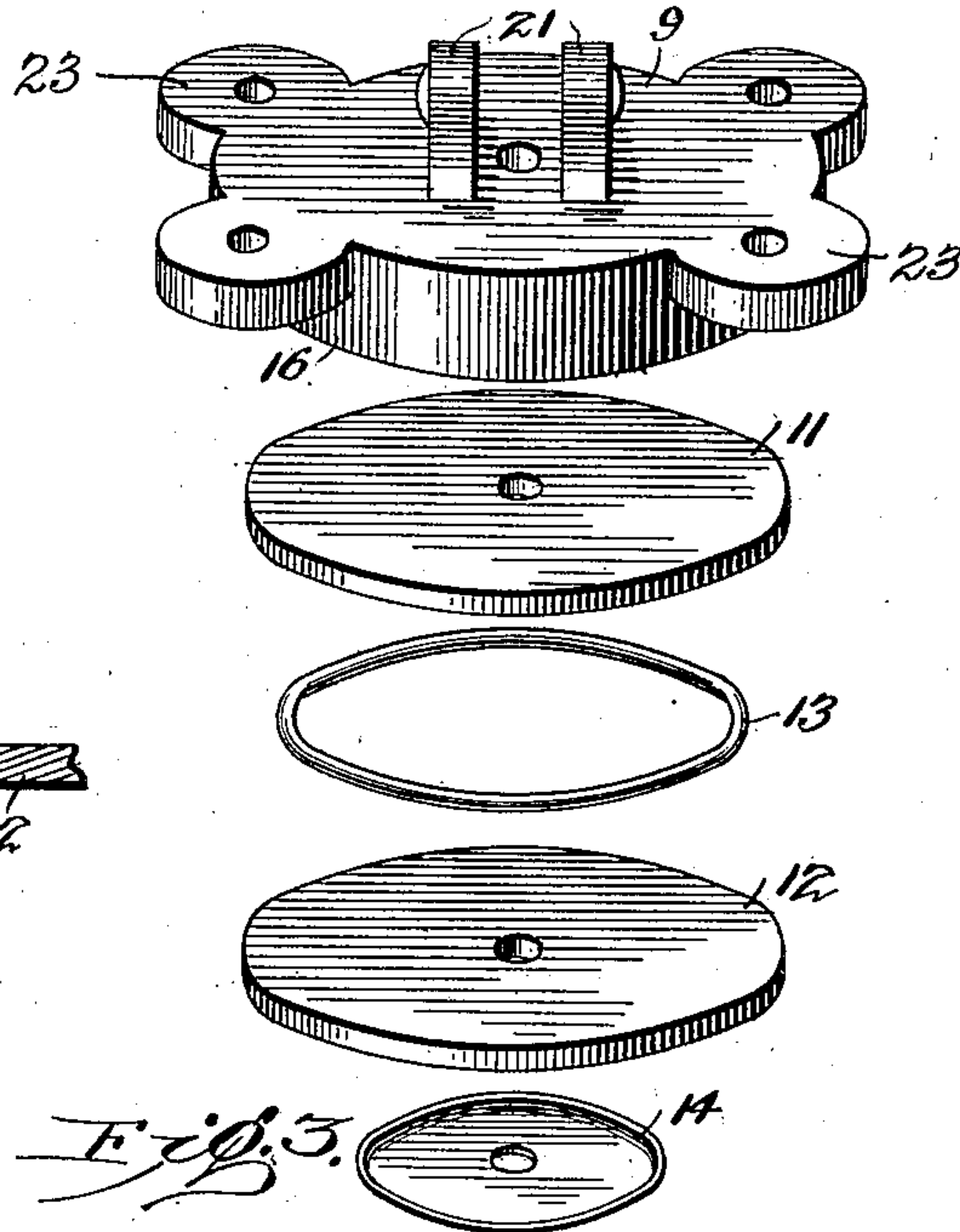
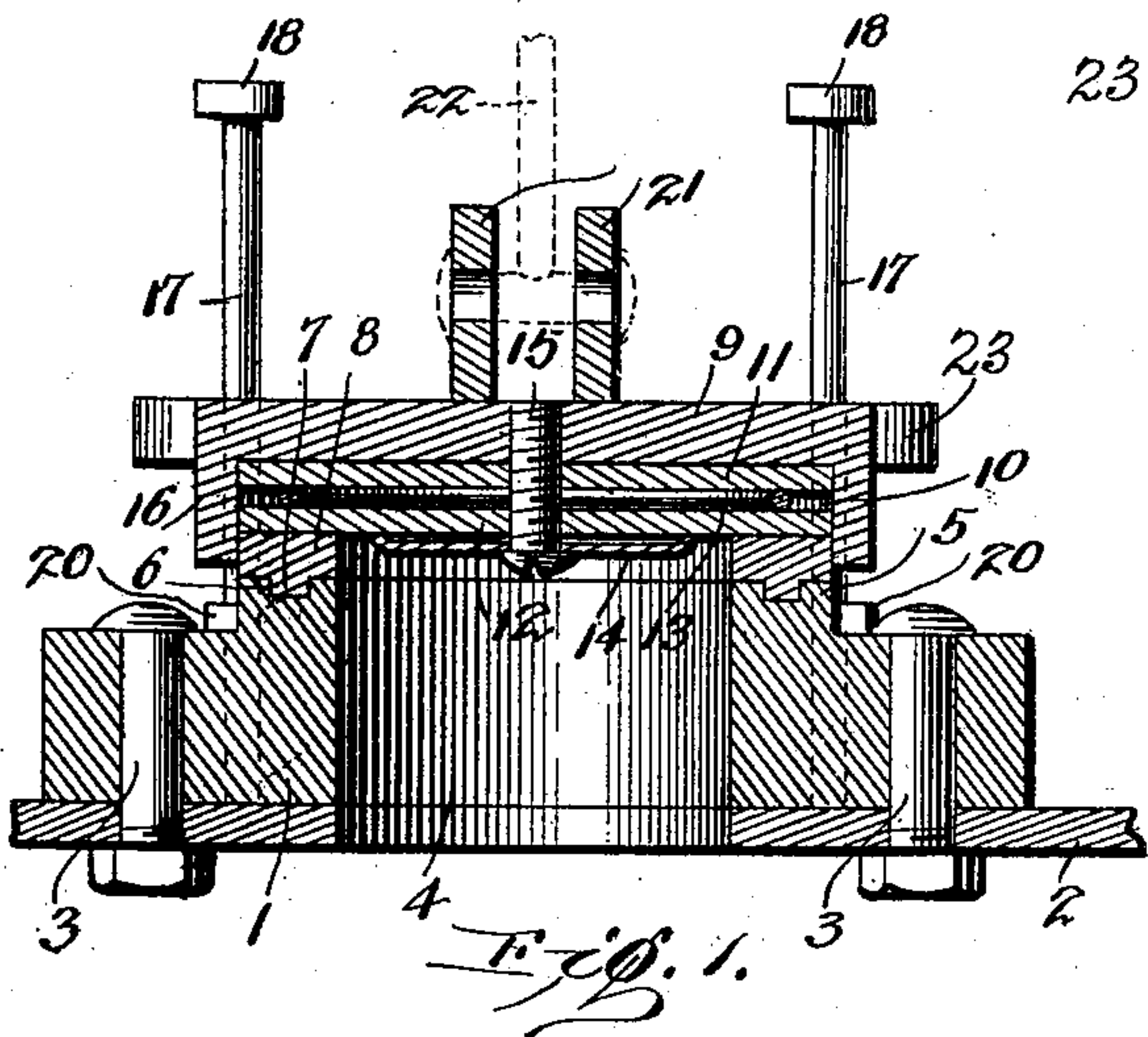


No. 713,294.

Patented Nov. 11, 1902.

C. ERNST.
RAILWAY TANK VALVE.
(Application filed Nov. 27, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES ERNST, OF TIPTON, INDIANA.

RAILWAY-TANK VALVE.

SPECIFICATION forming part of Letters Patent No. 713,294, dated November 11, 1902.

Application filed November 27, 1901. Serial No. 83,923. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ERNST, a citizen of the United States, residing at Tipton, in the county of Tipton and State of Indiana, have invented a new and useful Railway-Tank Valve, of which the following is a specification.

This invention relates to valves for railway-tanks.

The object of the invention is to present a valve which shall be thoroughly efficient in use for cutting off the flow of water to the service-pipe of the tank, and which shall be so constructed as to permit of its being disposed within the tank, thereby obviating danger of freezing, and in which the construction and assemblage of the parts shall be such as to reduce wear to a minimum and permit repair when necessary with an expenditure of but a small amount of time and labor.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a railway-tank valve, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention, and in these drawings—

Figure 1 is a view in sectional elevation of a valve characterizing this invention, showing the same closed. Fig. 2 is a similar view showing the valve open. Fig. 3 is a view in perspective exhibiting the different parts of the valve and its seat separated and arranged in the order in which they are assembled.

Referring to the drawings, 1 designates the base of the valve, the same to be secured in any suitable manner to the bottom 2 of the tank, as by bolts 3. The base is provided with an opening 4 to register with that in the tank-bottom with which the service-pipe (not shown) connects, and surrounding the said

opening 4 is an upstanding flange 5, provided with a circumferential channel or recess 6 to be engaged by a downward-projecting flange 7 on the valve-seat 8, the latter by preference to be made of Babbitt metal and to be readily detachable from the base, thus to permit ready replacement of a new seat for one that is worn out. The base and flange are by preference made integral and the whole constructed of cast metal, preferably of cast-iron.

The valve comprises a head 9, having its under surface provided with a circular chamber 10, in which is housed the valve-facing or valve proper, the same comprising two yielding disks 11 and 12, between which is interposed a metallic ring 13, a dished metallic plate 14, bearing against the under side of the disk 12, and a screw 15, operating to hold the disks, ring, and plate assembled with the head 9, as clearly shown in Figs. 1 and 2.

The ring 13 is of a diameter to lie midway between the width of the face of the valve-seat, so that the disk 12 will be caused to bear perfectly true upon the seat, and thus operate as a perfect seal to prevent escape of water when the valve is seated. The disks 11 and 12 are of rubber, so that under the weight of the head the ring is caused to sink into the opposed face of the disk, and thereby present a yielding valve-face which will be thoroughly effective for the purpose designed. When the screw 15 is turned upward to force the plate 14 against the disk 12, the latter becomes dished, causing its peripheral portion to be deflected downward, and thereby present a yielding cushion to the valve when it seats itself, removing jar and impact therefrom and operating thereby to shield the valve from injury. The depending flange 16, formed by the chamber 10 in the head, incloses the seat when the valve is down or closed, thereby causing the valve accurately to seat itself under all conditions in use. As a means for causing the valve to move in a predetermined line and through a given limit a plurality of guide-rods 17 are employed, in this instance four, the upper end of each of which is provided with a head 18 to limit the upward movement of the valve-head and its lower end engages a threaded opening 19, formed partly in a boss 20 and in the base, as

clearly shown in Fig. 3. The upper surface of the head is provided with a boss 21, to which is connected in any suitable manner a rod 22, leading to the top of the tank and with which is connected the means for operating the valve, and as this operating mechanism may be of the usual or any preferred character detailed illustration thereof is deemed unnecessary.

10 The head is herein shown as provided with perforated ears 23, through which the guide-rods 17 project; but it is to be understood that if preferred the head may be a true circle and still be within the scope of the invention.

15 It will be seen from the foregoing description that while the valve of this invention is exceedingly simple of construction it will from the nature and manner of arrangement of the parts be thoroughly efficient in use and will not be liable to become deranged in operation. Furthermore, those parts that will be liable to wear are so assembled with the elements with which they coact as to be readily removable when desired and being of simple construction and requiring no nice fitting may be readily associated with the structure by a person of ordinary mechanical ability.

20 By having the valve secured to the upper surface of the bottom of the tank there will be practically no danger of its becoming frozen, so that its proper operation under all conditions of weather may be depended on.

Having thus fully described my invention,

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

1. A valve for railway-tanks, comprising a base provided with a seat, and a head housing a valve-facing, the same comprising two resilient disks separated by a bearing-ring of a diameter somewhat less than the seat, and vertical guides carried by the base and engaged by the head.

2. A valve for railway-tanks, comprising a base provided with an upstanding circumferentially-channeled flange, a valve-seat having a flange to engage the channeled portion of the base, a head having a circular-chamber housing, a bearing-ring interposed between two yielding disks, means for holding the disks and ring associated with the head, and vertical guides carried by the base and engaged by the head.

3. A valve for railway-tanks, comprising a base provided with a seat and with a plurality of vertically-disposed headed guide-rods, a head having perforated ears engaging the guide-rods, and a valve-facing housed by the head and comprising two resilient disks separated by a bearing-ring of a diameter somewhat less than the seat.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES ERNST.

Witnesses:

D. M. HOLMAN,

H. G. READ.