

(No Model.)

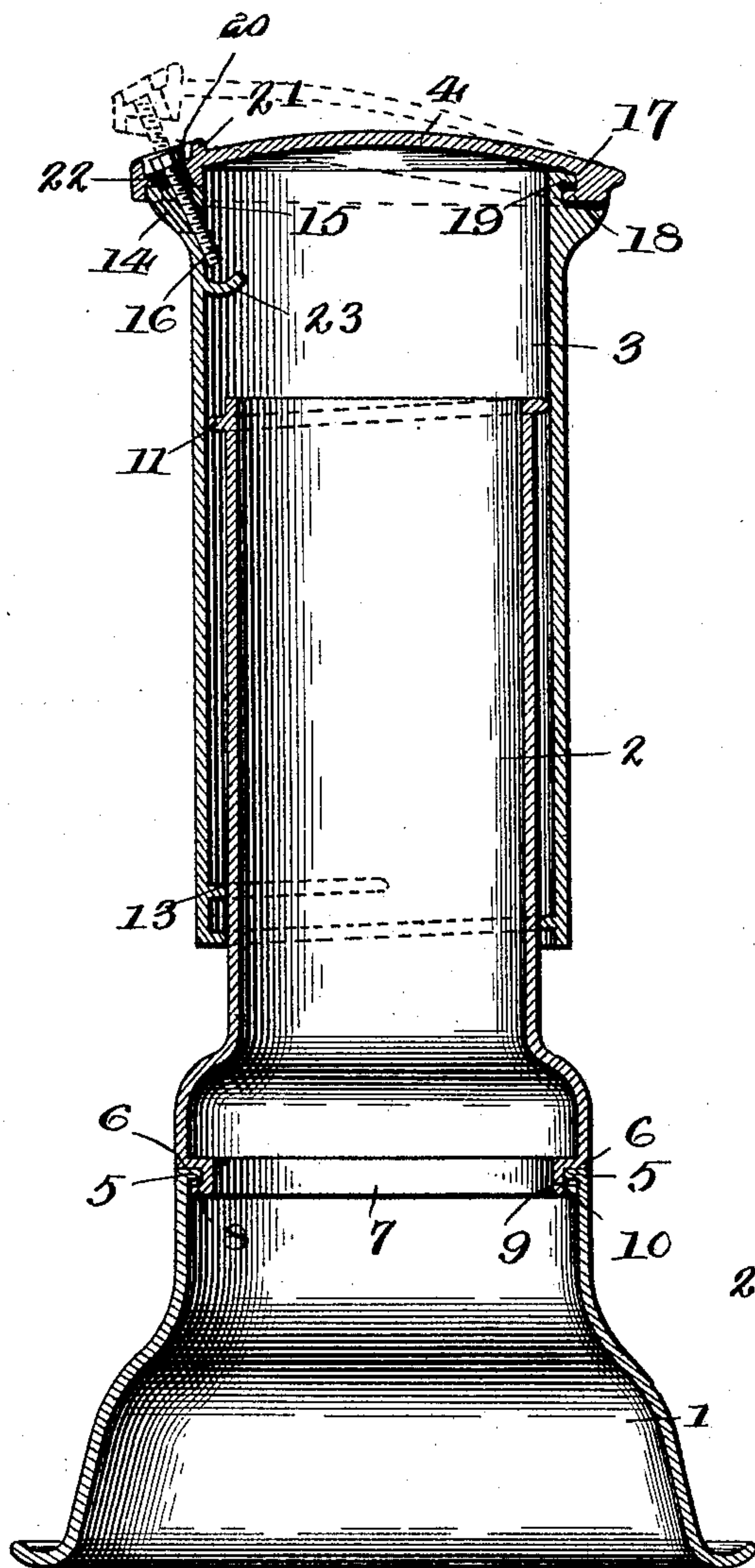
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T. J. RYAN.  
STOP COCK BOX.

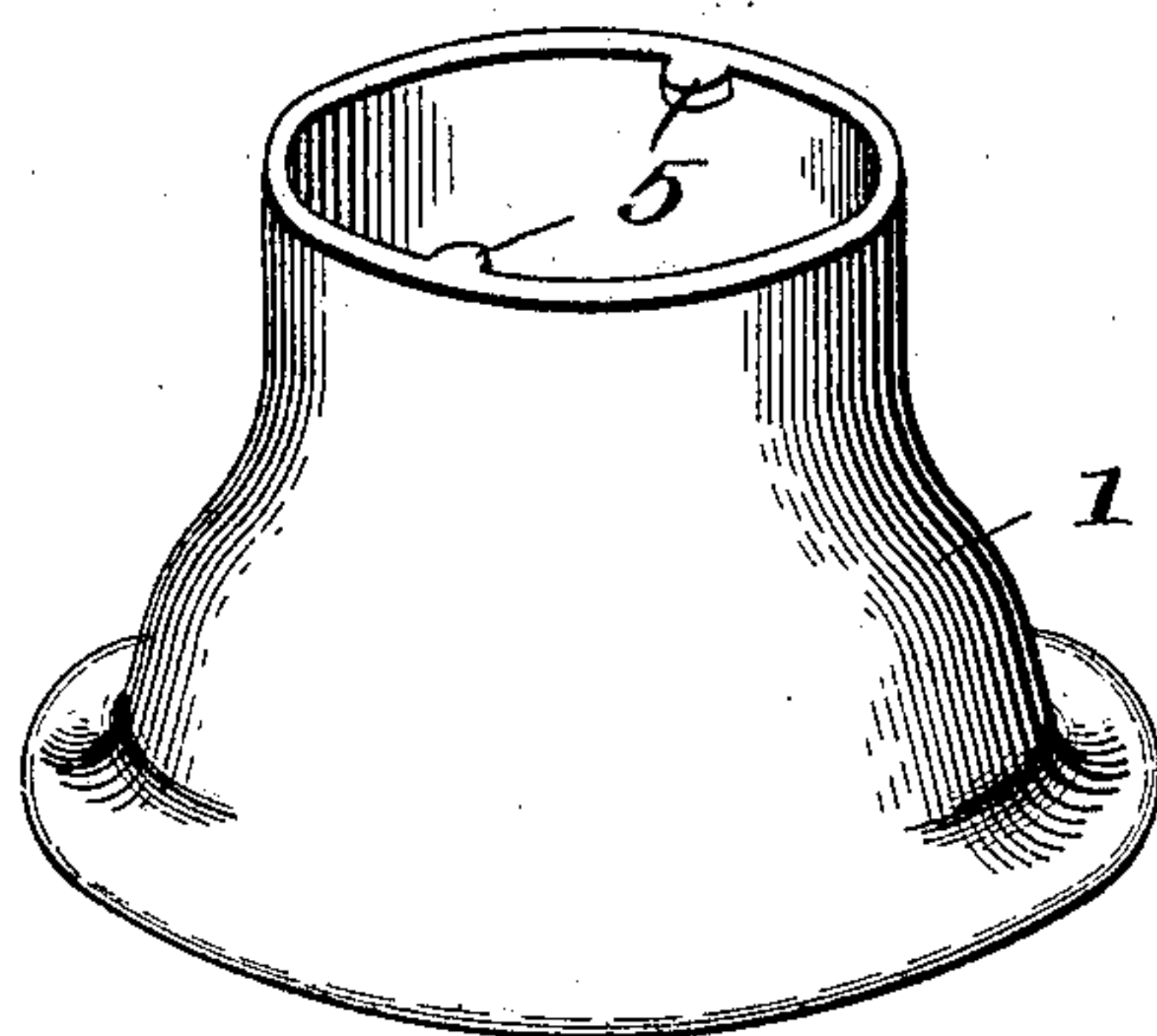
No. 591,884.

Patented Oct. 19, 1897.

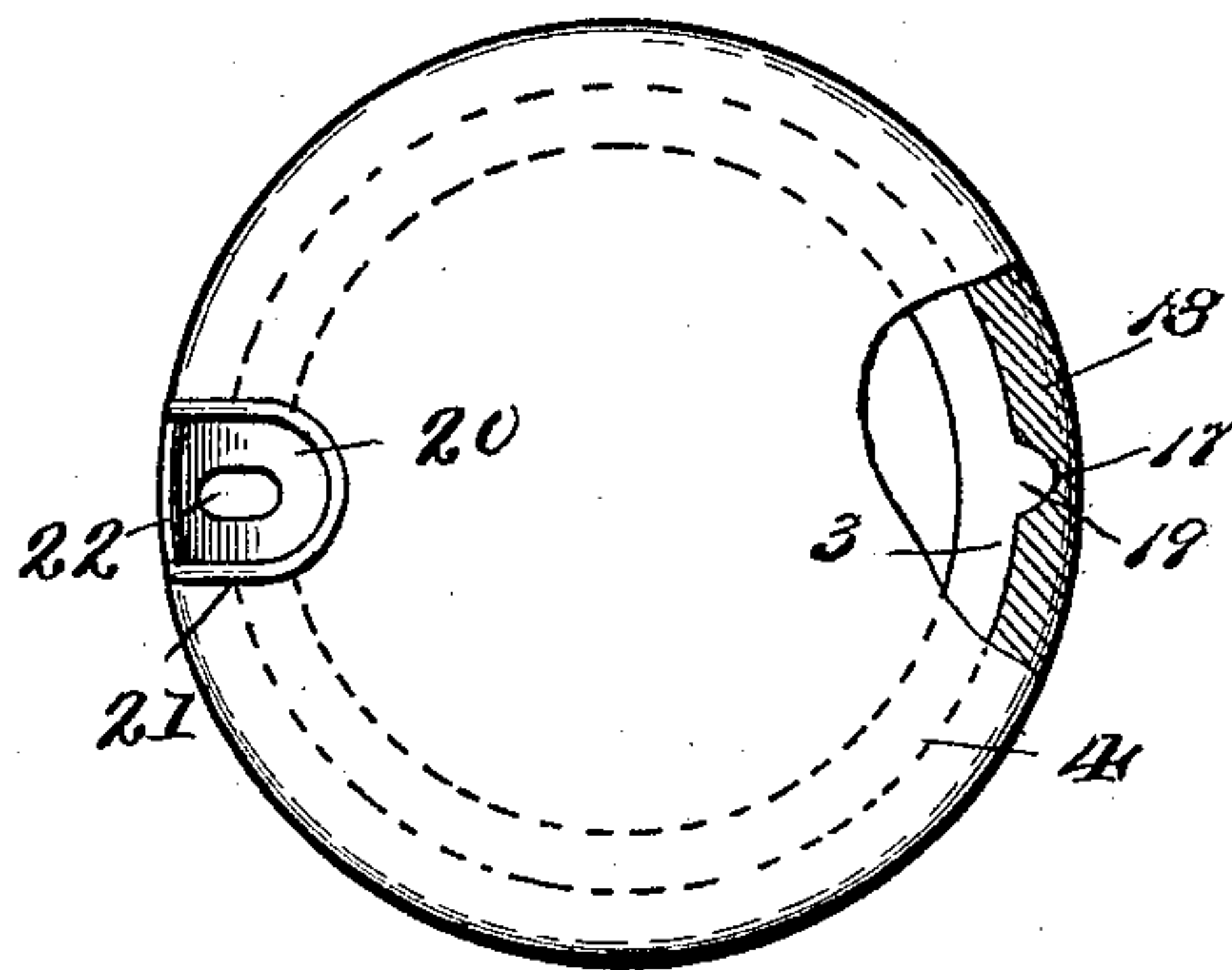
*Fig. 1.*



*Fig. 5.*



*Fig. 2.*



Witnesses

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By *hys* Attorneys,

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Thomas J Ryan,

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(No Model.)

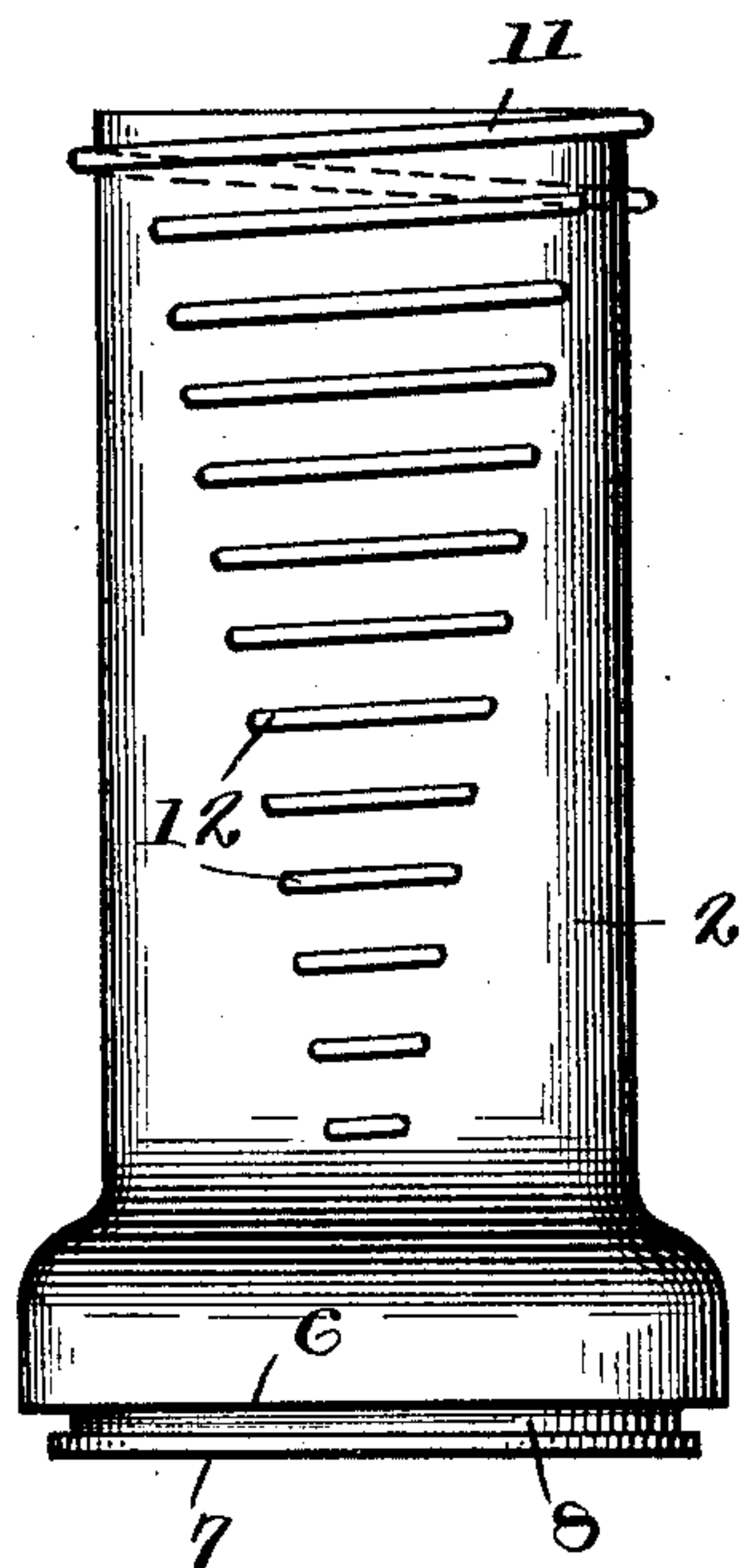
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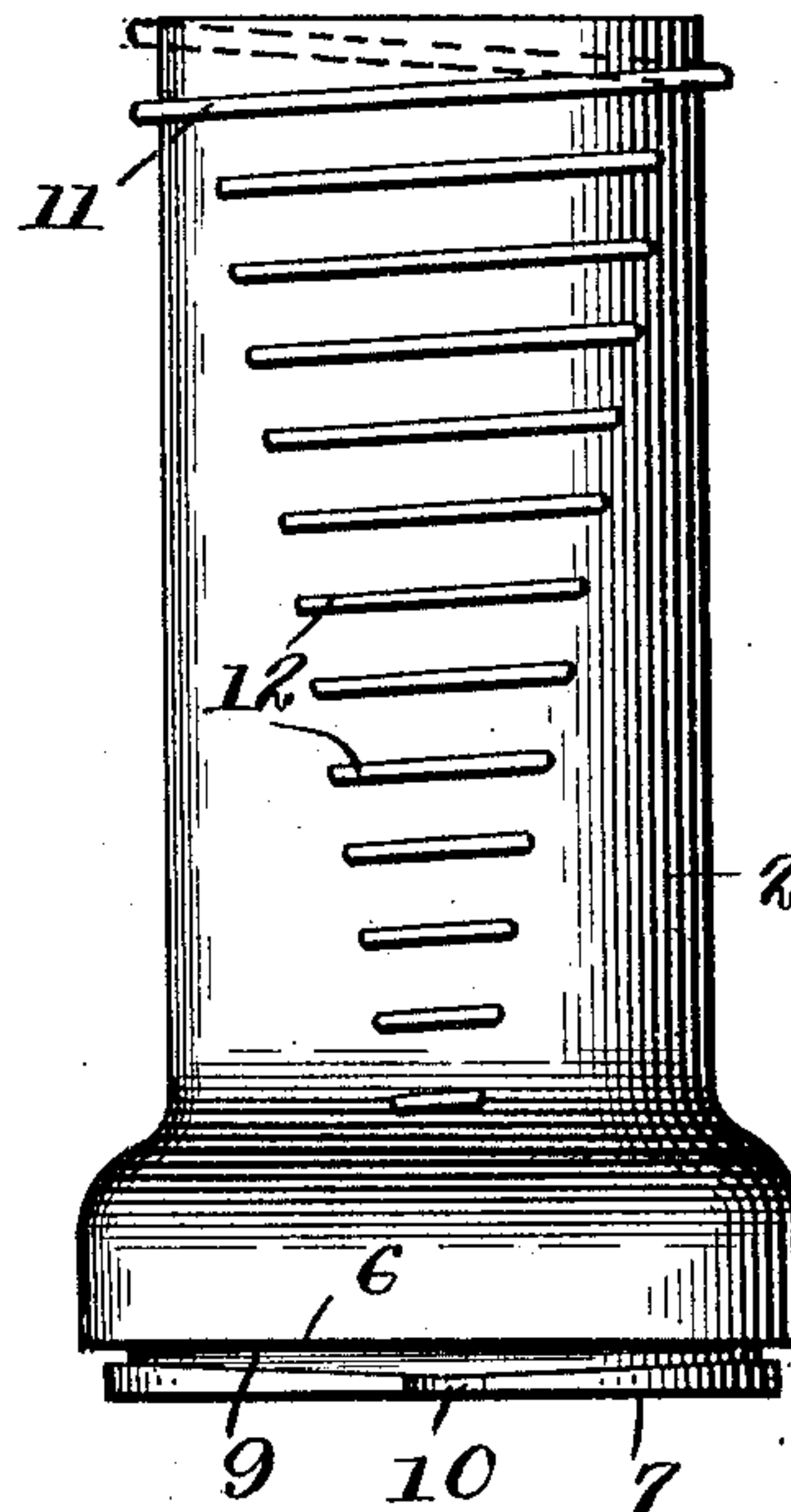
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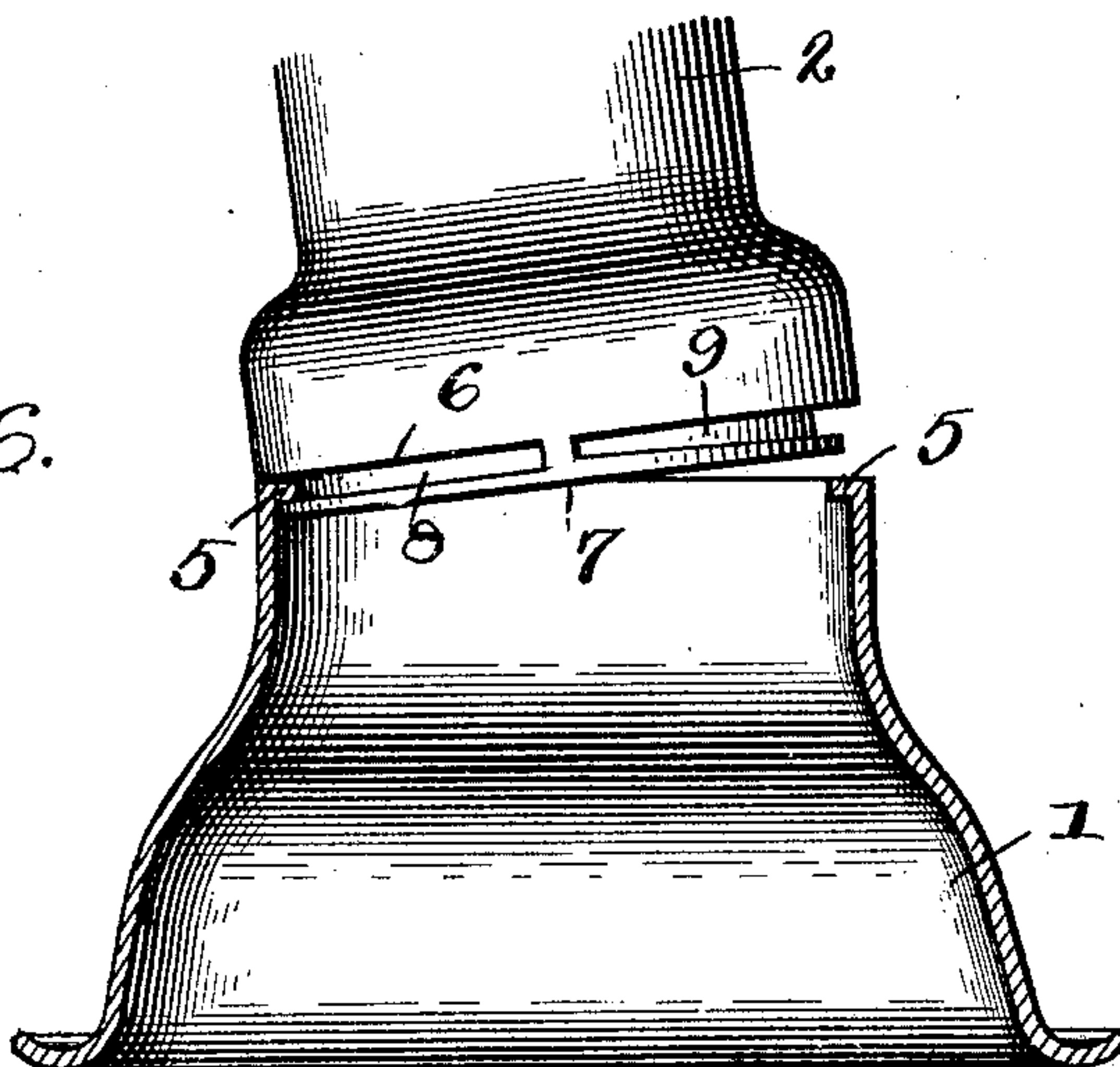
*Fig. 3.*



*Fig. 4.*



*Fig. 6.*



Inventor

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By his Attorneys,

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# UNITED STATES PATENT OFFICE.

THOMAS JOSEPH RYAN, OF BUFFALO, NEW YORK.

## STOP-COCK BOX.

SPECIFICATION forming part of Letters Patent No. 591,884, dated October 19, 1897.

Application filed October 26, 1895. Serial No. 566,996. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS JOSEPH RYAN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Stop-Cock Box, of which the following is a specification.

This invention relates to boxes for stop-cocks and other fixtures requiring to be cased in and which are buried in the ground.

The object of the improvement is to provide positive means for locking the cover to the box and which will admit of the said cover being easily removed when required to gain access to the box for any reason, the cover being turned aside entirely out of the way without requiring its detachment from the box. These boxes are usually composed of two parts connected by means of a screw-thread joint to admit of the upper part or section being moved to provide for its top end being brought to a level with the street or walk. The sections are usually connected by a screw-thread joint, and to prevent chocking of these threads and render them self-clearing is a further object of the improvement. The boxes have a bell bottom or base which is separate therefrom and connected thereto by an interlocking joint formed by a groove and lateral projections, the latter entering and leaving the groove through notches, the movement being in a direct line. Thus it happens that when adjusting the sections the notches and the projections are brought into register and the frost lifting the box separates it from the base and the parts do not again come together. The present invention obviates this difficulty by requiring a tipping of the box before it can be separated from its base, and inasmuch as the box and base are buried in the ground the tipping cannot take place. Hence the parts will not separate.

Other objects and advantages are contemplated and will appear as the nature of the invention is better understood; and to this end the improvement consists in certain details of construction, novel features, and the peculiar combination of the parts, which hereinafter will be more fully set forth, illustrated, and claimed.

An embodiment of the invention is shown

in the accompanying drawings, although various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In said drawings, Figure 1 is a vertical central section of a stop-cock box constructed in accordance with this invention, the component parts being assembled, and the dotted lines showing the cover raised at the rear prior to disengaging the interlocking joint formed between the front of the cover and the box. Fig. 2 is a top plan view, the base, the lower section, and the fastening-bolt being removed, and having a portion of the cover broken away, showing the interlocking joint provided between the cover and box. Fig. 3 is a detail view of the second or lower section. Fig. 4 is a view of the reverse side illustrated in Fig. 3. Fig. 5 is a detail view of the bell or base. Fig. 6 is a detail view showing the manner of connecting the box with its base.

The same reference-numerals denote corresponding and like parts in all the figures of the drawings, in which—

1 indicates the base; 2, the lower part or section of the box; 3, the upper part or section of the said box, and 4 the cover. The base 1 flares or is bell-shaped, and its upper end is open and formed with inwardly-extending projections 5 at diametrically opposite points to engage with a groove formed exteriorly of the lower end of the part 2. The lower end of the part 2 is reduced to enter the open end of the base 1, and an annular shoulder 6 is formed at the base of the reduced part 7 to rest upon the upper edge of the base 1, and resulting in the outer sides of the parts 1 and 2 coming flush. The groove in the reduced end 7 is composed of two parts 8 and 9, each extending about half-way around the part 7, the groove 8 running parallel with the shoulder 6 and the groove 9 inclining in opposite directions from a middle point and having a notch 10 communicating therewith at the middle point for the entrance of one of the projections 5. When assembling the parts 1 and 2, they are relatively tipped, as shown in Fig. 6, to admit of one projection 5



entering the groove 8, and upon bringing the other projection in register with the notch 10 it will enter the groove 9 by straightening or bringing the parts 1 and 2 into alinement. Now by turning the parts 1 and 2 in either direction the projection 5 will ride in the inclined portion of the groove 9 and cause the parts 1 and 2 to come into close relation. From this construction it is obvious that the parts 1 and 2 cannot separate without being relatively tipped, even though the projection 5 in the groove 9 should be in register with the notch 10. Thus when the box is in the ground and the projection 5 should come opposite the notch 10 and be left in this position, the part 2 will not leave the part 1 under the influence of frost or any other force brought to bear in a vertical direction, the surrounding earth preventing the tipping of the parts.

The lower part of section 2 is provided near its upper end with a spirally-formed thread 11, which extends completely around the part 2, and immediately below the thread 11 are formed a series of thread-sections 12 in vertical alinement and in a gradually-decreasing series, so that the terminals of one thread-section project beyond the terminals of the thread-section immediately below. By this disposition of the thread-sections the dirt, corrosive matter, &c., removed from the top-most thread-section of the series will fall without lodging upon any of the thread-sections below. A corresponding thread 13 is provided at the lower end of the upper part or section 3 and may extend once or once and a half around the section 3, and acts jointly with the thread 11 to steady and prevent wobbling of the upper part or section when the parts are placed together. This thread 13 also coöperates with the thread-sections 12 to effect a lengthening and shortening of the box in the usual manner when required. For small stop-cock boxes the thread-sections 12 can be provided on one side of the part 2, but for larger boxes it will be found advantageous to provide two or more sets of thread-sections and properly dispose them to attain the requisite strength and ease of operation essential to the successful and efficient operation of the screw-thread connection between the relatively movable parts.

A non-corrodible nut 14 is located at the upper end of the part or section 3, and is formed with an oblique-threaded opening 15, which inclines upwardly and outwardly from the inner side or wall of the part 3, and which receives the fastening-bolt 16, by means of which the cover 4 is secured upon the box. This nut 14 is secured to the part 3 by casting the latter around it, the said nut being properly placed in the mold and having the threaded opening 15 therein closed at its inner end by the core and at the outer end by the mold, thereby excluding the molten iron from the threaded opening 15. To successfully cast the part 3 and similar articles, the

metal must be poured at a high temperature, and by locating the nut at the end of the mold the metal is sufficiently cooled when reaching the nut to prevent the fusing or melting thereof and to obviate blowing, which would occur if the metal reached the cold damp nut in a highly fluid or molten condition. The nut 14 is formed of brass or like composition not affected by moisture. Hence the fastening-bolt 16 will not become permanently connected therewith by corrosive action, which is frequently the case where the fastening-bolt 16 is of iron and enters a threaded opening formed directly in the cast-iron box.

The cover 4 has a depending flange 18, which encircles the upper end of the part 3, and a depression 17 is formed in the depending flange 18 at a point directly opposite to the nut 14 when the cover is in position. A corresponding projection 19 at the upper end of the part 3 enters the depression 17 and forms therewith an interlocking joint. This interlocking joint may be formed in any convenient and approved manner so long as the desired end is attained—namely, to automatically and positively connect the cover 4 with the upper end of the part 3 at a point diametrically opposite to the nut 14. A depression 20 is formed in the top side of the cover 4 contiguous to its edge and receives the head of the fastening-bolt 16, and admits of the said head lying below or coming flush with the outer surface of the cover 4. A raised rib 21 encircles the depression 20 and serves to strengthen and brace the cover at this point. An oblong opening 22 is formed in the bottom of the depression 20 and extends radially, and is of a length to admit of a lateral movement of the cover 4, so as to disconnect or make the interlocking joint 17 and 19 between the cover and the part 3 without necessitating the removal or detachment of the cover from the box. When it is required to gain access to the box, the fastening-bolt 16 is loosened sufficiently to admit of the cover being raised at the end having the slot 22 to such a height as to clear the top end of the box, when the said cover can be moved laterally, so as to disconnect the aforesaid interlocking joint and be turned aside, as will be readily understood. A guard 23 is located below the inner end of the opening 15 and forms a stop to limit the relative movement of the parts of the box, so that the upper end of the part 2 will not jam and mutilate the thread of the fastening-bolt 16. This guard 23 may be cast with the part 3, or may be separate therefrom and bolted or otherwise connected therewith.

Having thus described the invention, what is claimed as new is—

1. In combination, a box for stop-cocks and kindred fixtures having an upwardly and outwardly inclined threaded opening at one side, a cover having a reinforced depression in its top side near its edge, and having a radially-



disposed elongated opening within the depression to register with the threaded opening of the box, an interlocking joint positively connecting the cover with the box at a point diametrically opposite the aforesaid threaded opening and depression, and a fastening-bolt operating through the elongated opening of the cover and entering the threaded opening of the box to act jointly with the interlocking joint to secure the cover in place, and forming a positive connection between the cover and box at all times, and admitting of the cover moving laterally to part the interlocking joint upon loosening the bolt, so that the cover can be swung upon the said bolt to uncover the box substantially in the manner set forth.

2. A box for stop-cocks and similar fixtures, comprising relatively movable parts and having an intermediate screw-threaded connection comprising a series of thread-sections disposed in vertical alinement and gradually decreasing in length from the top to the lowermost section, whereby the said thread will be self-clearing and the matter dislodged from an upper thread-section will not lodge upon any thread-section immediately below.

3. A box for the purposes specified, comprising relatively movable parts, the inner or opposing terminals of the parts having a complete thread-section and one of the parts having a series of thread-sections disposed in vertical alinement and gradually decreasing in length from the top to the lowermost section,

substantially as set forth for the purpose described.

4. In combination, a base having oppositely-disposed projections at its upper end, and a box having its lower end reduced to enter the base and forming a shoulder to overlap and rest upon the top edge of the base, and having a groove in the reduced end to engage with the said projections, and having a single notch extending from the groove to form a passage for one of the aforesaid projections, and having the groove oppositely inclined from the said notch, substantially as set forth for the purpose described.

5. In combination, a base having inwardly-extending projections at its upper end disposed at diametrically opposite points, and a box having its lower end reduced to enter the base and forming a shoulder to rest upon the top edge of the base, and having a straight groove in one side of the reduced end to receive one of the said projections upon tipping the parts, and having an oppositely-inclined groove in the other side formed with a notch to receive the other projection upon bringing the parts into alinement, substantially as set forth for the purpose described.

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

THOMAS JOSEPH RYAN.

Witnesses:

GEO. LOWE,  
EMILY RYAN.