

No. 685,020.

Patented Oct. 22, 1901.

J. H. VENNERS.

AUTOMATIC DISINFECTOR FOR FLUSHING TANKS.

(Application filed Apr. 5, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1

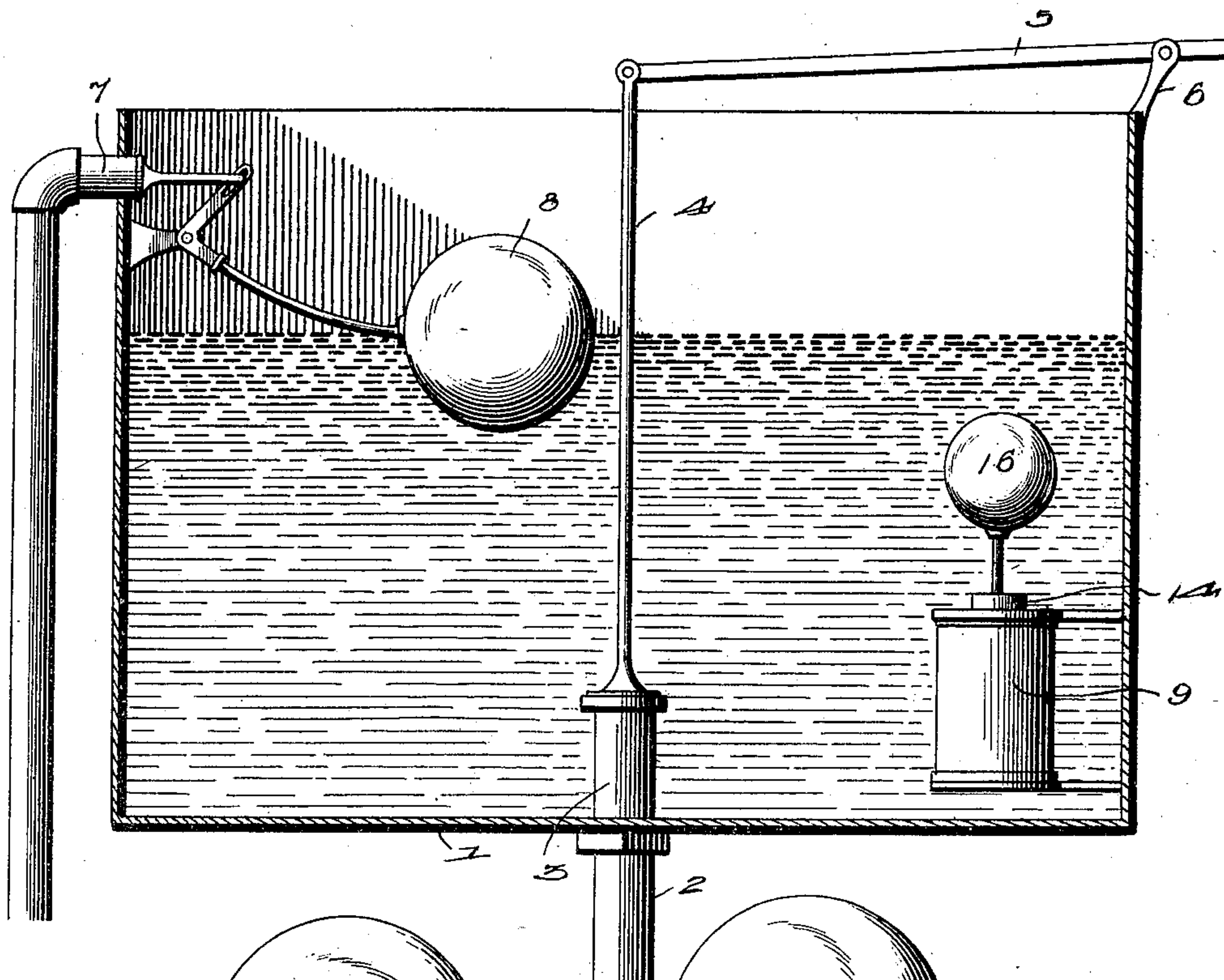


Fig. 2.

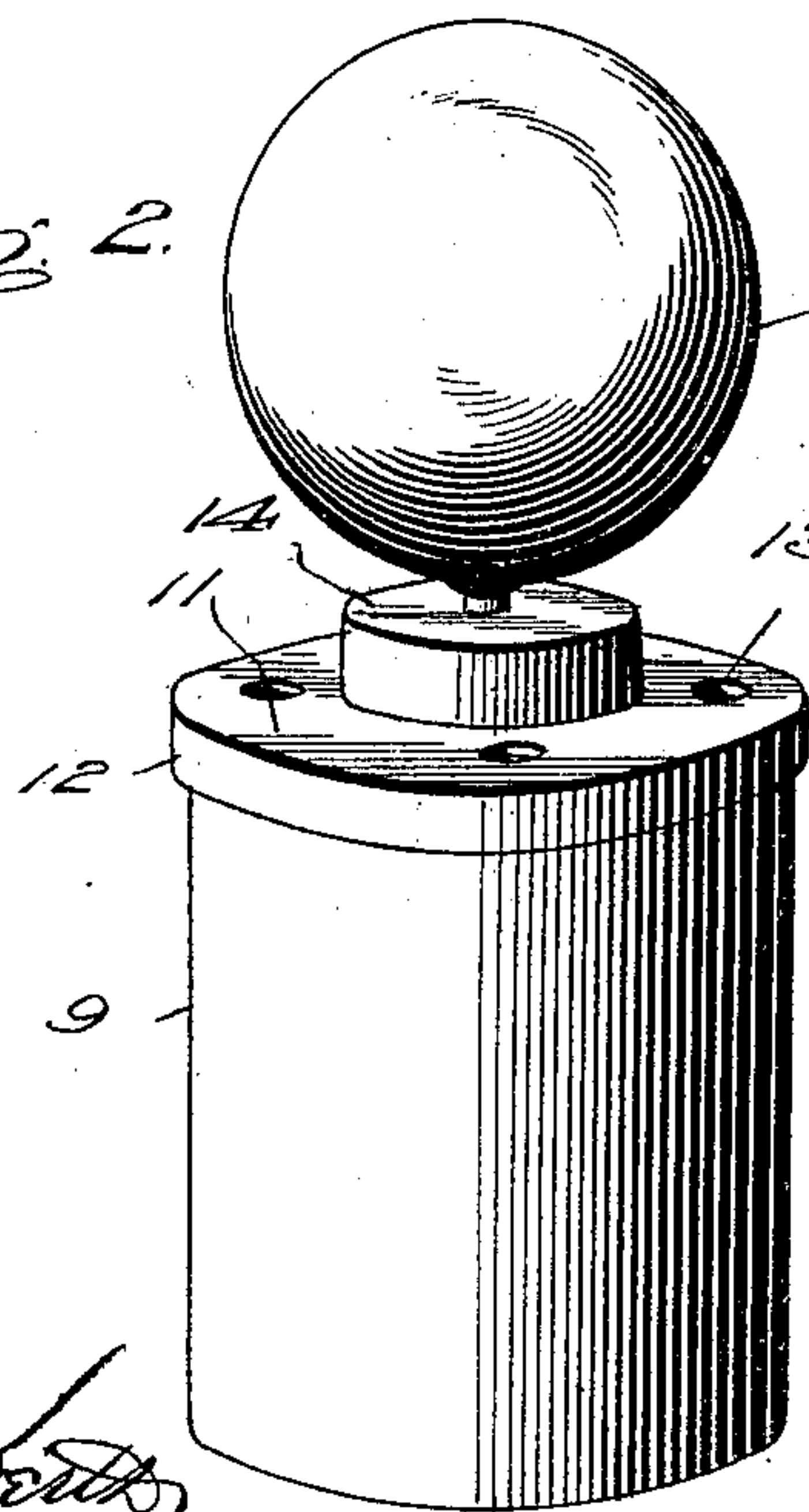
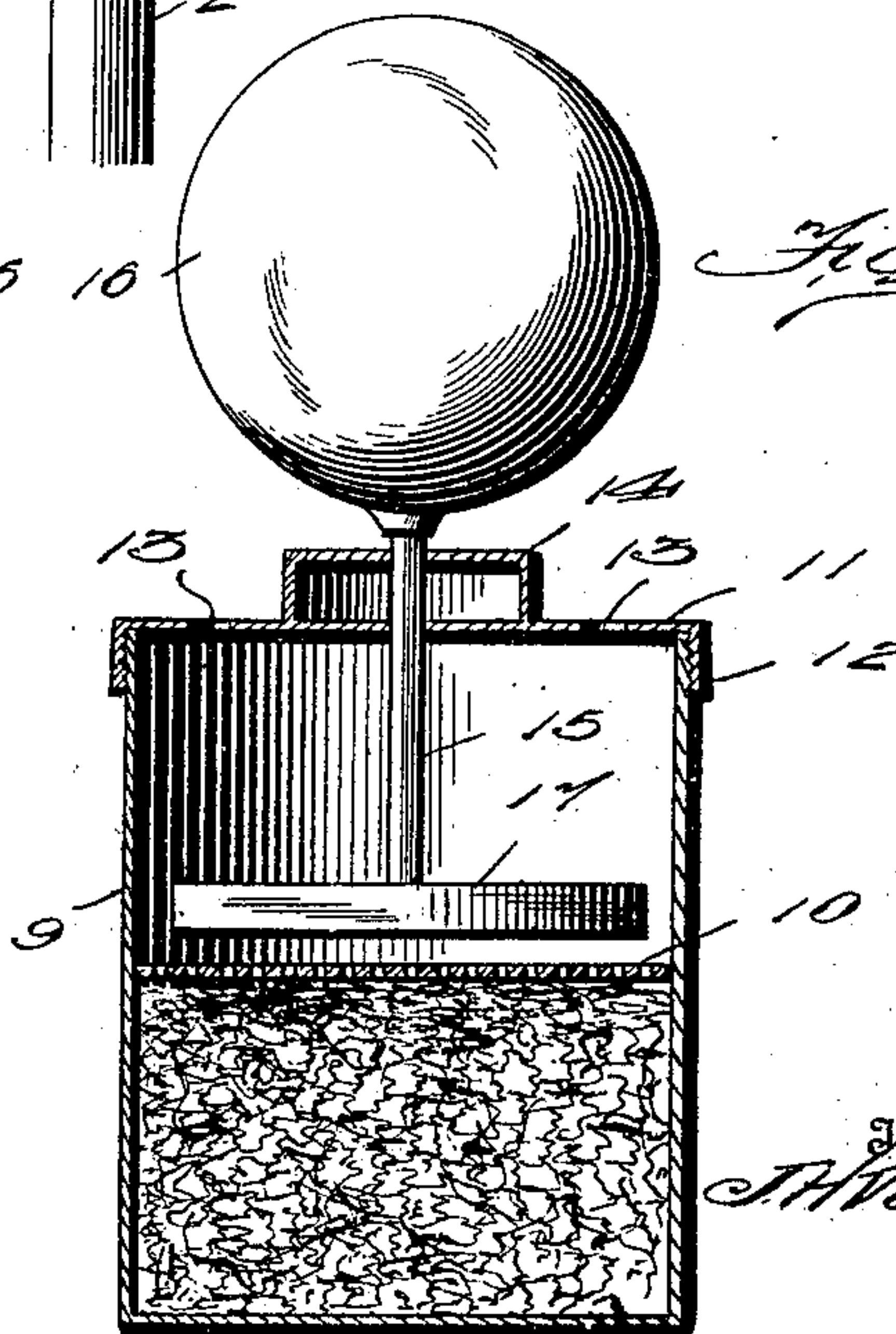


Fig. 3.



Witnesses

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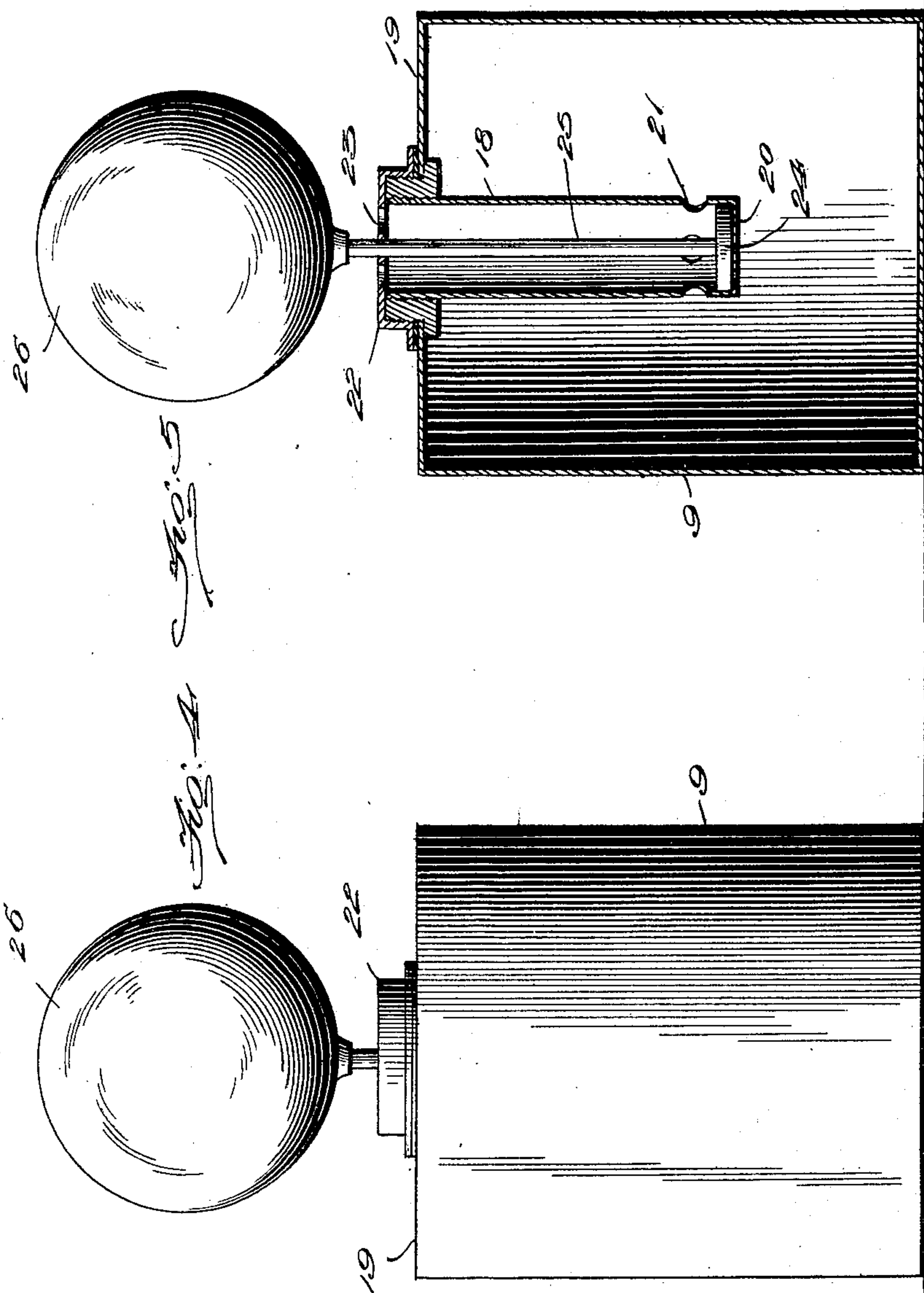
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3 Sheets—Sheet 2.



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3 Sheets—Sheet 3.

Fig. 6.

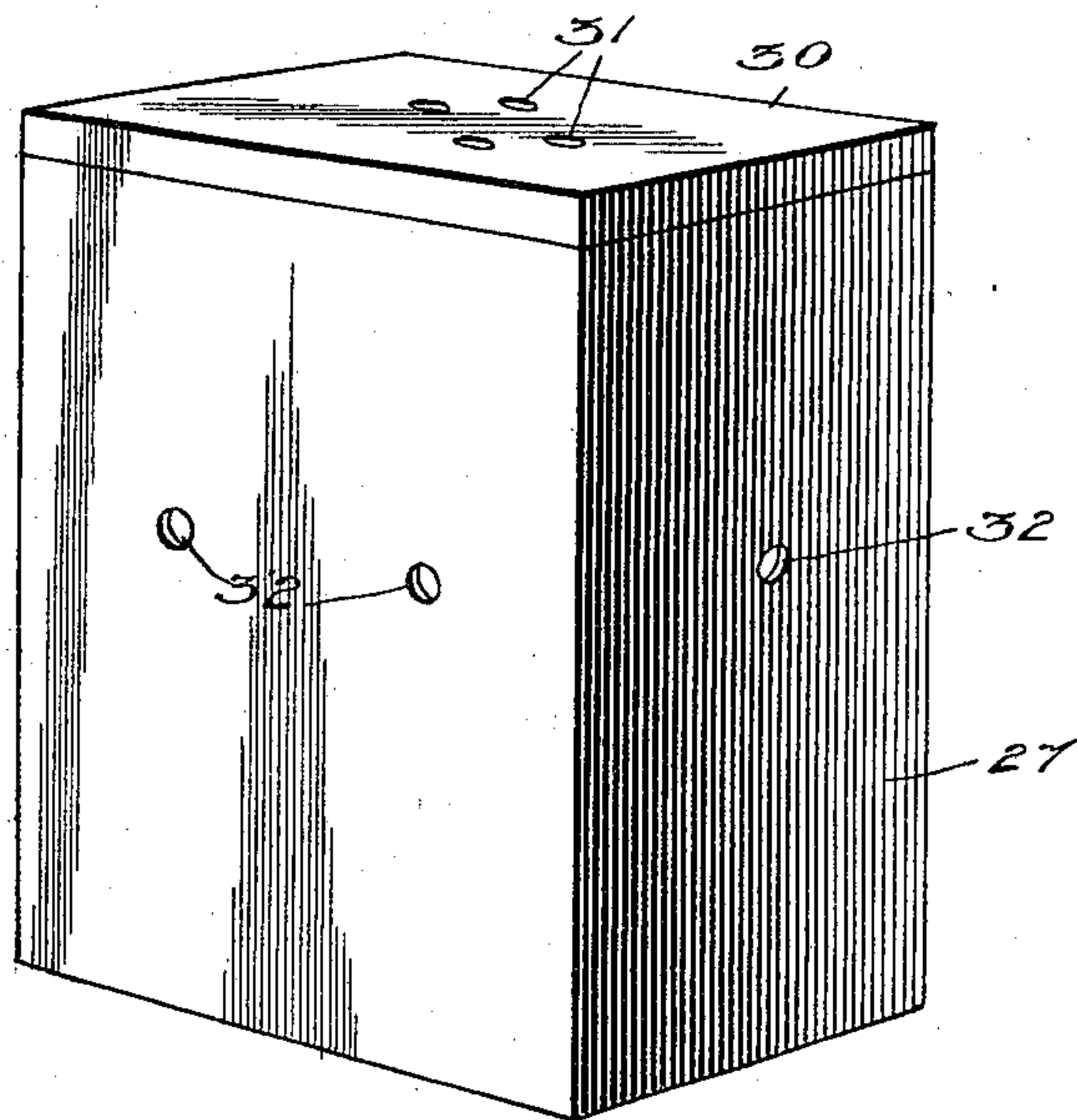
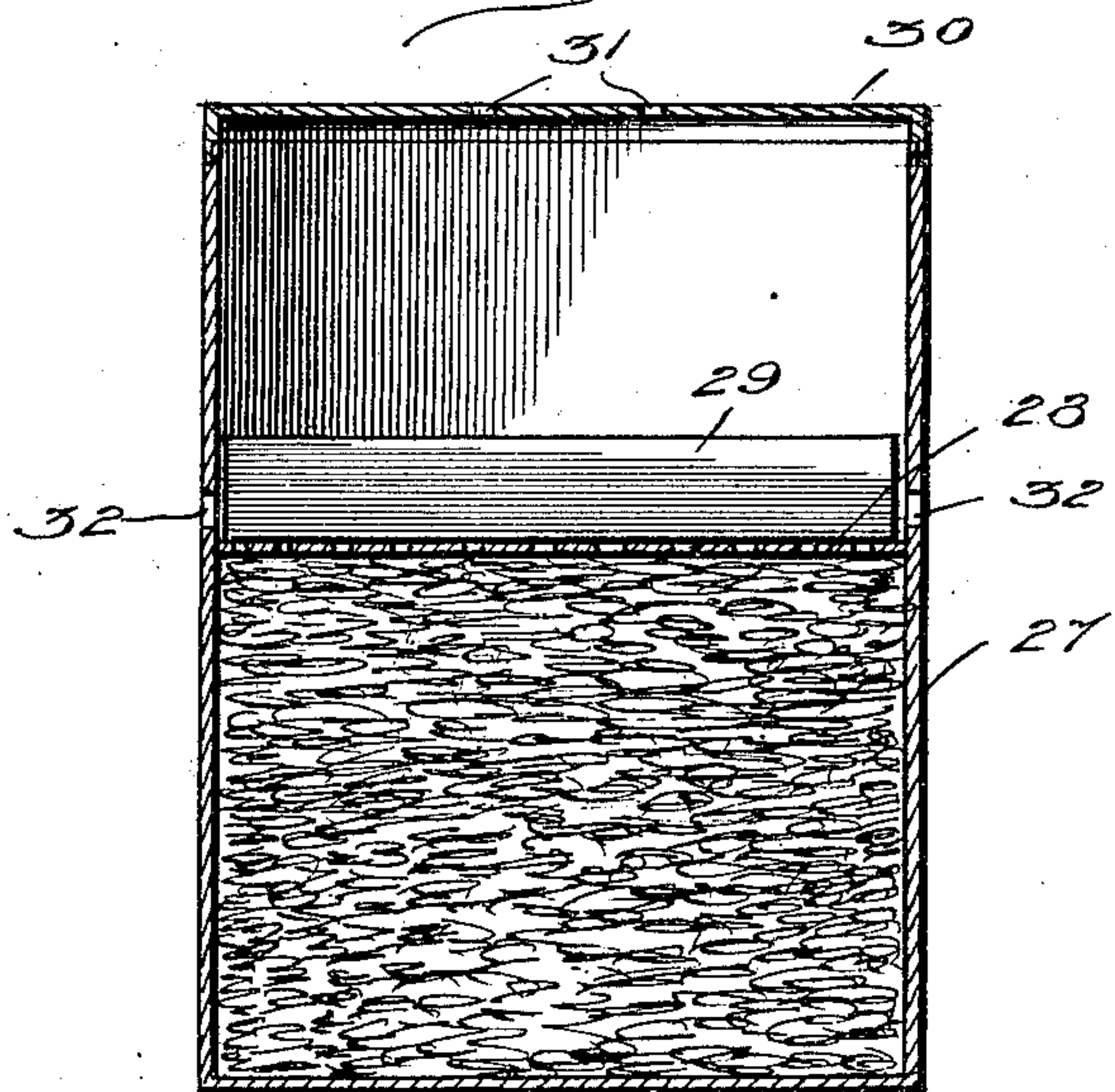


Fig. 7.



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JAMES HENRY VENNERS, OF BROOKLYN, NEW YORK.

AUTOMATIC DISINFECTOR FOR FLUSHING-TANKS.

SPECIFICATION forming part of Letters Patent No. 685,020, dated October 22, 1901.

Application filed April 5, 1901. Serial No. 54,566. (No model.)

To all whom it may concern:

Be it known that I, JAMES HENRY VENNERS, a citizen of the United States, residing at Brooklyn, (post-office address 450 St. Marks avenue,) in the county of Kings and State of New York, have invented new and useful Improvements in Automatic Disinfectors for Flushing-Tanks, of which the following is a specification.

10 This invention relates to automatic disinfectors for flushing-tanks, the object in view being to provide a device in the nature of a receptacle for disinfecting material, the same being adapted to be applied to and used in
15 connection with the usual overhead flushing-tank and being equipped with means influenced by the rise and fall of the water in the tank, whereby the water is admitted to the receptacle containing the disinfecting material and ejected therefrom after taking up a
20 portion of the disinfecting material, the water so ejected from the receptacle being mingled with the larger body of water in the flushing-tank, from which the whole body of
25 water is discharged through the usual flushing-tank in the ordinary manner.

With the above and other objects in view, the nature of which will appear more fully as the description proceeds, the invention consists in the novel construction, combination,
30 and arrangement of parts hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through a flushing-tank, showing the automatic disinfector arranged therein. Fig. 2 is an enlarged detail perspective view of the attachment. Fig. 3 is a vertical section through the automatic
35 disinfector. Fig. 4 is a side elevation of a slightly-modified form of disinfector. Fig. 5 is a vertical sectional view of the same. Figs. 6 and 7 illustrate a modified form of automatic disinfector in which the controlling float is arranged within the receptacle.

45 Similar numerals of reference designate corresponding parts in all figures of the drawings.

For the purpose of illustration and to show the application of the present improvement

I have illustrated in Fig. 1 an ordinary over- 50 head flushing-tank, (designated by the numeral 1,) the same having connected therewith the flushing-pipe 2, opened and closed by means of the usual valve 3, having its stem 4 connected to an operating-lever 5, ful- 55 crumed on a bracket 6 near one end of the tank. For controlling the supply of water to the tank the usual automatic float-valve 7 may be employed, operated through suitable connections by means of a float-ball 8, ar- 60 ranged within the tank and adapted to be raised and lowered by the water, thereby operating the connections and opening or closing the valve 7 to admit water to the tank and automatically shut off the supply when 65 the water has reached a predetermined level. The parts just referred to form no part of the present invention and may therefore be of any usual or preferred construction and arrangement. 70

In carrying out the present invention I make use of a receptacle 9, which for convenience is shown of cylindrical form, although it will be understood that the receptacle may be of any size, shape, or configura- 75 tion. Said receptacle is adapted to contain a supply of disinfecting material, which is preferably in the form of crystals, which disinfecting material is arranged in the lower portion of the receptacle, as shown in Fig. 3, 80 and is covered by a perforated disk 10, which prevents the crystals from rising and floating about in the water and which also acts in the nature of a strainer. The top of the receptacle is covered by means of a lid 11, having 85 an annular flange 12, which fits around the top of the receptacle, as shown in Figs. 2 and 3, which cover is provided with a number of openings or perforations 13 for the passage of the water to and from the receptacle. The 90 cover is also provided with a central upward extension 14, forming a bearing for the stem 15 of a float 16, which is arranged above and outside of the receptacle, so as to be acted upon by the water in the tank only, as shown 95 in Fig. 1. The stem 15 has connected to its lower end an agitating-disk 17, which is adapted to move upward and downward with-

in the upper portion of the receptacle under the influence of the water on float 16.

From the foregoing description it will be seen that a portion of the water contained in the tank 1 will find its way through the openings 13 into the receptacle 9 and through the perforated disk or plate 10, where it will dissolve a portion of the crystals and take up a sufficient proportion thereof to affect the whole body of water already in the tank 1. When the water is exhausted from the tank 1, the float 16 descends and carries downward the disk or plate 17. As the water rises in the tank 1 it lifts the float 16, and thereby elevates the disk 17, which serves to agitate the water within the receptacle 9 and eject the same through the openings 13, thus causing the water which has taken up a considerable amount of the disinfecting material to mingle with the larger body of water in the tank. In this way disinfecting material is automatically supplied to the main body of water in the tank 1 during the operation of filling the tank.

In Figs. 4 and 5 I have shown a modified form of automatic disinfector, in which the main receptacle 9 is provided with an inner tube 18, depending from the top 19 and extending downward into the receptacle a suitable distance, where its lower end is closed, as shown at 20. The tube 18 is provided near its lower end with perforations 21 for the passage of water, and the upper end of the tube is partly closed by means of a perforated cover 22, having the openings 23 for the passage of water. Mounted to move vertically within the tube 18 is the disk or plate 24, which is connected to the lower end of the stem 25, carrying the float 26 at its upper end. When the float 26 is in its lowest position, as illustrated in Fig. 5, the disk 24 is beneath the openings 21, thus allowing water to pass through the openings 23 and 21 into the main receptacle 9, where it acts upon the crystals of disinfecting material. As the water rises in the tank and lifts the float 26 the disk 24 is carried upward, thereby forcing the water ahead of it and outward through the openings 23, where it mingles with the main body of water in the tank 1. In principle the construction just referred to is practically the same as that above set forth and illustrated particularly in Figs. 1 to 3, inclusive. It will thus be seen that the entire body of water in the tank 1 is affected by the disinfecting material and that the water itself, by rising and falling within the tank, causes the disinfecting attachment to operate automatically, so that only a certain proportion of disinfecting material is taken up by the water and delivered to the main body of water contained in the tank, thereby economizing in the use of the disinfecting material, while at the same time affording a sufficient supply thereof to impart to the whole body of water the requisite disinfecting properties.

In Figs. 6 and 7 I have illustrated a modified construction of automatic disinfector, in which 27 designates the receptacle, which is shown rectangular in shape. The lower portion of the receptacle is designed to be occupied by the crystals of disinfecting material, and said material is covered by means of a perforated plate or disk 28, through which the water is adapted to percolate. Within the upper portion of the receptacle above the plate 28 is a rising and falling float 29, which serves the double purpose of a float and an agitator and is limited in its upward movement by the top or cover 30 of the receptacle, the said cover being provided with vent-holes 31. The receptacle is provided in some or all of its sides with ports 32, through which the water may pass into and out of the receptacle. These port-holes are arranged just above the perforated plate 28 and above the level of the top of the disinfecting material. As the tank fills with water the water passes through the port-holes 32 and elevates the float, at the same time mingling with a portion of the disinfecting material. As the float falls with the water as it is discharged from the tank the float serves to force the liquid outward through the port-holes 32, so as to mingle with the larger body of water within the tank. The principle involved in the modification is the same as where the float is arranged externally, but the action is the reverse, as the fluid is ejected with the downward movement of the float, while with the internally-arranged float the fluid is ejected from the receptacle in the upward movement of said float. Under both arrangements the operation is entirely automatic.

I do not desire to be limited to the details of construction and arrangement hereinabove set forth, and accordingly reserve the right to change, modify, or vary the construction within the scope of the appended claims.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. An automatic disinfector for flushing-tanks, comprising a receptacle for disinfecting material, an agitating-disk mounted therein, and a float operatively connected to said disk and influenced by the rise and fall of water within the tank.

2. An automatic disinfector for flushing-tanks, comprising a receptacle for disinfecting material, a perforated cover therefor, a disk or plate movably mounted in the receptacle, and a float connected to said disk or plate and adapted to be raised and lowered by the action of the water in the tank.

3. An automatic disinfector for flushing-tanks comprising a perforated receptacle for disinfecting material, a perforated plate or strainer within the receptacle above the material, and an agitator located within the receptacle between the top thereof and the

plate or strainer, said agitator being controlled in its movements by the rise and fall of the water in the tank.

5 4. An automatic disinfector for flushing tanks, comprising a receptacle for the disinfecting material, a perforated cover for said receptacle, a perforated plate or strainer adapted to cover the disinfecting material, a disk movable up and down within the recep-

tacle, and a float connected to said disk and influenced by the rise and fall of water within the tank.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HENRY VENNERS.

Witnesses:

WALTER W. COURT,
THOMAS R. VENNERS.