J. GILSON.

DISINFECTANT DEVICE.

APPLICATION FILED DEC. 3, 1910.

1,087,060.

Patented Feb. 10, 1914.

Fig. 1

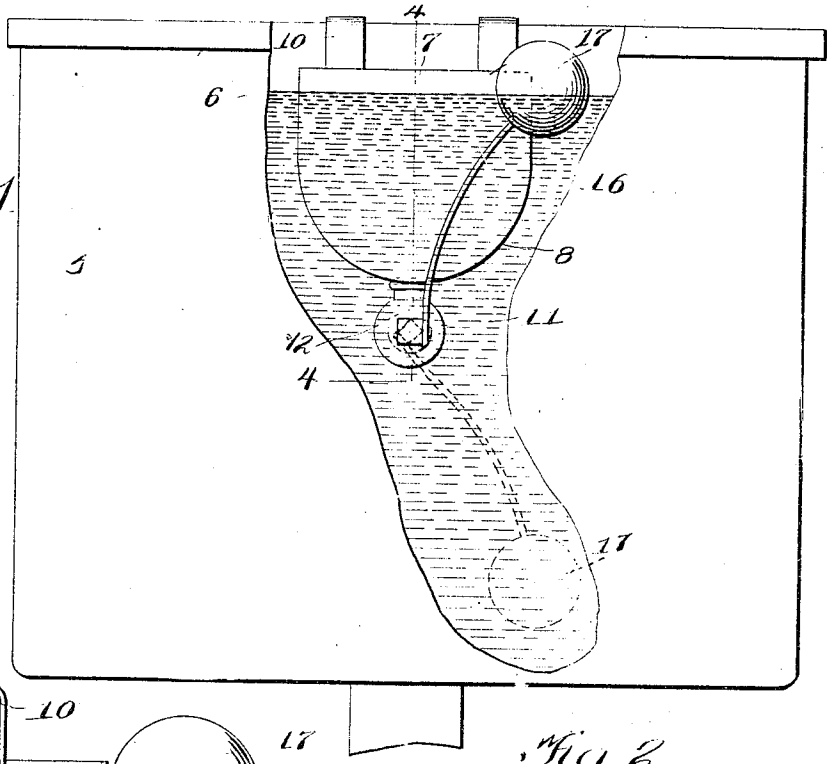


Fig. 3

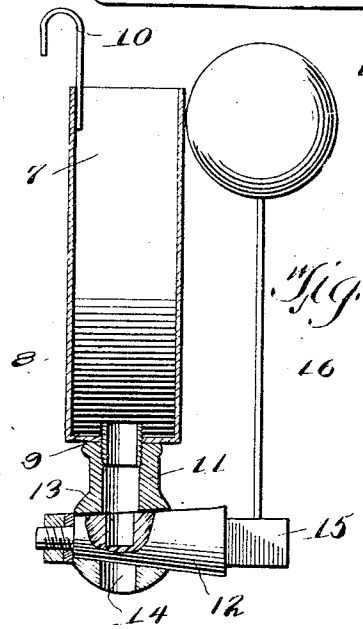


Fig. 2

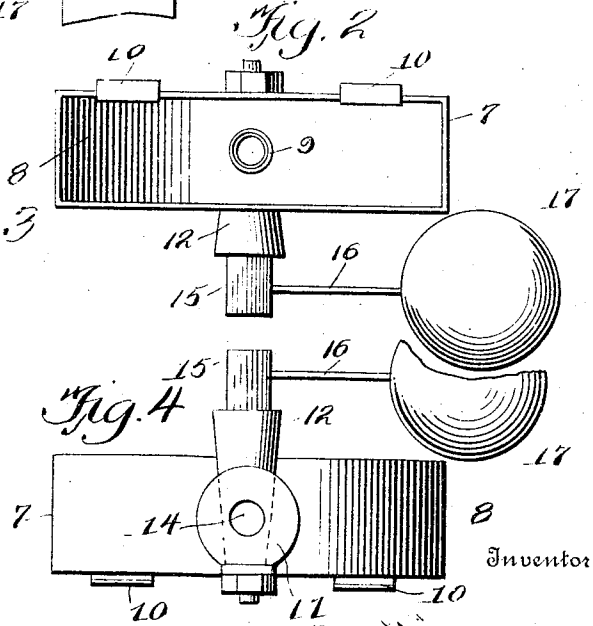


Fig. 4

Witnesses

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JAMES GILSON, OF PROVIDENCE, RHODE ISLAND.

DISINFECTANT DEVICE.

1,087,060. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed December 3, 1910. Serial No. 595,383.

To all whom it may concern:

Be it known that I, JAMES GILSON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented new and useful Improvements in Disinfectant Devices, of which the following is a specification.

The invention relates to a disinfectant device, and more particularly to the class of apparatus for delivering disinfectant material at predetermined intervals into a flush tank or the like.

The primary object of the invention is the provision of an apparatus of this character in which disinfectant material may be admitted at predetermined intervals into the water contained in a flush tank, the rise and fall of the water within the tank being adapted to control the apparatus for delivery and non-delivery of the disinfectant material into such water in the tank.

Another object of the invention is the provision of an apparatus of this character in which the same may be detachably mounted in a flush tank and when positioned therein will deliver a predetermined quantity of disinfectant material into the water for sanitary purposes.

A further object of the invention is the provision of an apparatus of this character in which the disinfectant material is held within a tank, the latter being in communication with a float operated valve which controls the supply of disinfectant material to the water contained in a flush tank, so that when the water is discharged from the tank, the same will contain a predetermined amount of disinfectant material for purifying or destroying germs in laboratory equipments.

A still further object of the invention is the provision of an apparatus of this character which is simple in construction, thoroughly reliable and efficient in operation, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a front elevation of a flush tank with the wall broken away, illustrating the application of the invention. Fig. 2 is a top plan view thereof. Fig. 3 is a sectional view on the line 3—3 of Fig. 1. Fig. 4 is a bottom plan view of the valve shell or casing and the float connection therewith.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, 5 designates a flush or water-closet tank having the usual float 6 for the control of water thereto. Detachably mounted within the tank is the disinfectant apparatus, as will be hereinafter more fully described.

The disinfectant apparatus comprises a reservoir 7 having a rounded bottom 8, from a medial point of which projects a depending threaded nipple 9, the reservoir at its back being provided with hangers 10, which are adapted to engage one side wall of the tank 5 for the mounting of the reservoir therein, and permitting its easy removal when desired.

Adjustably mounted on the nipple 9 and depending from the reservoir 7 is a valve shell or casing 11, in which is mounted a turning plug 12 having a pocket 13 therein which is adapted to alternately register or aline with the bore through the valve shell or casing 11, which bore communicates with the reservoir 7. In the bottom of the valve casing or shell 11 is formed an outlet opening 14, which alines with the bore of the said casing, so that when the plug 12 is turned to bring the pocket 13 therein into register with the said opening 14 and bore, the disinfectant material held within the reservoir 7 may be discharged into the flush tank 5, so as to commingle with the water contained therein.

It will be noted that the pocket 13 of the turning plug 12 alines with the bore of the casing and nipple only when the float assumes the position shown in Fig. 1, and consequently when the apparatus is used in conjunction with tanks of smaller capacity, the float would not be moved to its proper height for a successful operation of the apparatus. Thus to provide for this end, it will be manifest that by reason of the adjustment between the reservoir and valve casing, that when the apparatus is used in conjunction with tanks of smaller capacity, the valve casing may be adjusted to a lower position, thereby lengthening the upward movement of the float so that it will be

moved the required distance for a successful operation as described.

Formed on the plug 12 is a stem 15, with which is rigidly connected the arm 16 of a ball float 17, the latter being adapted to rise and fall with the quantity of water delivered into and discharged from the water-closet or flush tank, thereby controlling the plug valve 12 for regulating the delivery of disinfectant material within the reservoir 7 into the tank 5.

In the operation, water entering the tank 5 will raise the float 6 therein and on the filling of the said tank, the float 17 will also rise with the water, thereby turning the plug 12, thus positioning the opening in the said plug at right angles to the bore in the valve casing 11 and in this manner shutting off from the tank the supply of disinfectant held within the reservoir. Now, on the discharge of the water from the tank 5, the float 17 will be caused to extend within the said tank and in this manner the turning plug 12 will be rotated, so as to bring its opening into alinement with the opening 14 and the bore in the valve casing or shell 11, thereby permitting the disinfectant contents to gravitate from the reservoir 7 into the tank. This operation is continued with each displacement of the float when rising and falling within the tank by the ingress and egress of water therein.

What is claimed is:

A disinfecting apparatus comprising a receptacle having a rounded bottom and a centrally disposed threaded opening therein, a nipple threadedly adjustable in said opening and having a portion depending therefrom, a valve casing adjustably mounted on said depending portion of the nipple, a rotary valve operating in said casing, a float valve arm secured to one end of the said valve, a float carried by the free end of the said arm, a pocket in said valve adapted to aline with the opening in said receptacle on movement of said valve to a predetermined height, and said valve casing and nipple being adjustable to regulate the rise of said float to said predetermined height with tanks of different capacities, as described.

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

JAMES GILSON.

Witnesses:
J. L. MITCHELL,
MARY G. SMITH.