

C. S. SPARLING.  
FLUSHING APPARATUS.  
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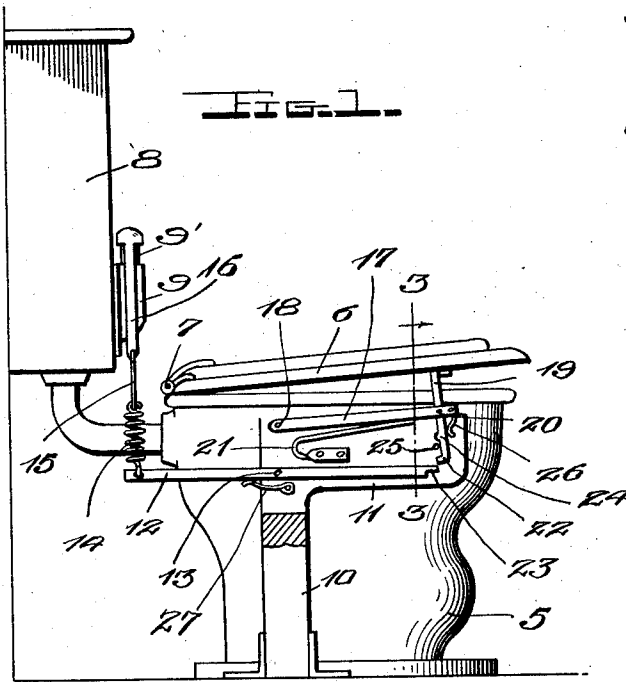


FIG. 3.

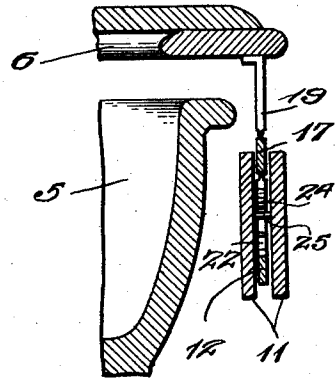


FIG. 2

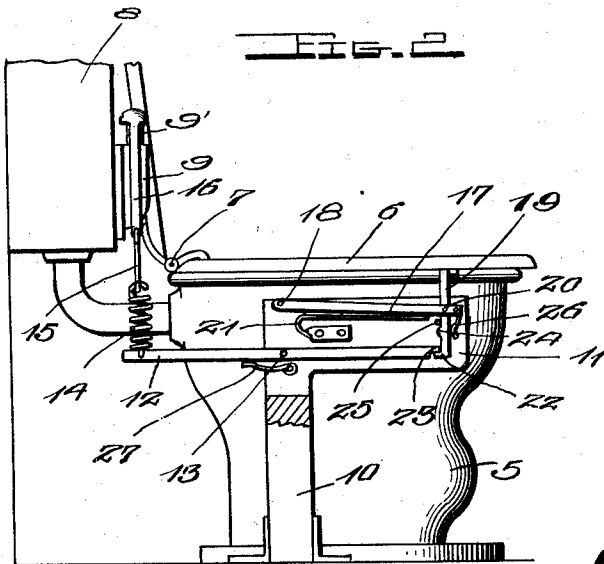
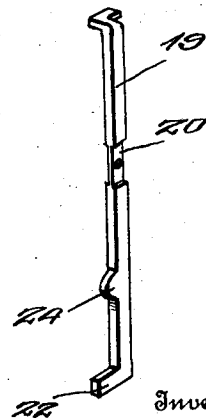


FIG. 4



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# UNITED STATES PATENT OFFICE.

CHRISTIAN S. SPARLING, OF MOLINE, ILLINOIS.

## FLUSHING APPARATUS.

1,025,166.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed March 2, 1912. Serial No. 681,023.

*To all whom it may concern:*

Be it known that I, CHRISTIAN S. SPARLING, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Flushing Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in flushing apparatus for closet bowls and has for its primary object to provide an automatically actuated device of this character for operating the valve of a flushing tank, a further object being to provide a device for this purpose which is simple in construction and positive in actual use.

Another object of the invention is to provide a valve operating mechanism for flush tanks of that type wherein the same is actuated by the bowl seat, said seat being normally disposed in spaced relation to the edge of the bowl.

A further object of the invention is to provide a flushing apparatus consisting of comparatively few elements which are of simple form, strong and durable in use and which may be produced at comparatively small cost.

With the above and other objects in view, the invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a closet bowl provided with my improved flushing apparatus, the standard or support being shown in section; Fig. 2 is a similar view showing the parts in position when the seat is forced down; Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1; and Fig. 4 is a detail perspective view of the pivoted trip member.

Referring in detail to the drawing 5 designates a closet bowl which may be of any ordinary or approved form and 6 indicates the seat which is hingedly mounted upon the rear upper edge of the bowl as indicated at 7.

8 designates a water reservoir or flush

tank provided with a suitable valve 9 having a stem 9'.

It will be obvious from the following description that the present invention is not limited to the form of tank valve shown in the drawing, but is also applicable to flush tanks wherein the valve is opened by means of a handle or chain.

At one side of the bowl 5 and closely adjacent thereto, a standard or support 10 is arranged, said standard being fixed to the floor by means of suitable brackets 11. This standard is preferably made of wood and is provided at its upper end with the spaced laterally and forwardly extending arms 12 between which the elements of the valve operating mechanism are arranged. This mechanism includes a horizontally disposed bar 12 which is pivoted intermediate of its ends as indicated at 13 in the parallel arms 11 of the supporting standard 10. To the rear end of this bar one end of a coiled spring 14 is connected, a chain or other flexible connection 15 being attached to the other end of the spring. A suitable yoke member 16 is connected to the other end of the flexible member 15 and bears upon the upper end of the valve stem 9' to force said stem downwardly upon the valve in the manner which will be apparent from the following description.

Between the rear ends of the arms 11 and adjacent to their upper edges one end of a horizontally disposed member 17 is fulcrumed as indicated at 18. The forward end of said member is notched or recessed, and in said recess the trip member 19 is pivotally mounted adjacent to its upper end as shown at 20. The upper end of this trip member is provided with a lateral extension which bears against the under side of the edge of the seat 6. A heavy leaf spring 21 is fixed at one end to the inner face of one of the arms 11 and bears at its free end against the under surface of the pivoted member 17. This spring acts to force said member upwardly and through the medium of the trip member 19 normally maintains the pivoted seat 6 in an elevated position and in spaced relation to the upper edge of the closet bowl 5. The lower end of the trip

member 19 is provided with an inwardly extending flange 22 to engage beneath a shoulder 23 formed upon the forward end of the pivotally mounted bar 12. This trip member is further provided at a point between its lower end and the member 17 with a shoulder 24 which coöperates with a pin 25 fixed at its ends in the parallel arms 11 of the supporting standard. A spring 26 is fixed at one end to the forward end of the pivoted member 17 and bears upon said trip member to yieldingly hold the same in contact with the pin 25. A leaf spring 27 is also arranged between the arms 11 beneath the bar 12 and engages the same rearwardly of its fulcrum 13, said spring acting to normally hold the bar in a horizontal position.

The operation of the invention is as follows. Assuming that the parts are in the position shown in Fig. 1, when the seat 6 is forced downwardly so as to lie in parallel relation to the upper edge of the bowl, and the shoulder 24 of the trip member 19 engaging the pin 25 causes the lower end portion of said trip member to move outwardly whereby the flange 22 thereof is engaged beneath the shoulder 23 on the forward end of the bar 12. The pivoted member 17 is also forced downwardly against the pressure of the leaf spring 21. In this position of the parts as shown in Fig. 2, the shoulder on the trip member is disposed below the pin 25, the spring 26 holding said trip member in engagement with the shoulder on the bar 12. When the weight upon the seat 6 is removed, the spring 21 acts to force the member 17 upwardly, thereby also moving the trip member 19 upwardly and raising the forwardly extending portion of the bar 12, thereby moving the rear portion of said bar downwardly and through the medium of the yoke 16 and connections with said bar, depressing the valve stem 9' and opening the valve so that water can enter the bowl from the flush tank. When the shoulder on the trip member 19 engages the pin 25 the lower portion of said trip member is forced outwardly to disengage the flange 22 thereof from the forward end of the bar 12, thereby releasing said bar and permitting the pin 27 to return the same to its normal horizontal position. In the event that the movement of the bar 12 is greater than is necessary to fully open the tank valve, the spring 14 compensates for this greater movement and avoids liability of distortion of yoke member 16 or injury to the valve.

From the foregoing it is believed that the construction and manner of operation of my improved flushing apparatus will be readily understood. The various parts are so assembled and arranged that they oc-

cupy but small space and by housing the same between the parallel extensions 11 of the standard, accidental breakage of the parts is prevented. The device is entirely automatic in its operation, and positively acts to flush the bowl upon each depression of the seat. Owing to the simple construction of the device it will be obvious that the same can be manufactured and installed at a nominal cost.

While I have shown and described the preferred construction and arrangement of the various parts, it will be understood that the invention is susceptible of considerable modification without departing from the essential feature or sacrificing any of the advantages thereof.

Having thus described the invention what is claimed is:—

1. The combination with a bowl having a hinged seat and a flushing tank provided with a valve, of a standard arranged adjacent to the bowl, a horizontally disposed bar pivotally mounted in said standard and yieldingly held in its horizontal position, means connected to one end of said bar to actuate the tank valve and open the same, a spring pressed pivoted member mounted at one end in the standard, a trip member pivotally mounted in the free end of said spring pressed member, said trip member having a flange on one end, said horizontal bar being provided with a shoulder on one end with which the flange of the trip member coöperates, the upper end of said trip member engaging the seat and normally supporting the same in an elevated position, and means co-acting with means on the trip member to engage the flange of the trip member with the shoulder of said bar when the trip member is forced downwardly by pressure upon the seat whereby said horizontal bar is moved to open the valve when pressure on the seat is removed.

2. The combination with a bowl having a hinged seat and a flushing tank provided with a valve, of a standard having spaced parallel portions at its upper end, a bar pivotally mounted intermediate of its ends between the spaced portions of the standard, a spring engaging said bar to hold the same against pivotal movement in one direction and maintain the bar normally in a horizontal position, connecting means between one end of said bar and the tank valve, a member pivotally mounted at one of its ends between the parallel portions of the standard, a spring yieldingly holding said member against pivotal movement, a trip member pivotally mounted in the forward end of said pivoted member for movement independently thereof, one end of said trip member engaging the seat to support the same in an elevated position, the other

end of said trip member being provided with a flange to cooperate with the end of said horizontal bar and also having a shoulder formed on one edge, and a pin with  
5 which said shoulder is adapted to engage whereby the flange of the trip member is engaged with the bar upon the depression of the seat, and said bar moved to open the tank valve when pressure upon the seat is

released and the same is returned to its normal position. 10

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

CHRISTIAN S. SPARLING.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."