(No Model.)

W. H. OSBORN.

FLUSHING ATTACHMENT.

No. 550,006. Patented Nov. 19, 1895.

Fig. 1.

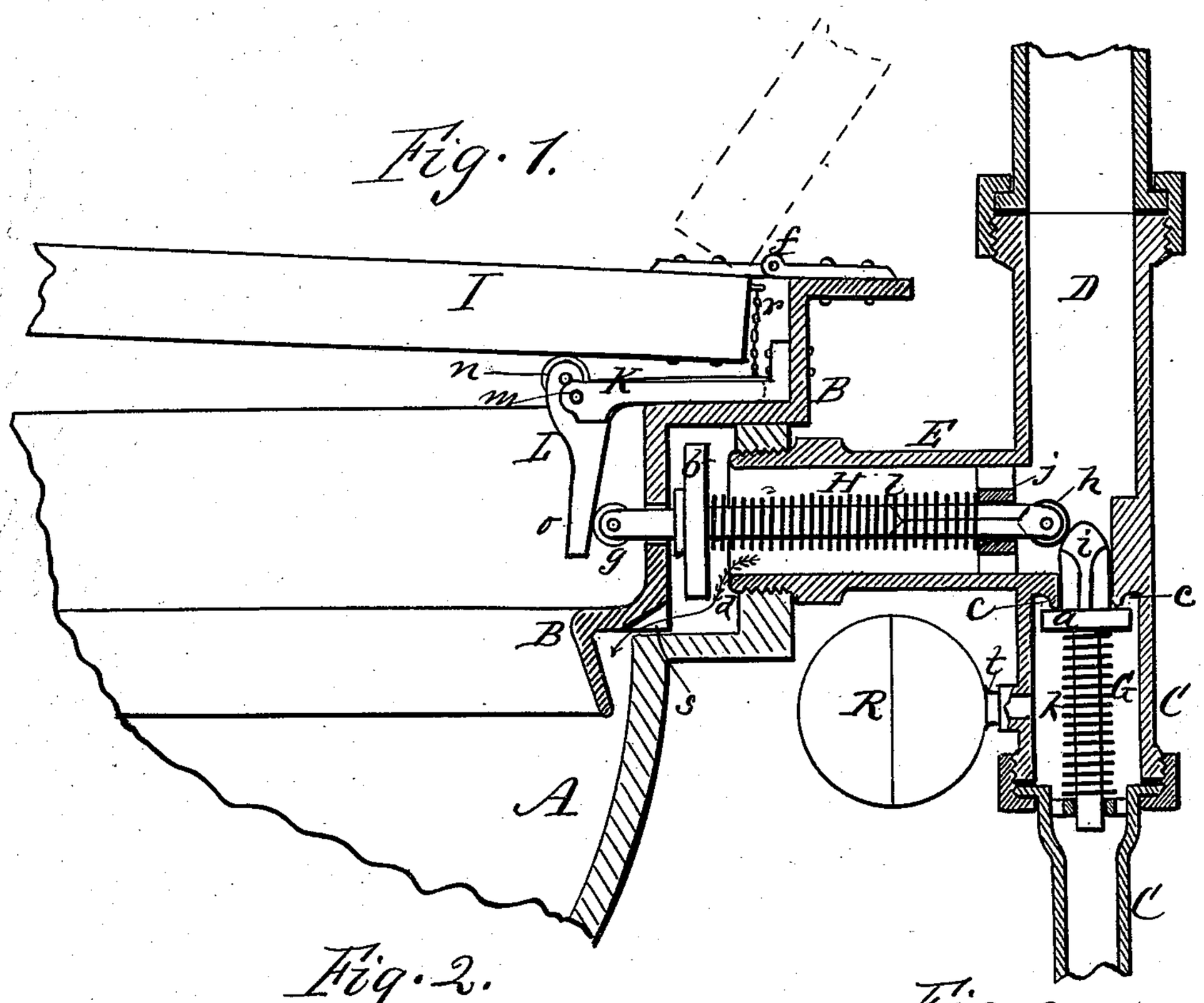


Fig. 2.

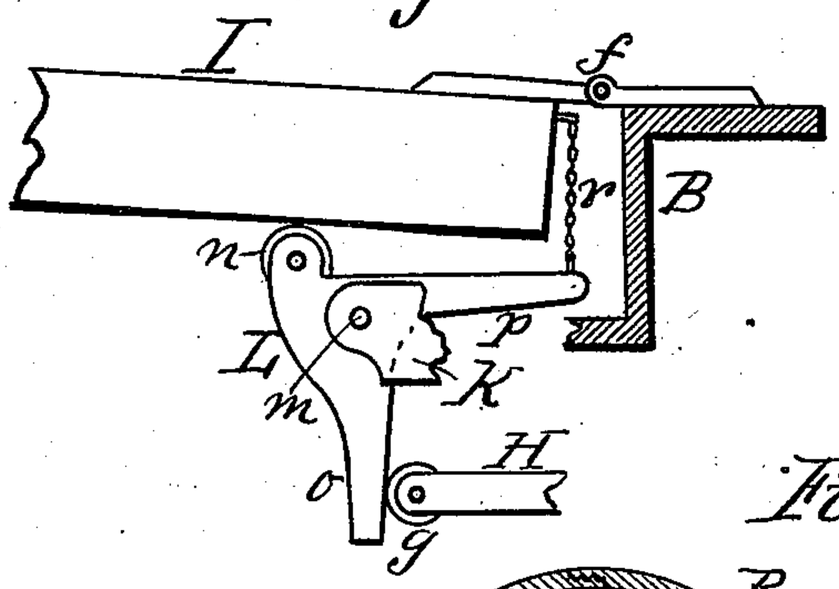


Fig. 3

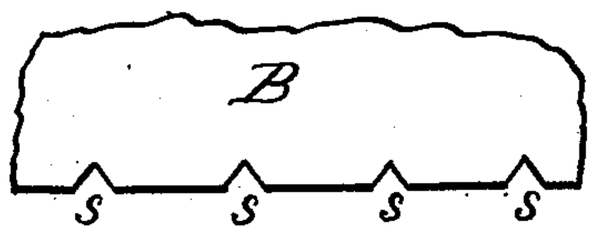
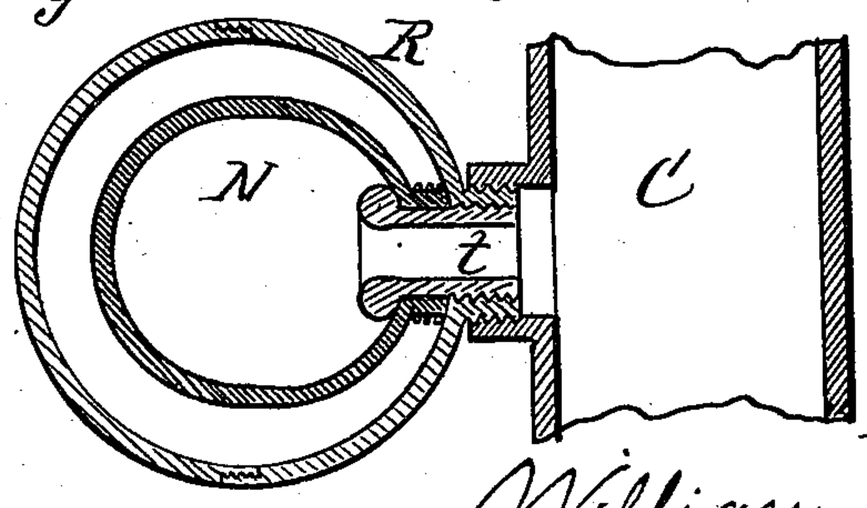


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FLUSHING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 550,006, dated November 19, 1895.

Application filed June 25, 1895. Serial No. 553,960. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. OSBORN, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Flushing Attachments; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this specification.

My improvement relates to flushing apparatus for water-closets in which a hinged seat is used, which, when depressed by weight on top, opens a valve that admits water from the main to an elevated tank, at the same time shutting off the flow to the bowl, and when the weight is removed cuts off flow to the tank and allows the flushing action to take place. Such devices are in common use. My invention consists in the combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a longitudinal vertical section of that portion of the flushing attachment that is connected with the bowl. Fig. 2 is an enlarged vertical section showing the hinged end of the seat and the devices connected therewith for producing the flushing action for urinal purposes. Fig. 3 is an inner edge view of a portion of the safe that fits into the top of the bowl, and showing more particularly the notches for allowing passage of water during the flushing action. Fig. 4 is an enlarged longitudinal section of the expanding device to prevent pounding when the induction-valve closes.

A indicates the bowl and B the flushing-rim or upper lining, which fits in the top of the bowl.

C is the service-pipe, through which water is admitted from the main.

D is the pipe that supplies the elevated water-tank, and E is the pipe entering the bowl, these three pipes being all connected together, as shown.

G and H are two valve-rods located, respectively, in the pipes C and E, and provided with valves *a* and *b*, which shut against seats *c* and *d*. The valve *a* is the induction-valve that admits water from the main, and valve B is the cut-off valve that prevents flow into the bowl when the seat is depressed.

I indicates the seat, hinged at *f* to the top of the flushing-rim B, and in its normal position standing somewhat elevated above the bowl, as in ordinary seats of the kind.

The valve-rod H stands horizontally, its front end projecting through the bowl and provided with a friction-roller *g*, its rear end passing through a bearing *j*, and also provided with a friction-roller *h*. The induction-valve *a* is provided with an upwardly-projecting head *i*, with a rounded or conical end, against which the roller *h* bears, as shown in Fig. 1. When the rod H is forced back the roller *h*, striking this inclined head, forces the head down and opens the induction-valve and admits water to the tank. A portion of the length of the rod H is squared and runs through the bearing *j*, which keeps it from turning. Valve *a* is pressed closed by a spring *k*, and valve *b* is pressed open by a spring *l*.

K is a rigid bearing or support attached to the flushing-rim beneath the seat, and L is a lever pivoted at *m* to its outer end, so as to turn freely. To the upper end of the lever is journaled a friction-roller *n*, on which the seat bears. The lower end *o* of the toggle extends downward and bears against the roller *g* on the end of the valve-rod H. When the seat is pressed down, the lever L forces the valve-rod back, closing the valve *b* against its seat *d*, and thereby preventing the flushing of the bowl. This action also causes the roller *h* to force the valve *a* open, as before described, and allows water to flow through pipe D and fill the tank. When the seat is raised again, valve *a* closes and shuts off the water to the tank and valve *b* opens and allows the water in the tank to pass through and flush the bowl.

The lever L has a rearwardly-extending arm *p*, to which is connected a chain or link *r*, extending upward and attached to the rear of the seat I. When the seat is thrown back into the position shown by dotted lines, Fig. 1, the chain is drawn up with it and the lever, acting as a lever, is forced back against the end of the valve-rod H, the same as when the sert is pressed fully down, and producing the same action in admitting water to the tank and flushing the bowl when the seat is released again. The object of this arrangement is to produce a flushing action for urinal purposes, as well as for closet uses.

The flushing-rim B is mounted on top of the bowl and its lower thin edge extends down into the bowl and is inclined backwardly nearly to the sides of the bowl, leaving a thin annular passage between itself and the bowl, as shown in Fig. 1. This flanged form of the rim serves to spread the water in a thin sheet all around the inner surface of the bowl. In the shoulder of the flushing-rim that rests on the shoulder of the bowl are formed a series of notches *s s*, which allow the water to pass from the pipe E into the bowl. These notches are arranged at equal distances apart around the whole circuit of the flushing-rim, and to insure the passage of water through all of them an annular water-passage is formed in the rim of the bowl, into which passage the water enters from pipe E.

N is an expanding bulb made of rubber and provided with a nozzle *t*, which enters the induction-pipe C below the valve *a*, said bulb being inclosed in a metallic case R of larger size. Water from the pipe has free passage into the bulb, and under ordinary pressure expands the bulb against the case. The object of this device is to prevent the noise produced by the pounding or concussion of the valve *a* against its seat when the flow through the valve-opening is suddenly closed by the shutting of the valve. When the valve is so closed, the water entering the bulb expands the same and relieves the pressure in the pipe.

Having described my invention, I claim—

1. In a flushing attachment, the combination, with the hinged seat I, and valve stem H, of the lever L resting against the stem and provided with the arm *p*, and the chain *r* connecting with the seat, as and for the purpose specified.

2. In a flushing attachment, the combination of the hinged seat I, the lever L provided with the arm *p*, the chain *r* connecting said arm with the seat, and the valve rods G and H provided respectively with the rounded head *i* and roller *h* resting in contact, as shown and described and for the purpose specified.

3. In a flushing attachment, the combination, with the bowl A, of the flushing rim B provided with a thin flange extending into the bowl, and backwardly inclined, leaving a thin annular passage between itself and the bowl, and notches in the shoulder of the rim, arranged at intervals and forming communication between the flushing pipe and the bowl, as shown and described and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM H. OSBORN.

Witnesses:
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