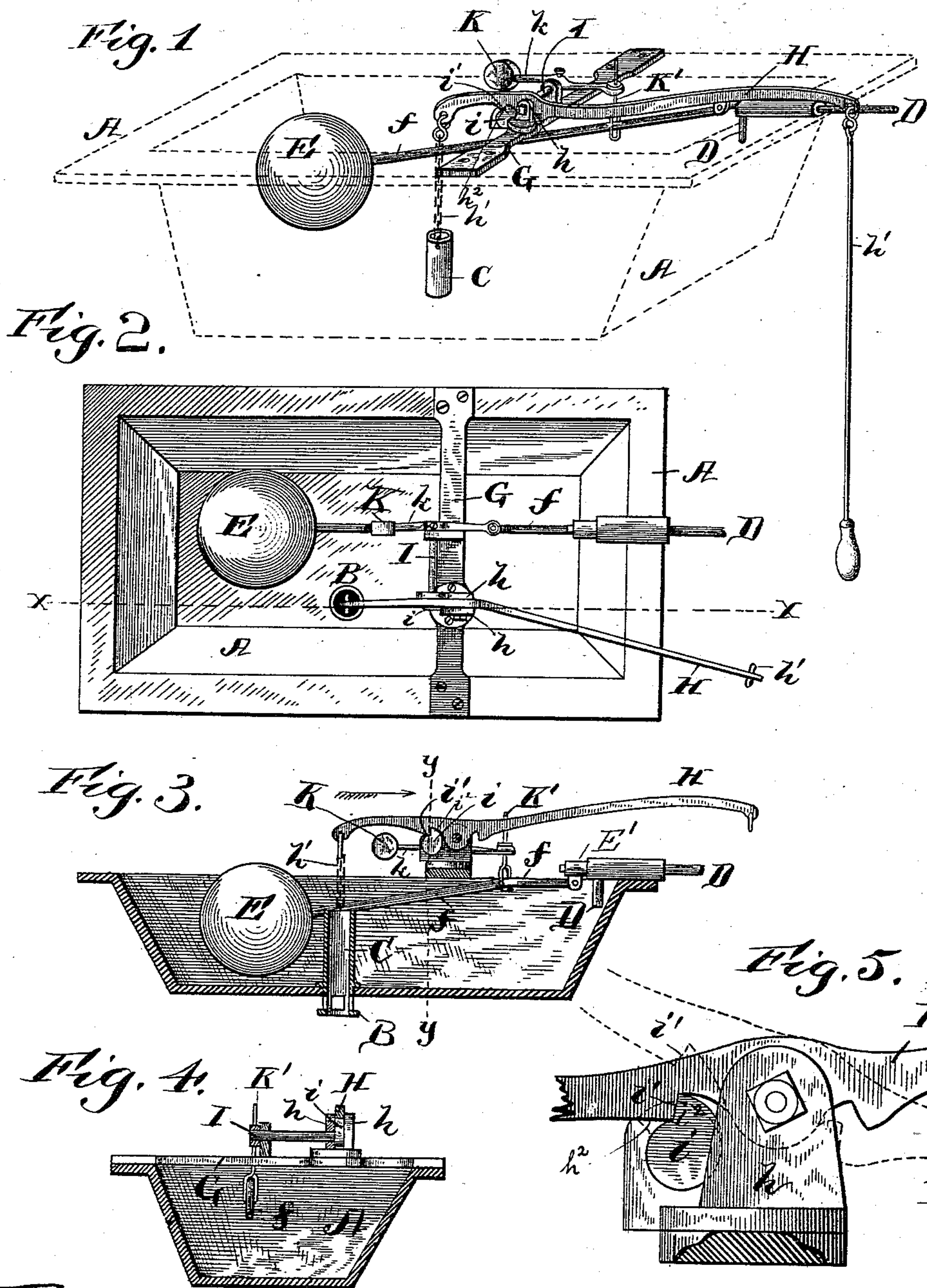


(No Model.)

A. HAARLANDER.
FLUSHING TANK FOR WATER CLOSETS.

No. 439,062.

Patented Oct. 21, 1890.



Witnesses:
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UNITED STATES PATENT OFFICE.

AUGUST HAARLANDER, OF ALLEGHENY, PENNSYLVANIA.

FLUSHING-TANK FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 439,062, dated October 21, 1890.

Application filed February 27, 1890. Serial No. 341,990. (No model.)

To all whom it may concern:

Be it known that I, AUGUST HAARLANDER a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Flushing-Tanks for Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to flushing-tanks for water-closets, and has for its object the provision of novel means for opening the discharge-pipe, maintaining the flow until the tank is emptied, and then automatically closing the discharge and opening the supply according to the usual requirements.

In Letters Patent granted to me the 29th day of January, A. D. 1889, No. 396,927, I have shown and described a flushing-tank with interlocking mechanism, which is released by means of a chain and lever, and which automatically relocks itself when the tank is empty, or partially so, and the float has reached the bottom or limit of its fall.

The present invention is designed, primarily, as an improvement in the class of flushing-tanks of which said patent is an illustration, and is intended to be more simple and more sensitive and effective in its operation.

The invention consists in the novel construction, combinations, and arrangements of parts hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 is a perspective view. Fig. 2 is a plan view of a flushing-tank provided with my improvements. Fig. 3 is a vertical longitudinal section, and Fig. 4 a vertical transverse section, of the same. Fig. 5 is a detail view.

The tank A is of the usual shape and provided with the outlet-pipe B, leading to the bowl of the water-closet, and closed by a weighted overflow-stopper C.

D is the inlet-pipe, through which the tank is supplied with water, and which is provided with a piston-valve E', pivotally connected to the float E by rod f and operated thereby.

G is a cross-bar or bridge spanning the trough A, and H is a lever pivoted between lugs h, rising from the bar G. To one end of

said lever is attached the chain h', and between the inner end of said lever and pivot is formed a tooth or catch h², beveled on its external edge.

I designates a rock-shaft mounted in suitable bearings on the bridge G. The inner end of this shaft carries a cam i of a volute shape, the edge of which terminates in a tooth or radial shoulder i². The outer end of the shaft I carries a lever k with weight K, through which lever passes the shank of an adjustable stirrup K', which embraces the float-rod f.

The operation of the mechanism described is as follows: When the tank is full of water, the float is raised and the supply cut off. The waste is also closed, and the several working parts occupy the position shown in Fig. 1—i. e., the weighted lever k is elevated at its weighted end and its other end depressed, while the rock-shaft I and cam or eccentric i lie in such a position that the tooth or catch i' of the lever H engages with the tooth or shoulder i² of the cam, the lever, cam, and other connections being thus interlocked. To flush the water-closet bowl, the lever H is pulled down by means of the chain and the overflow-stopper lifted. The weighted end of the lever K immediately falls, turning the rock-shaft and shouldered cam, so that when the lever H is released its short toothed end will rest upon the periphery of the cam just in advance of the shoulder i². The water now sinks and the float descends until its rod strikes the bottom of the stirrup K', when it pulls the latter downward, thus elevating the weighted end and turning the rock-shaft and eccentric until the latter re-engages with the catch i' of the lever H, thus closing the outlet and restoring the parts to their first position. By proper adjustment of the stirrup K' the amount of water discharged at one time can be nicely regulated.

Having described my invention, I claim—

In flushing-tanks for water-closets, the combination, with a transverse bridge G, having lugs h h³, of the lever H, pivoted between the lugs h and having on its under side a beveled tooth h², a weighted escape-valve C, suspended from the inner end of the lever H, a transverse horizontal shaft I, journaled in the lugs h h³, a toothed or shouldered cam i on

one end of said shaft engaging with the tooth
of lever H, a lever K on the opposite end of
said shaft, carrying a counterpoise-weight on
one arm and an adjustable stirrup K' on the
5 other end, and a float-rod and float, the float-
rod being pivotally arranged and passing
through the loop of the stirrup, substantially
as described.

In testimony that I claim the foregoing I
have hereunto set my hand this 16th day of 10
January, 1890.

AUGUST HAARLANDER.

Witnesses:

FRANCES J. TORRANCE,
WILLIAM H. BRADSHAW.