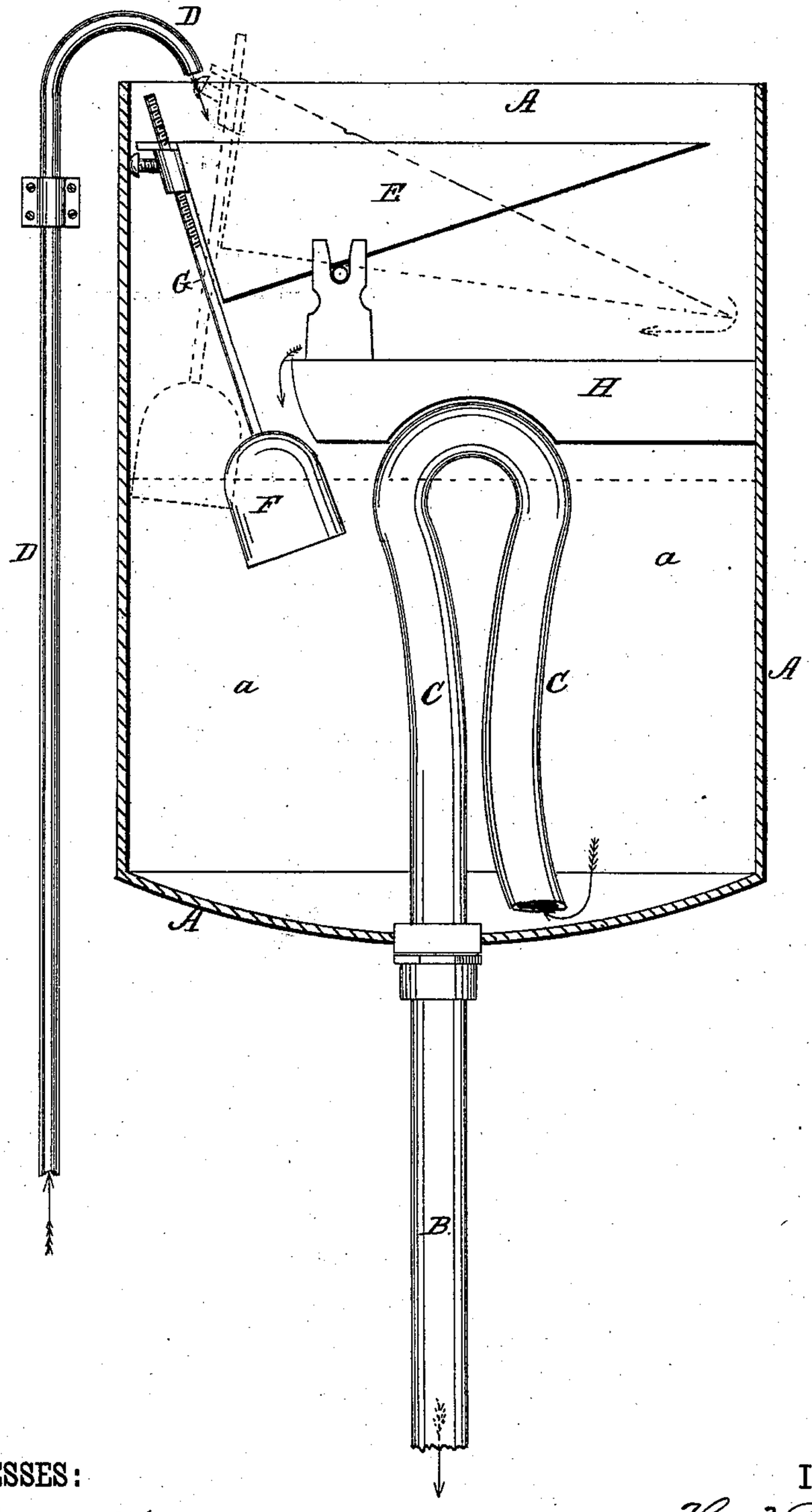
H. HOUSTON.

Water-Closet Cistern.

No. 221,067. Patented Oct. 28, 1879.



WITNESSES:

W. W. Hollingsworth

Amos N. Hart

INVENTOR:

H. Houston

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HUGH HOUSTON, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN WATER-CLOSET CISTERNS.

Specification forming part of Letters Patent No. **221,067,** dated October 28, 1879; application filed September 20, 1879.

To all whom it may concern:

Be it known that I, HUGH HOUSTON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Automatic Water-Closet Cisterns; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is to provide an improvement in that class of automatic overflow-cisterns for water-closets whose discharge is so regulated, by means of an overflow compartment or chamber and float and valve connected therewith, that said discharge occurs at regular intervals, and each time gives the water-closet bowl a sudden flush and thoroughly washes out the same.

My invention is more particularly an improvement upon that forming the subject of Letters Patent of the United States No. 213,920, dated April 1, 1879.

In my invention I dispense with a fixed overflow-chamber and valve connected therewith, and I employ a pivoted water tray or receptacle, to which the float is attached in such a manner that when the water rises to a sufficient height in the siphon-chamber the float will also rise and cause the tray to tilt, so that its contents will be thus instantaneously discharged into the siphon-chamber, and effect the desired flushing and washing out of the water-closet bowl.

In the accompanying drawings, forming part of this specification, I represent a vertical central section of an apparatus embodying my improvement.

The box A is to be placed, in practice, a suitable distance above the water-closet bowl, (not shown,) with which it will be connected by a pipe, B, extending up through the bottom of the box A, and bent or curved within the chamber *a*, so as to form a siphon, C. In place of the bent siphon I may use a cone-siphon, with the like result.

The inlet-pipe D discharges into a scoop-shaped tray or receptacle, E, which is pivoted in the upper part of box A. A float, F, is attached to the larger end of said tray E by means of a rod, G, which is screw-threaded at its upper end, to adapt it for lengthwise adjustment, for the purpose of placing the float higher or lower, so that the tray may be tilted when the water in the siphon-chamber *a* rises to a certain height, greater or less.

The box A has a partition, H, which occupies about two-thirds of the width of the chamber. Said partition is constructed of a thick piece of wood or metal, so that it takes up a considerable portion of chamber *a*, and thus enables a smaller quantity of water to fill the same (sufficiently to cause the siphon C to operate) than would be otherwise required.

In practical operation, the water fills tray E and overflows into chamber *a* until it has filled the same sufficiently high to buoy and raise the float F, whose upward movement necessarily tilts the tray, and thus effects the sudden discharge of its contents into chamber *a*.

The siphon C (which is of greater diameter or capacity than the inlet-pipe D) will then be filled, and quickly empty the chamber and convey its contents to the water-closet bowl, thereby flushing and thoroughly washing out the same.

The advantage of my invention in respect to instant discharge of the contents of the tray into the siphon-chamber, and as quickly filling the latter, so that the siphonic action is more rapid and effective, is obvious.

What I claim is—

1. In a water-closet cistern, the combination, with a siphon and siphon-chamber, of a pivoted tilting tray or water-receptacle, located as specified, and a float attached to said tray, substantially as shown and described, so that the overflow from the tray fills the chamber, buoys the float, and thus causes instantaneous discharge of the contents of the tray into the chamber.

2. The combination, with the siphon, siphon-chamber *a*, tray E, and float F, of the thick wood partition H, arranged horizontally, as and for the purpose specified.

HUGH HOUSTON.

Witnesses:
B. MCKENNA,
JOHN BLACK, Jr.