(51.)

J. C. I. STURM.

Improvement in Drain Trap.

No. 122,866. Patented Jan. 16, 1872.

Fig. 1

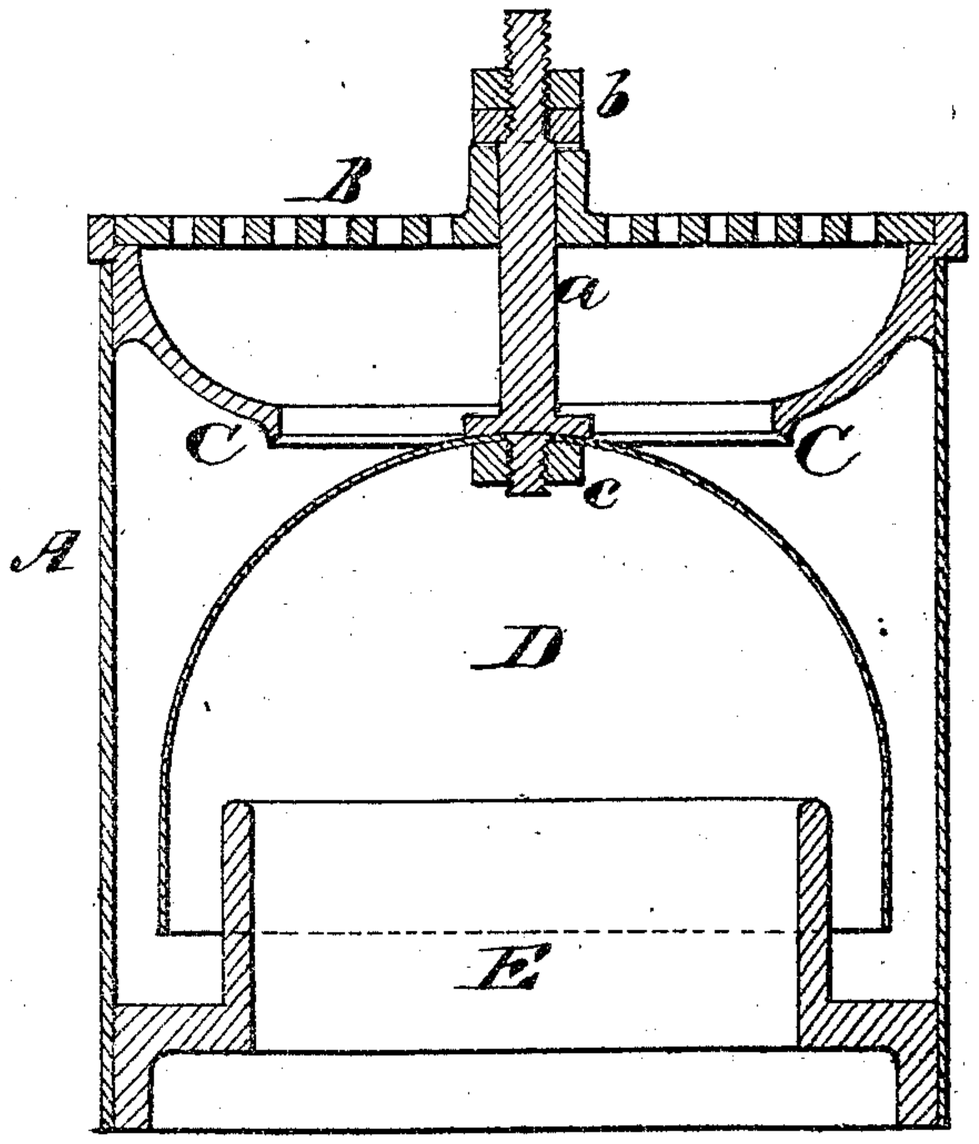
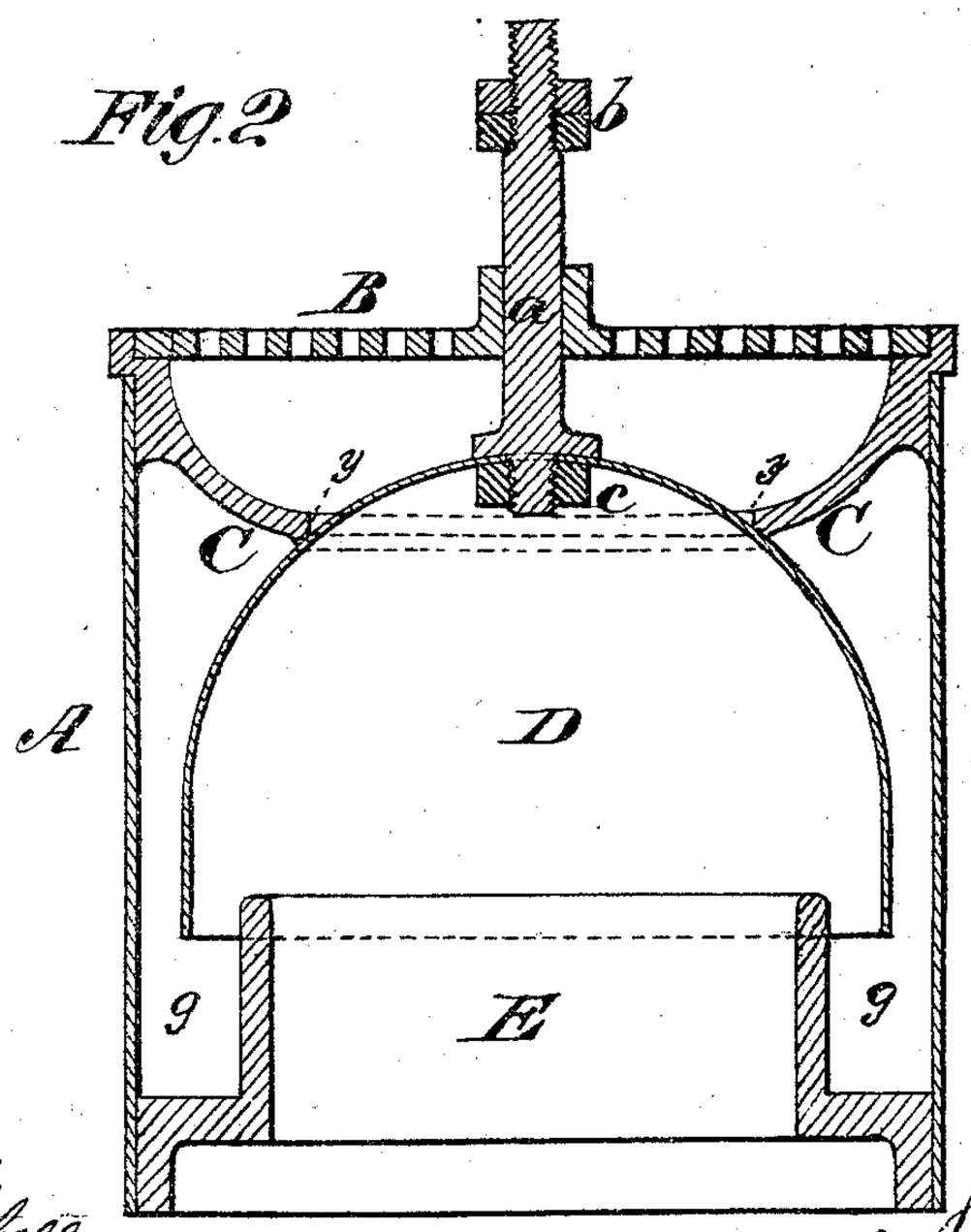


Fig. 2



Witnesses.
P. Hamilton.
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by
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122,866

UNITED STATES PATENT OFFICE.

J. CHRISTIAN IMANUEL STURM, OF BUFFALO, NEW YORK.

IMPROVEMENT IN DRAIN-TRAPS.

Specification forming part of Letters Patent No. 122,866, dated January 16, 1872.

To all whom it may concern:

Be it known that I, J. CHRISTIAN IMANUEL STURM, of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Drain-Trap; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a diametrical section through the device, showing the valve below its seat. Fig. 2 is a similar view of the same parts, showing the valve pressed up against its seat.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to improve sewer-traps by the employment of a floating hemispheroidal valve, the lower end of which dips into an annular water-receptacle or gas-trap, in combination with an inverted valve-seat so arranged that while gas and water are prevented from escaping from the sewer backwardly through the trap, fluids are allowed to flow freely through the trap on their way into the sewer, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents a casing or outer wall inclosing the trap, and having fitted to its upper end a grating or strainer, B, below which, and tightly fitting the interior of the said casing, is a basin, C, terminating below in an annular valve-seat, *y*. The lower end of the casing communicates with a pipe which leads into the sewer. At a suitable distance beneath the valve-seat *y*, and fitted tightly into the casing A, is a gas-trap, which is an annular chamber, *g*, formed between the reduced cylindrical portion E and the casing. Between the gas-trap *g* and the valve-seat *y* is applied a valve, D, the lower edge of which dips down into the water which is contained in the trap *g*, thus preventing gas from rising through the casing A. This valve D may be hemispherical or of any other suitable form which will allow it to be floated up against its seat *y* when an upward pressure of water is brought to act against it, and which will also allow its lower edge to work in the trap-chamber *g*. For the purpose of centering and guiding the valve D a valve-stem, *a*, is secured centrally to its crown by a nut and shoulder, *c*, which stem plays freely through the center of the strainer B and has a cap or nut, *b*, applied on its upper end for sustaining the valve when down, as shown in Fig. 1.

It will be seen from the above description that the valve D is free to play up and down between the bottom of the trap *g* and the valve-seat *y*. When there is an upward pressure against this valve it will rise and be received against its seat *y*, which will prevent an upward escape of water through the casing. In this last-named position of the valve its lower end dips into water in the trap-chamber *g*, and consequently prevents the upward escape of gas. It will also be seen that by the hemispherical or bell-shape of the valve D when water backs up against it it will be filled with air and will be buoyed up against its seat before the water can reach this seat. It will also be seen that the lower end of the valve is at all times immersed in water contained in the trap *g;* consequently, whether the valve is against its seat or not, gas will not escape through the trap from the sewer.

Having described my invention, I claim—

1. The hollow floating valve D inclosed and guided within a casing, A, beneath a valve-seat, *y*, substantially as described.

2. The annular trap *g* receiving the lower open end of the valve D, in combination with valve-seat *y* formed in a basin, C, which is covered by a strainer, B, substantially as described.

J. CHRISTIAN IMANUEL STURM.

Witnesses:

B. H. COLEGROVE,

TOBIAS WITMER.

(8)