

(No Model.)

J. SCOTT.

APPARATUS FOR FLUSHING SEWERS, WATER PIPES, &c.

No. 317,025.

Patented May 5, 1885.

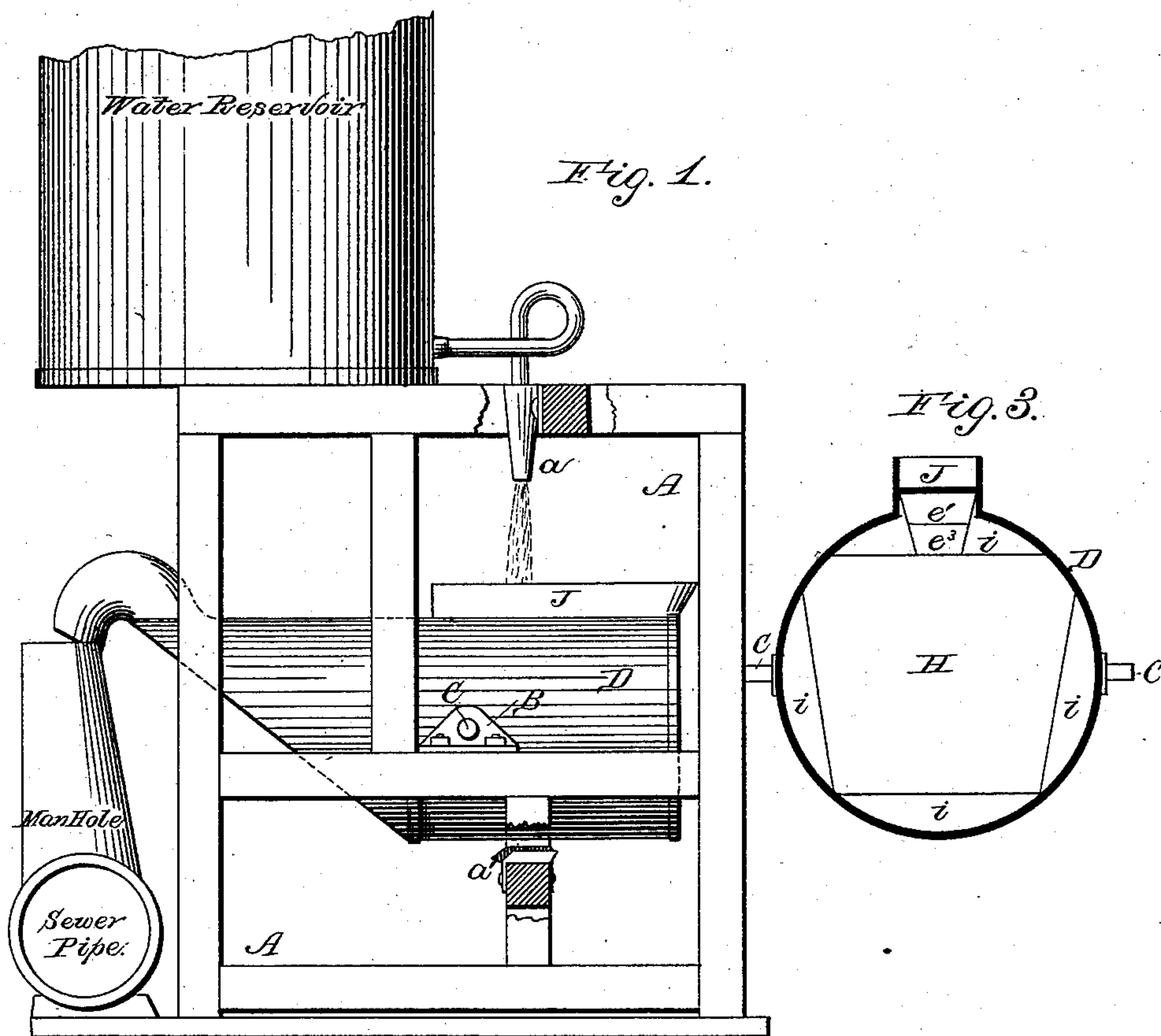


Fig. 1.

Fig. 3.

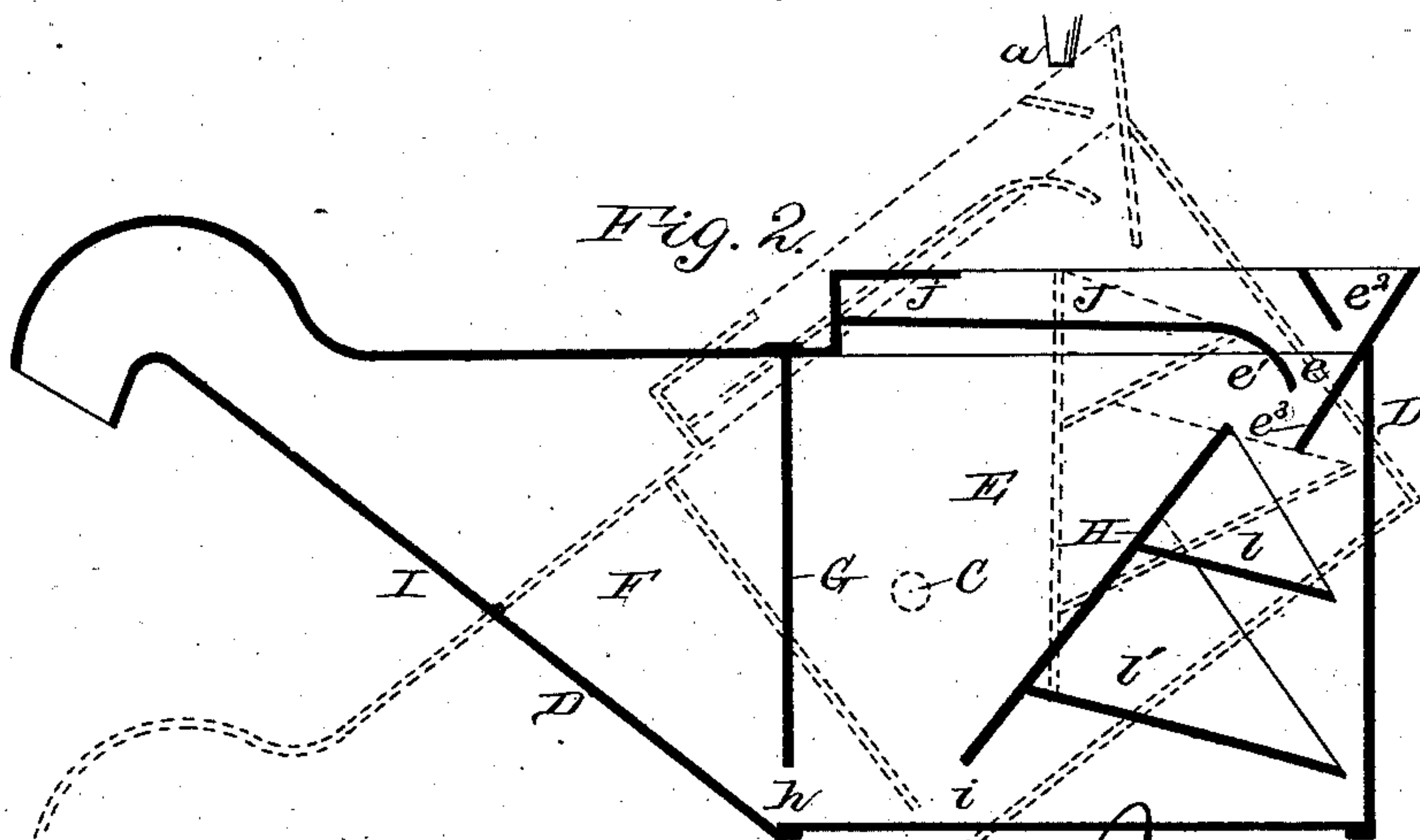
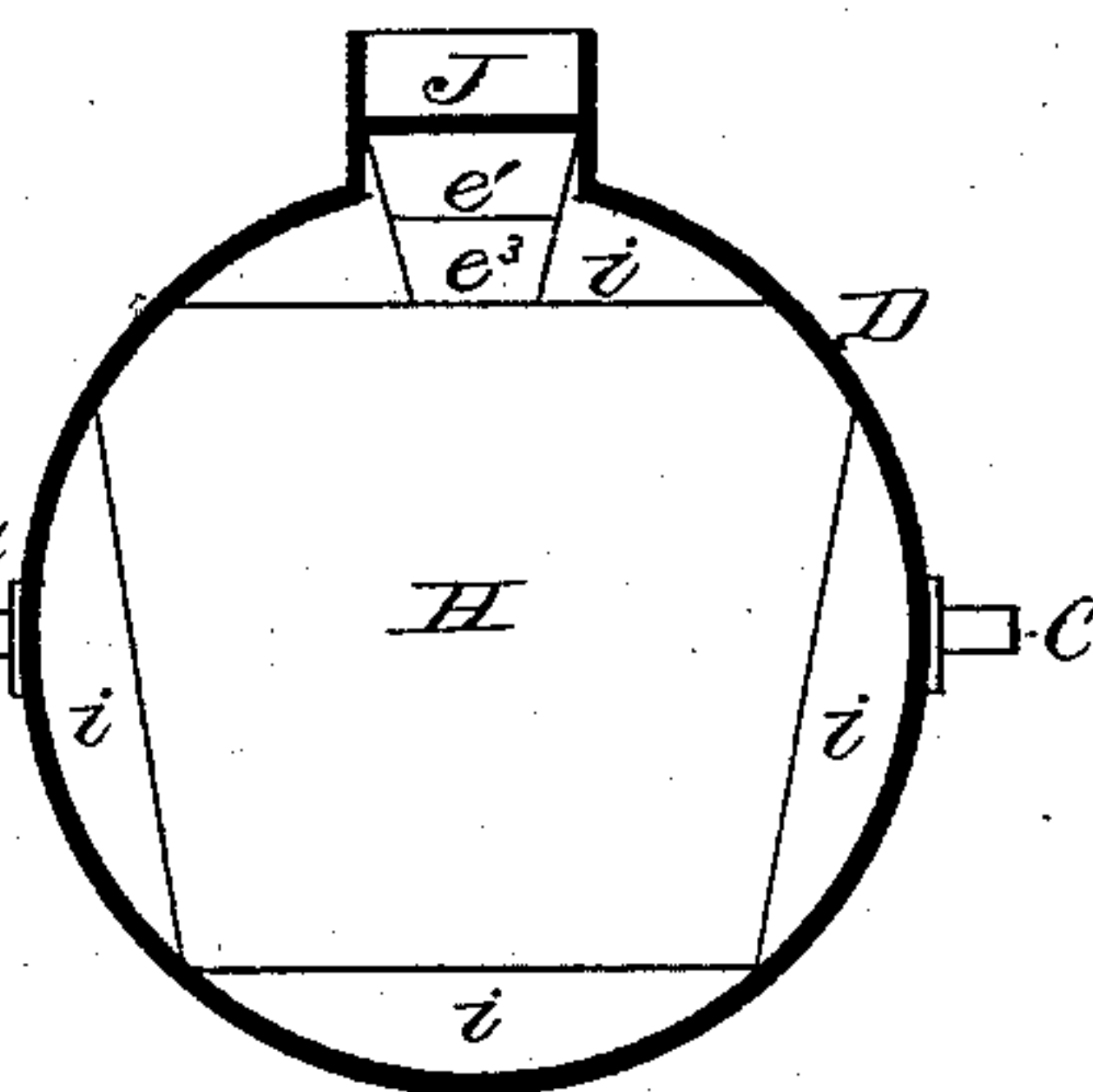


Fig. 2.

WITNESSES

J. B. Garner
& G. J. Figgers

James Scott
INVENTOR

by C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JAMES SCOTT, OF DENVER, COLORADO.

APPARATUS FOR FLUSHING SEWERS, WATER-PIPES, &c.

SPECIFICATION forming part of Letters Patent No. 317,025, dated May 5, 1885.

Application filed December 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES SCOTT, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented a new and useful Improvement in Apparatus for Flushing Sewers, Water-Pipes, &c., of which the following is a specification, reference being had to the accompanying drawings.

My invention is an improved apparatus for flushing sewers, water-closets, &c.; and it consists in a tank which is pivoted on a frame, said tank being divided into compartments that are so arranged that the weight of the water that is admitted into the tank will first tilt it on its shaft, so as to discharge the water contained in the tank in a body into the sewer or water-closet, and the continued influx of water into the tank will return the tank to its normal position until a sufficient quantity of water has been collected to be again discharged into the sewer or water-closet, as will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of my invention is to provide an apparatus for flushing sewers, water-closets, mines, &c., automatically, being actuated entirely by the gravity of the water that passes through the tank.

My invention is adapted also to be used for storing water that is designed to be used for irrigating and other similar purposes.

In the accompanying drawings, Figure 1 is a side elevation of my invention. Fig. 2 is a detached vertical longitudinal sectional view of the tank, showing it in its initial position in solid lines and in position to discharge its contents in dotted lines. Fig. 3 is a detached vertical cross-sectional view of the tank.

A represents a frame of suitable construction, having bearings B, in which the trunnions C of the tank D are journaled. This tank is divided into two main compartments, E F, of unequal size, by means of the partition G, which extends down nearly to the bottom of the tank, leaving an opening, h, through which the contents of the compartment E may be discharged into the compartment F. The compartment E is cylindrical in shape, while the compartment F is partially cylindrical, and is provided with an upwardly-inclined flat bottom, I. A discharge-spout is formed on the outer

end of the compartment F, and is made "goose-necked" in shape, as shown.

On the upper side of the compartment E is formed a water way or trough, J, which extends nearly the entire length of said compartment, and has its inner end partially covered, as at j. An opening, e, is formed at the upper side of the compartment E at its rear end, a portion of its upper side within the inclosing sides of the water-way being curved downwardly, as at e'. A funnel, e², is located at the rear end of the water-way, and extending downwardly from the rear side of this funnel is a deflecting-plate, e³, which extends angularly past and a slight distance below the opening e.

H represents a partition, which is placed diagonally in the compartment E, a little to the rear of the center thereof. This partition is angular in shape, as shown in Fig. 3, and extends nearly across the compartment, leaving spaces i above, below, and on each side. A pocket, l, is placed on the rear side of the partition H, and a similarly-shaped but somewhat larger pocket, l', is placed below the pocket l. A nozzle or funnel, a, is secured to one of the transverse beams of the frame in such a position as to be above the water-way J when the tank is in its horizontal or initial position, and to register with the funnel e² when the tank is tilted so as to be in its discharge position.

Under the tank, and secured to the frame, is located a bumper, a', which is preferably covered with rubber or some other elastic substance to prevent abrasion of the tank, and which is located in such a position as to arrest the tank in its downward movement when discharging when the inclined portion of the bottom I reaches a horizontal position.

The operation of my invention is as follows: When the tank is in its horizontal initial position, the water which is discharged from the nozzle a is caught in the water-way and passes through the opening e upon the upper pocket, l, which discharges it upon the lower pocket, l', and from thence it is discharged into the bottom of the tank, and accumulates in the space between the partitions G and H, none of the water being retained in the pockets. While the water is accumulating in the tank it gradually passes through the opening h into

the compartment F. The trunnions of the tank are located a little to the rear of the center thereof, and the gradual accumulation of the water forward of this pivotal point finally
5 tilts the tank into the position shown in dotted lines, and the water therein passes violently through the discharge goose-neck into the man-hole of the sewer, as I have shown in Fig. 1, or into the water-closet, mine, or any-
10 thing else that it is desired to flush.

The construction of my tank is such that when tilted it is entirely and almost instantaneously drained, none of the water being permitted to remain therein. While in its discharge tilted position the tank is supported
15 upon the bumper a' , and the discharge-nozzle a is in line with the funnel e^2 . The water from the nozzle passes through the funnel e^2 into the pocket l , which is first filled, and its overflow fills the lower pocket, l' . The instant
20 that the pockets are both filled the gravity of the water in them is sufficient to overcome the weight of the front portion of the tank, and the tank is returned to its initial position,
25 when the water from the pockets is discharged into it, and the continued influx of water from the nozzle causes the discharge operation previously described to be repeated, and so on as long as the water is caused to flow through the
30 nozzle.

In Fig. 1, I have shown a tank or reservoir which is placed upon the frame and provided with a tube for conducting water into the nozzle a , in order to illustrate the operation of
35 the invention; but the water may be derived from any other suitable source, such as a running stream.

By ascertaining the quantity of water which is discharged at each operation of the tilting tank, and by connecting any suitable registering apparatus therewith, my invention may
40 also be employed as a measuring and recording apparatus.

My invention is simple in construction, is cheap, and derives its movements entirely
45 from the weight of the water which is fed into the tank, is therefore self-acting, and is not likely to get out of order.

This apparatus is also particularly well adapted for use in mines and in other sub-
50 terranean operations.

Having thus described my invention, I claim—

1. A pivoted tank that is divided into compartments that are so arranged as to cause the
55 water which is fed into the tank to tilt the said tank and discharge it of its contents and then return the tank to its initial position, substantially as described.

2. A pivoted tank having the compartments
60 E and F, water-way J, funnel e^2 , and pockets, one or more, and a feeding-nozzle which is located in such a position as to discharge the water into the water-way when the tank is in its initial position, and into the funnel when
65 the tank is in its discharge position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES SCOTT.

Witnesses:

A. B. PLACE,
PERRY WINTER.