

R. A. SHINN.
SEWER INLET CLEANING APPARATUS.
No. 183,981. Patented Oct. 31, 1876.

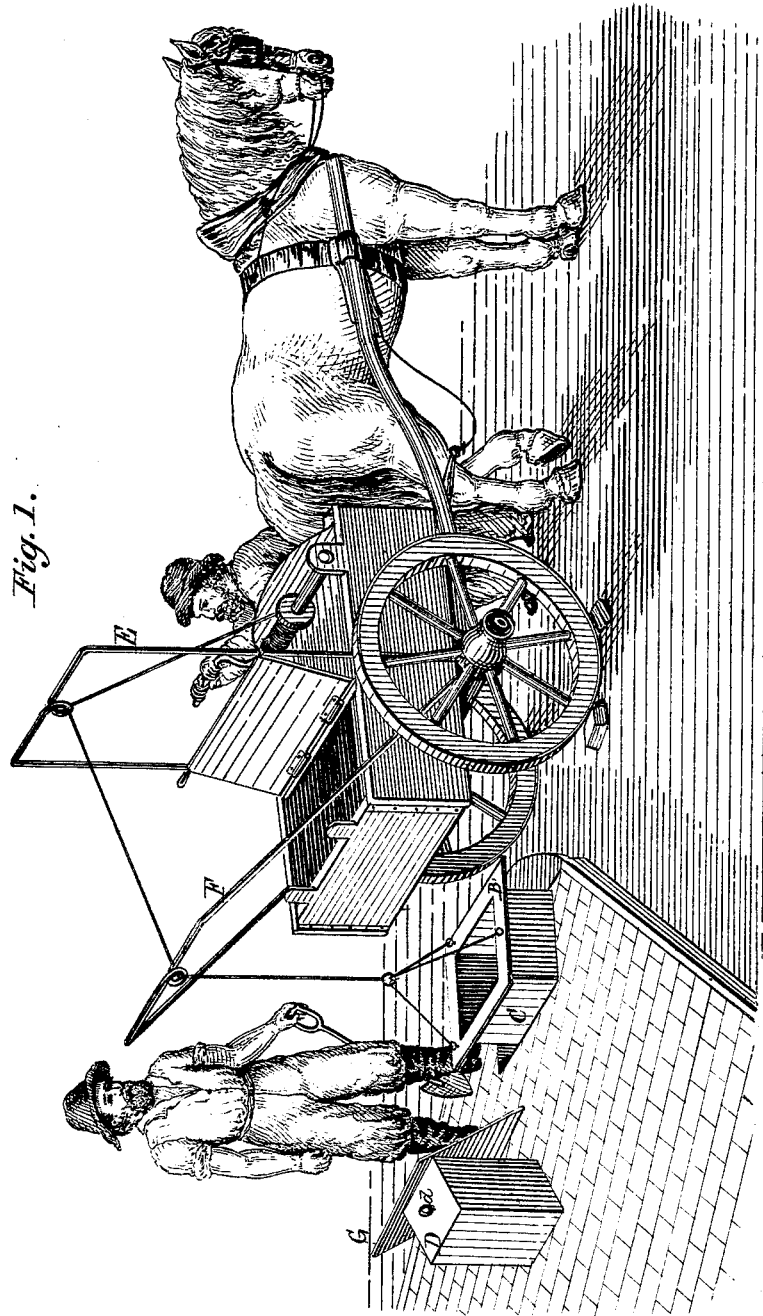


Fig. 1.

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Fig. 2.

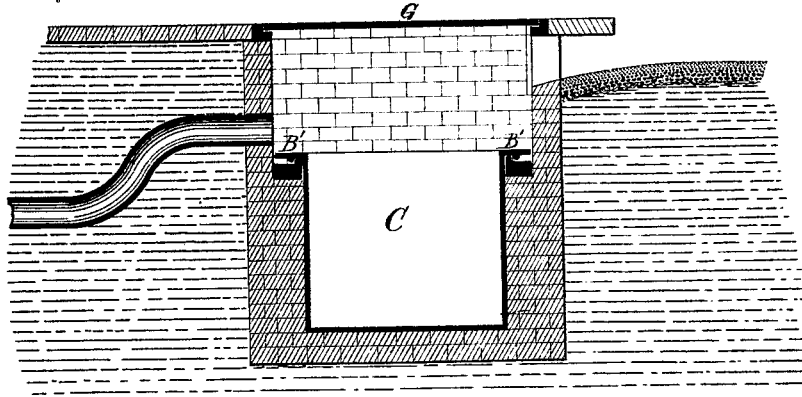


Fig. 3.

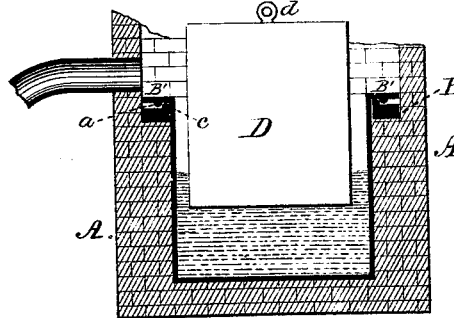
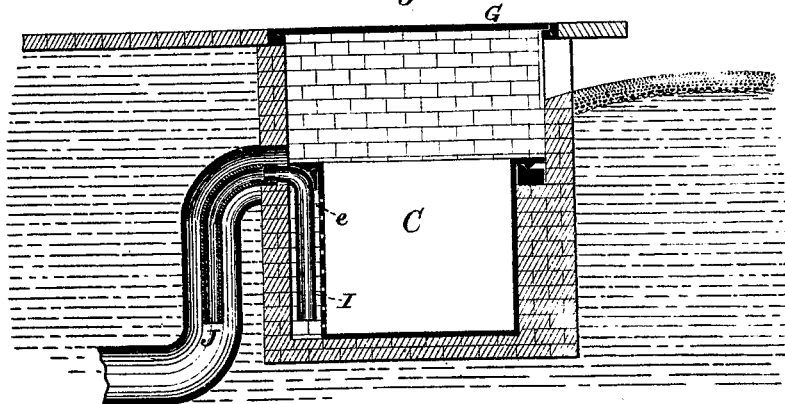


Fig. 4.



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UNITED STATES PATENT OFFICE.

RILEY A. SHINN, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVEMENT IN SEWER-INLET-CLEANING APPARATUS.

Specification forming part of Letters Patent No. **183,981**, dated October 31, 1876; application filed February 5, 1876.

To all whom it may concern:

Be it known that I, RILEY A. SHINN, of Georgetown, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Apparatus for Cleaning the Inlets of Sewers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improved means of cleaning the inlets of street-sewers, whereby the water is first drained off into the sewer, and the deposits of mud or the accumulations of matter then transferred to an improved vehicle for transportation to any designated place; and it consists in so constructing the inlet-chamber that a metallic bucket can be adjusted therein to receive the deposits of earth and water which flow into the mouth of the inlet.

It also consists of a metallic weight adapted to be lowered into the bucket which forms the receiver, so as to eject or drive the water contained therein over into the stench-trap, and from thence to the sewer, all as will be hereinafter more fully described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of my invention, showing the mode of cleaning out the sewer-inlet. Fig. 2 is a longitudinal vertical section of the sewer-inlet chamber, with the receiving-bucket in position. Fig. 3 is a similar view with the metallic weight adjusted within the receiving-bucket; and Fig. 4 is a modification of my invention.

Similar letters of reference occurring on the several figures indicate corresponding parts.

A represents the walls of the ordinary sewer-inlet chamber, which is provided with the usual stench-trap leading into the sewer at the rear, and an open mouth at the front. Within this chamber I build up on each side a brick wall, extending nearly up to the line of the overflow into the stench-trap, thus forming a projecting ledge entirely around said chamber, upon which is arranged an iron cast-

ing, B, having a raised rounded lip, *a*. C represents a bucket of cast or wrought iron, having a projecting rim, B', extending entirely around it, said rim being provided on its under surface with a corresponding lip, *c*, to that of the casting B, the object of which is such that when the bucket C is resting in its proper position upon the side casting, the projecting lips *a* and *c* overlap each other, as shown in Figs. 2, 3, and 4, thus forming a trap to prevent the lodgment of sand or water under the bucket C. D represents a metallic weight, provided with a ring, *d*, at its upper end, and constructed in size to loosely fit within the receiving-bucket D.

In the practical operation of my improved invention the bucket C is adjusted in its position upon the casting B, the upper part being on an even line with the overflow, and the deposits of water, mud, and other accumulations of matter pouring into the open mouth of the inlet-chamber soon fill the said bucket, the mud, sand, and other solid matter accumulating in the bucket, while the water runs over into the stench-trap, and from thence to the sewer.

When it may be found necessary to remove the deposits contained in the bucket C, a cart or vehicle having an oblong covered body, and provided with a stationary framed derrick, E, secured to the sides, and strengthened by suitable supports or braces, and also provided with a swinging derrick, F, pivoted to the axles of the vehicle, is brought to the entrance of the inlet-chamber, when the covering G is moved, and the metal weight D, which is carried upon the vehicle, lowered by means of the rope and windlass into the receiving-bucket C, and as it descends displaces the water in the said bucket, forcing it out into the sewer, leaving the more solid matter in the bottom of the bucket. The weight is then drawn up and deposited upon the sidewalk, and hooks then lowered and attached to the rings on the rim of the bucket, when it may be drawn up above the level of the sidewalk, and, aided by the swinging derrick F, carried over and dumped into the cart. The empty bucket can now be replaced in its former position, ready to receive its succeeding load of accumulating matter from the streets.

It will be observed that in warm dry weather the inlet-chamber becomes filled with stagnant water, without much accumulation of solid matter, and it is a matter of great importance to force out this stagnant water into the sewer to prevent the evaporation of the same, with its noisome vapors, through the open mouth of the inlet into the street. By means of the metallic weight D I am enabled to force the greater bulk of the water into the sewer, the inlet-chamber being then refilled with fresh water from an adjoining hydrant or fire-plug, thus keeping the chamber in a comparative fresh and pure condition during the summer months.

A modification of my invention is shown in Fig. 4, whereby the water which flows into the inlet-chamber is automatically forced out into the sewer, thereby dispensing with the weight D, if it may be deemed preferable. In this instance one side of the bucket C is perforated with suitable-sized holes, which faces a recess, *e*, in the side of the inlet-chamber. Within this recess is arranged a metallic pipe, I, which extends up and over into the stench-trap, at which point a flexible rubber-hose, J, is attached by a suitable coupling, thus forming a siphon.

The operation may be described as follows: The water flowing into the bucket C soon fills the same, and runs over into the sewer above the top of the siphon, and as soon as the flow stops the vacuum in the top of the siphon is filled with water, and the siphon then draws up or drains all the water from the bucket through the perforations in the side, leaving only the more solid particles of dirt, sand, and other matter in the bottom of the bucket. This operation is repeated as the intermittent flow of water into the inlet necessitates, and until it is found advantageous to remove the accumulating deposits in the bucket.

The construction and operation being as hereinbefore described, I desire to state that I do not limit myself to the specific construc-

tion as shown, as it is evident that many equivalent devices for removing the bucket with its deposits of mud and sand can be used, and also the construction of the bucket may be modified so as to be self-unloading when it reaches the cart.

The advantages of my invention will be readily apparent, inasmuch as it combines in its construction and operation superior advantages over the present ineffective manner of cleaning sewer-inlets, with but a slight difference in the first cost of constructing the same. Besides, the large amount of money which can be saved by the rapid and thorough manner in which I am enabled to clean the sewer-inlets will more than pay the difference for the slight change required for the adaptation of the apparatus.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The bucket C, casting B, and weight D, operated by cranes E F, as described, in combination with a sewer-inlet chamber, substantially as and for the purpose set forth.
2. The combination of the bucket C, having a projecting flange, B', provided with the lip *a*, in combination with the casting B, having the raised lip *c*, substantially as and for the purpose set forth.
3. The combination of the bucket C and the casting B, with a sewer-inlet chamber, substantially as described, and for the purpose set forth.
4. The combination, with the bucket C, of the metallic weight D, substantially as and for the purpose described.

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

RILEY A. SHINN.

Witnesses:

PARKER H. SWEET, Jr.,
A. MOORE.