(No Model.)

J. LYNCH.

SEWER.

No. 429,041. Patented May 27, 1890.

FIG. 1.

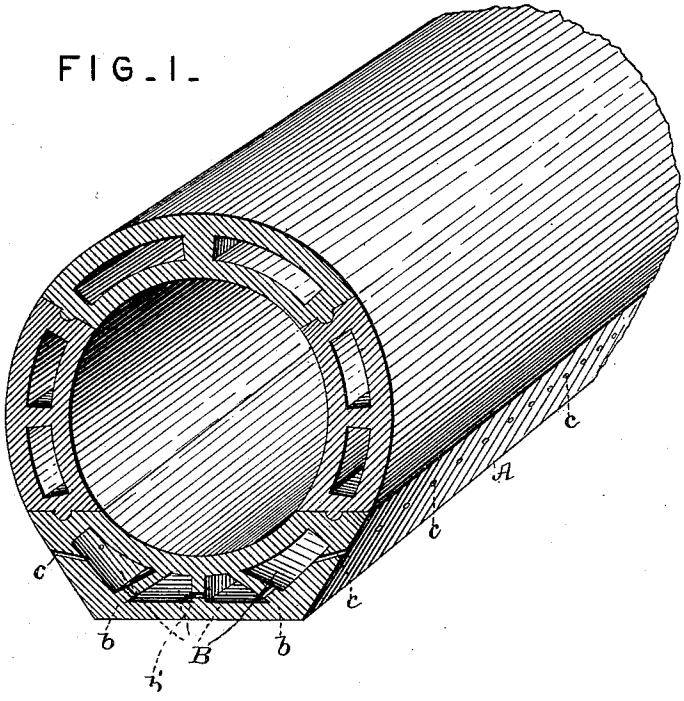


FIG. 2.

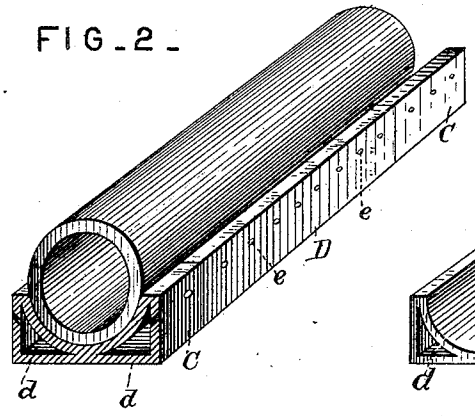


FIG. 3.

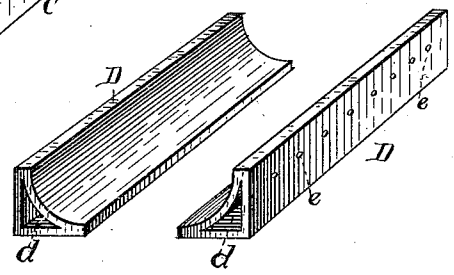
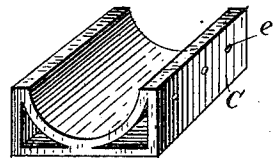


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN LYNCH, OF WASHINGTON, DISTRICT OF COLUMBIA.

SEWER.

SPECIFICATION forming part of Letters Patent No. 429,041, dated May 27, 1890.

Application filed July 13, 1889. Serial No. 317,431. (No model.)

To all whom it may concern:

Be it known that I, JOHN LYNCH, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Sewers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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 letters of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide a sewer-pipe constructed so that it will have auxiliary drain-flues for draining the adjacent ground outside of and independent of the sewerage.

As heretofore constructed sewer-pipes have been made with auxiliary drain-flues contained in the walls or in the invert of the sewer, to which connections can be made for drainage purposes. The subsoil drainage has also been dealt with by laying ordinary drain-tiles on each side of the pipe-sewer. These small tiles are easily displaced by the wash alongside the pipe-sewer and furnish an imperfect means of drainage, as they do not readily admit the water.

My invention consists of an improved sewer or drain pipe which affords perfect drainage to the adjacent ground, thus preventing the undermining and breaking of the sewer.

In the accompanying drawings, which illustrate my invention, Figure 1 illustrates a large sectional sewer with the drain-flues contained in the invert. Fig. 2 shows a smaller pipe-sewer with bed-blocks which contain the drainage-flues, and Figs. 3 and 4 are perspective views of the bed-blocks for the joints and center portions of the pipe shown in Fig. 2.

In the case of a large sectional sewer I make the base or invert block A of terra-cotta with several flues B, in the usual way. The block has a broad flat base, and along both sides there is a line of small holes *c* opening from the outside of the pipe into the flue B, through which the surface water enters. When, however, the block A is made of porous terra-cotta, the holes are unnecessary. At the end of each block the partitions *b* between the outer and bottom flues are cut away or apertured to allow passage for the drainage-water into the middle flue, and if there are four flues, as shown in the present case, the middle partition *b'* has also a passage or aperture at each joint, so that all of the bottom flues are utilized for drainage.

For small sewers—that is, all sewers laid with entire pipes and not with sectional blocks—I provide foundation-blocks, in which the sewer-pipes rest, as shown in Fig. 2. The blocks C, which are placed beneath the joints, are made in lengths of twelve inches, with a concave seat to receive the pipe, a flat base and a triangular flue *d* on either side.

The blocks D, which set between the joint bed-blocks and complete the foundation, are made in lengths of two feet, the ordinary length of a sewer-pipe being three feet, and each block has a curved inner face and a straight outer and bottom face, two of the blocks D, when placed edge to edge, being of the same cross-section as the joint-block C, and each having a flue *d*, that forms a continuation of one of the flues of the block C. I preferably make the blocks D separate, as described, instead of one block, to save breakage, the block C being sufficient to prevent the foundation from spreading, and as the latter blocks are only half the length of the former there is not as much chance for breakage in handling them.

Along each side of the base-blocks D and the outside of the blocks C there is a line of small holes *e*, affording ingress for the surface water to the flues, as in the case of the sectional sewer-flues.

The foundation-blocks C and D may be made of porous terra-cotta, in which case the rows of holes *e* are not, as before stated, necessary, since the water will penetrate through the pores of the terra-cotta; but the bottoms of the flues should be glazed to allow the water to flow off freely.

It will be observed that the blocks D and C, above described, give a broad foundation for the sewer-pipe, and this feature, in connection with the perfect drainage of the adjacent ground, makes the sewer safe even in a ground that is loose and springy, and which would otherwise be unreliable.

I claim as my invention—

1. A sewer having at its base a drainage

flue or flues of porous terra-cotta, the bottoms of the flues being glazed, substantially as and for the purpose set forth.

2. The combination, with a sewer-pipe provided with foundation-blocks at its base, of flues formed within said blocks, and a series of holes for the passage of subsoil drainage-water into said flues, substantially as set forth.

3. The combination, with a sewer-pipe, of foundation-blocks provided with concave seats, in which the pipe rests, the drainage-flues formed within said blocks, and the series of lateral holes for the passage of subsoil drainage-water into said flues, substantially as set forth.

4. The combination, with a sewer-pipe, of the bed-blocks herein described, having concave seats to receive the pipe, flues extending therein, and numerous lateral openings to drain the adjacent ground independent of the sewer, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN LYNCH.

Witnesses:
G. Y. ATLEE,
W. B. HARDY.