

(No Model.)

G. W. RADER.
INVERT BLOCK FOR SEWERS.

No. 249,397.

Patented Nov. 8, 1881.

Fig: 1

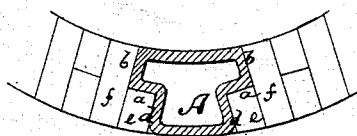


Fig: 2

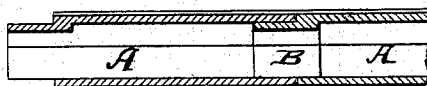


Fig: 4

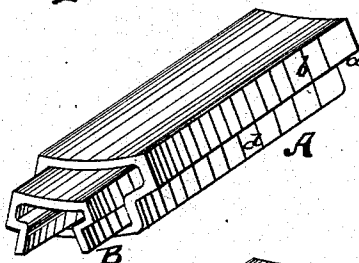


Fig: 3

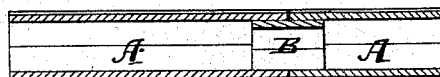
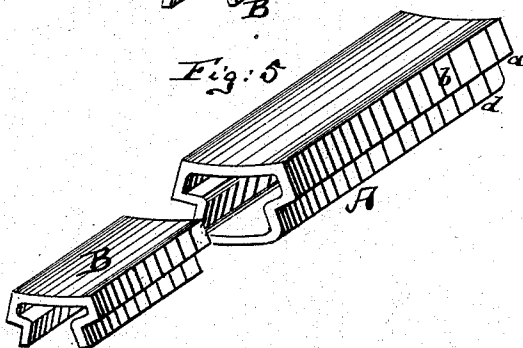


Fig: 5



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAVUS W. RADER, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND
MICHAEL SCHMITT, OF SAME PLACE.

INVERT-BLOCK FOR SEWERS.

SPECIFICATION forming part of Letters Patent No. 249,397, dated November 8, 1881.

Application filed September 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS W. RADER, of New York, in the county and State of New York, have invented a new and Improved Invert-Block for Sewers, of which the following is a specification.

Figure 1 is a cross-section of my improved invert-block. Fig. 2 is a vertical longitudinal section of the same; Fig. 3, a vertical longitudinal section of a modification of the same. Figs. 4 and 5 are perspective views thereof.

This invention relates to improvements on hollow invert-blocks forming the bottoms of sewers and the passage below for subdrainage. These invert-blocks, when made hollow for subdrainage, have heretofore usually been made with plain upright abutting ends, or with locking-plates placed over them, as shown in Letters Patent No. 236,840. Invert-blocks formerly in use have also heretofore been constructed with straight sloping sides, which were adapted to receive the brick-work of the sewer. In some cases these straight sides were provided with flanges to assist in supporting the brick-work, which flanges were weak and liable to break off.

Now, my invention consists, first, in combining hollow invert-blocks with projecting noses at the ends that are adapted to fit into the adjoining blocks and close the joints on three sides, but not at the bottom.

The invention consists, secondly, in constructing the sides of the invert-blocks with inwardly-projecting steps for the better support of and by the brick-work, as hereinafter shown.

In the accompanying drawings, the letter A represents my improved block. The same is provided at one end with a projecting nose, B, which is open at the bottom, where it projects from the block A and at the ends, but closed on the sides and top. The nose B is of such external size and form that it will fit into the end of the next abutting invert-block, as clearly shown in Fig. 2. By this means, when the invert-blocks are placed one against the

other, their joints are closed by the noses B, excepting at the bottom, where they are left open to receive the subdrainage.

The noses B may either be rigidly attached to the invert-blocks A, as shown in Fig. 2, in which case each invert-block has such a nose at one end, but not at the other end, or they may be made loose, as shown in Fig. 3, in which case such a loose nose, B, open at the bottom and at its ends, is inserted in the joint of every two abutting invert-blocks. Said joints are closed with cement, except at the bottom. The cement is thoroughly supported by the top and sides of the nose B.

The invert-block, instead of being made with plain sides, is made with inwardly-projecting steps *a* at its sides, so as to form two inclined surfaces, *b* and *d*. This enables me to build up the sewer, so as to place a row of bricks, *e*, lengthwise beneath the shoulder or step *a*. These bricks will support the invert-block, and thereupon the next row *f* of bricks is laid against the row *e* and face *b*, as clearly shown in Fig. 1. By this construction the brick-work of the sewer receives a firm support, and is not liable to slip, and furnishes at the same time a support and brace for the invert-block.

The nose B is applicable to hollow invert-blocks of all forms and sizes, and the shoulder *a* can also be used on all invert-blocks.

I claim—

1. A hollow invert-block combined with a projecting nose, B, which is closed on top and at the sides, but open at the bottom and at the ends, and adapted to be inserted in the next adjoining invert-block, substantially as specified.

2. The invert-block constructed with inwardly-projecting step *a* at each side to produce the inclined surfaces *b* and *d*, substantially as herein shown and described.

GUSTAVUS W. RADER.

Witnesses:

WILLY G. E. SCHULTZ,
WILLIAM H. C. SMITH.