C. SCHIRRMEISTER.

Sewer.

No. 212,057. Patented Feb. 4, 1879.

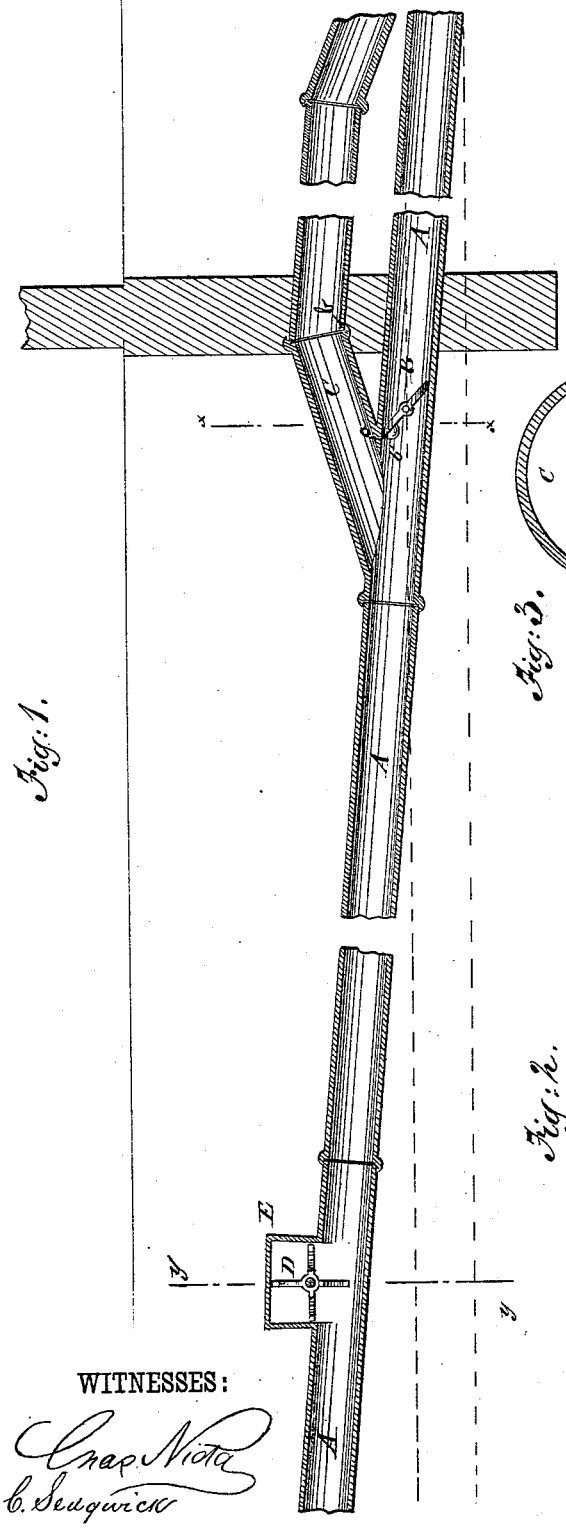

Fig. 1.

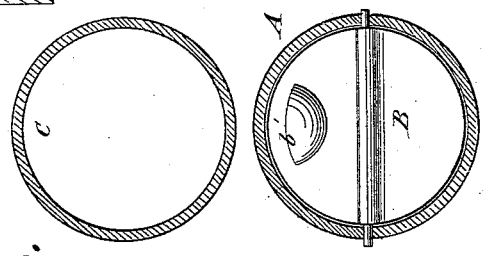

Fig. 3.

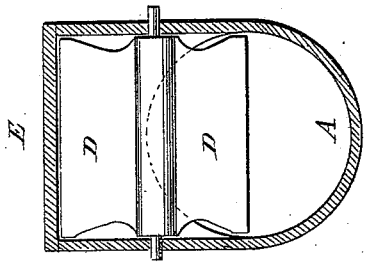

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES SCHIRRMEISTER, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN SEWERS.

Specification forming part of Letters Patent No. **212,057**, dated February 4, 1879; application filed October 15, 1878.

To all whom it may concern:

Be it known that I, CHARLES SCHIRRMEISTER, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Sewer, of which the following is a specification:

Figure 1 is a longitudinal section of a portion of a sewer to which my improvement has been applied. Fig. 2 is a cross-section of the same, taken through the line *y y*, Fig. 1. Fig. 3 is a cross-section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to prevent the back-flow of the sewage through sewers, and thus prevent the noxious gases from being driven out into the air.

The invention consists in the combination of the valve or gate provided with one or more floats, and the branch sewer inclined upward toward the discharge end of the sewer, with the said sewer, and in the combination therewith of the paddle or fan wheel operating in an enlargement or chamber formed in the top of the sewer above the valve and branch, as hereinafter fully described.

A represents a sewer, in which, at a little distance from the point at which it discharges into a river or into another sewer, or in any other desired part of it, is placed a valve or gate, B. The stem of the valve B is pivoted to the walls of the sewer A, and to the said valve are attached one or more floats, *b'*, so that the sewage, when its outflow is unobstructed, may open the valve B and flow out.

When the outflow of the sewage is obstructed by high water or other cause, and the said sewage is forced back, the backwater, having risen to a point, *a*, will close the valve B and stop the back-flow. With the sewer A, a little above the valve B, is connected the end of a branch sewer, C, which rises gradually to a height a little above high-water mark, and may discharge into the river, or it may then incline downward and discharge into the sewer with which the sewer A is connected, or into the said sewer A. The branch sewer C may be directly above the sewer A, or it may be at one side of the said sewer A, to relieve the sewer A from the weight of the branch sewer C. With this construction, when the valve B is closed by backwater, the sewage will rise and flow out through the branch sewer C. The passage of the sewage through the branch sewer C may be assisted by a paddle or fan wheel, D, pivoted in an enlargement or chamber, E, in the top of the sewer A, at such a distance above the said branch sewer C that it shall operate upon the sewage on a level of the point *b*.

The paddles or fans of the wheel D should be of such a size as to extend down to about the center of the sewer A, as shown in Figs. 1 and 2.

With this construction the revolution of the wheel D will give an impulse to the overflowing sewage, and will thus assist it in passing up and out through the branch sewer C.

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

1. The combination of the valve or gate B, provided with one or more floats, *b'*, and the branch sewer C, inclined upward toward the discharge end of the sewer A, with the said sewer A, substantially as herein shown and described.

2. The combination of the paddle or fan wheel D with an enlargement or chamber, E, formed in the top of the sewer A above the valve B and branch C, substantially as herein shown and described.

CHARLES SCHIRRMEISTER.

Witnesses:

JAMES T. GRAHAM,

CHAS. SEDGWICK.