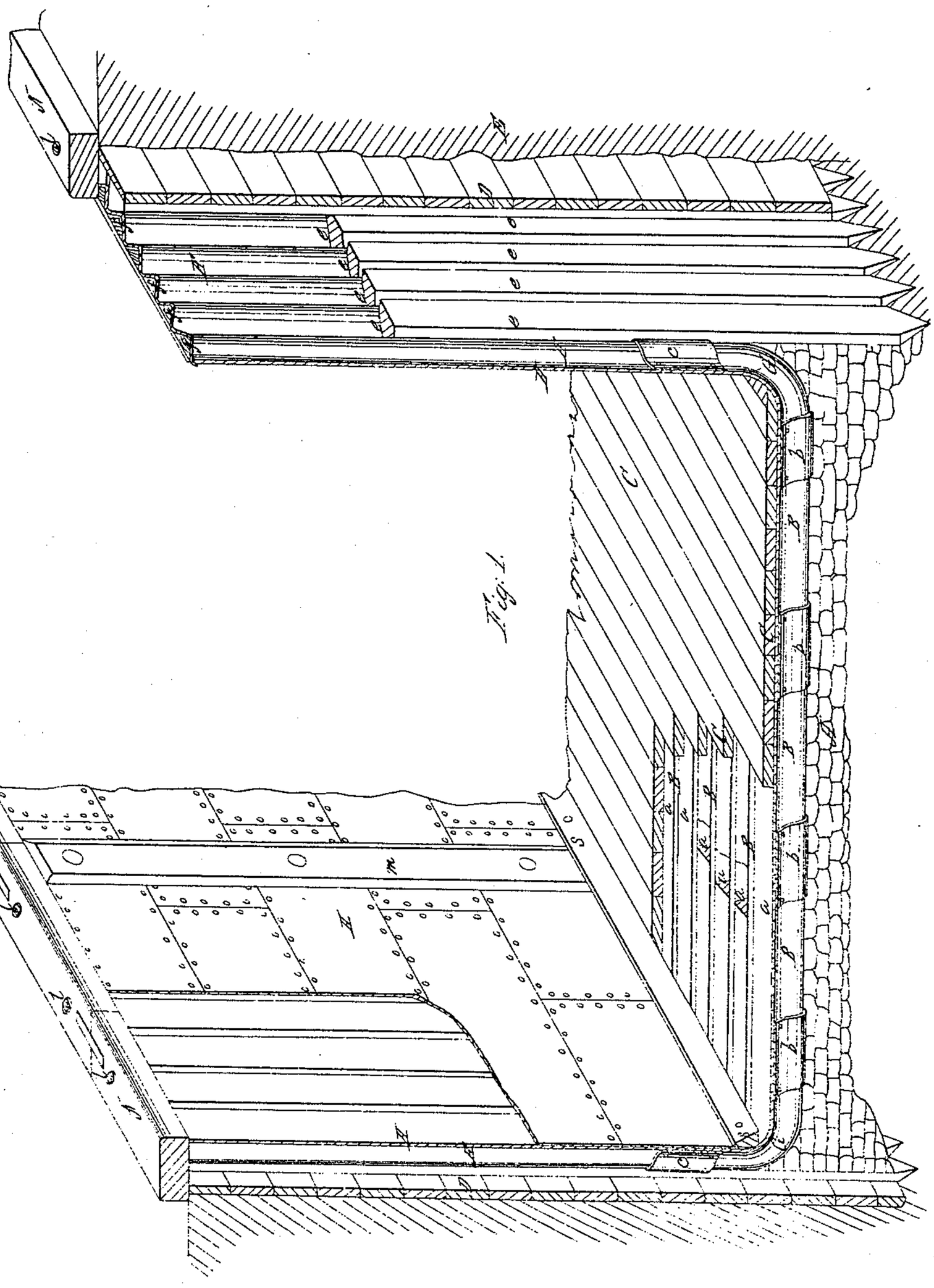
Sheet 1, 2 Sheets.

S. J. Seely.

Canal Lock.

No. 37,265. Patented Dec. 23, 1862.



Witnesses:

Gustave Cyprick
John A. Clarke

Inventor:

Sam'l J. Seely
by Munn & Co
Attys

Sheet 2, 2 Sheets.

S. J. Seely.

Canal Lock.

No. 37,265. Patented Dec. 23, 1862.

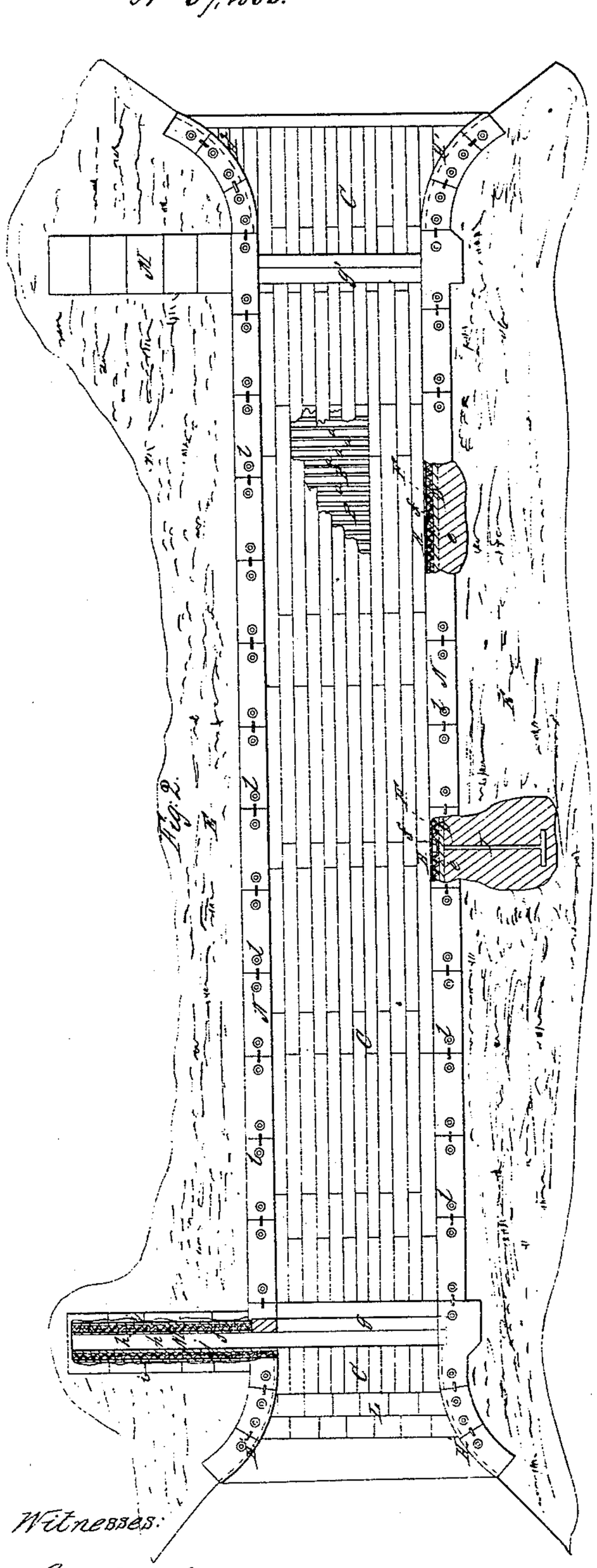


Fig. 2.

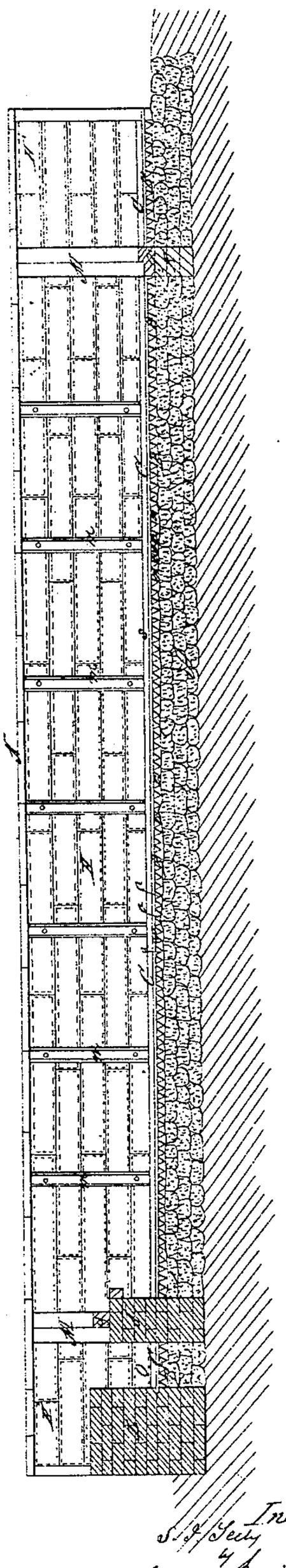


Fig. 3.

Witnesses:

Gustave Dietrich
John A. Clarke

Inventor:

S. J. Seely
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Attys

UNITED STATES PATENT OFFICE.

SAMUEL J. SEELY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CANAL-LOCKS.

Specification forming part of Letters Patent No. **37,265**, dated December 23, 1862.

To all whom it may concern:

Be it known that I, SAMUEL J. SEELY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Method of Constructing Canal-Locks of Metal; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective sectional view of a lock constructed according to my invention. Fig. 2 is a plan, and Fig. 3 a longitudinal section of the same.

Similar letters of reference in the several figures indicate corresponding parts.

The nature of my invention consists in a novel method of employing metal, of corrugated or ribbed configuration, in the construction of canal-locks, and thus saving the immense labor and expense attending the finishing and setting of stone masonry in the erection of such locks.

My invention enables me to widen the present locks in use at a small cost and very speedily, and thus adapt them for river gun-boats, and at the same time increase their capacity for commercial purposes. The materials I use can be readily obtained in a finished condition. They possess all the strength necessary, and can be set, after my method, in a very short time after the lock-chamber is excavated.

To enable others skilled in the art to perform with my invention, I will proceed to describe the same with reference to the drawings.

In form and arrangement my canal-lock is the same as any of the approved locks now in use.

In proceeding to erect a new, complete lock, the bed of the lock-chamber is laid with concrete A, and upon the concrete corrugated cast-iron plates B B are set and embedded, so as to form a firm support for the flooring. The upper corrugations are filled in with wood strips *a a*, but the under corrugations become filled with concrete. Upon the support thus formed the flooring C C rests, being nailed to the wooden strips *a a* and confined by the side walls hereinafter described. The joints of the corrugated plates are sustained against the weight of the structure by means of narrow corrugated ties *b b*, arranged under the joints and embedded into the concrete. It will be seen that the flooring has for its support a series of small arches. The side walls of the lock-chamber are now erected by arranging corrugated cast-iron plates F F against solid wood structures D D, formed against the side banks, E E, as represented. These plates are tied to the flooring-support by means of corrugated ties *c c* and elbows G G, as shown. On the inner surface of the plates F F stout boiler or sheathing plate H is bolted and allowed to rest upon the flooring, a cleat, *s*, confining the lower edge. The outer corrugations of the plates are filled in with strong piles *e e*, driven firmly into the ground; or these corrugations and the inner corrugations, *f f*, may be filled in with grouting, so as to secure the proper firmness of the side walls. The side walls are anchored, as shown at I, to the "banking" at various points for the purpose of rendering them firm and solid with respect to the banking. These anchors are embedded into the ground, and their inner ends pass through the corrugated plating and receive a strong screw-nut thereon. The breast-walls J K and abutment L are made of stone-work, and are of the usual construction. The sills *g g'* are of wood, and arranged about as shown. The gate-channels M M are walled up with corrugated metal plates *h h*, which are backed by wood-work *i* and packed, intermediate, with concrete, and faced with boiler-plate or sheathing iron *j*, as shown. Concrete or wooden piles are introduced into the corrugations between the plates *h* and the sheathing metal. The sheathing metal H^2 at the upper and lower ends of the lock-chamber should be increased in thickness over the metal used between the two gates, so that the contact of a boat at these points may be withstood and injury to the lock prevented. The upper edges of the side banks and the side walling, as well as the walls of the gates, are finished with heavy coping-stone N, as represented. The coping may be anchored to the side walls and banking by anchors *l*, similar in form to the anchors I; but these anchors must run vertical, instead of horizontal.

Any mode of locking the coping stones together may be adopted, so long as the end desired is attained.

In order to save the sheathing of the side walls from injury when a boat is riding up and down in the lock-chamber, wooden battens *m*

m may be fastened in a vertical position to these walls, as shown. The flooring of the sediment-well O is also constructed in substantially the same manner as described. The gates may be arranged to operate with a sliding or a swing motion. I however prefer the slide movement, and my lock, as shown, is adapted to the same.

In applying my invention to the widening of a lock the enlarging portion of the chamber is formed before disturbing the existing walls; but when the enlargement is completed the intermediate wall is removed and the two sections of lock finished, so as to constitute but one large lock adapted for one large gun-boat or two or four commercial vessels.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The method, substantially as herein described, of constructing canal-locks, whereby metal instead of masonry is used to give the requisite strength to the whole structure.

2. Sustaining the side walls and bottom or flooring of canal-locks by means of corrugated metal or its equivalent, substantially as described.

3. The sustaining the walls of the gate-channels by means of corrugated metal or its equivalent, substantially as described.

Witnesses: SAML. J. SEELY.
GUSTAVE DIETERICH,
DE WITT C. LAURENCE.