

Sheet 1-2, Sheets

J. W. Sprague,

Stop-Gate for Canal,

N^o 22,204.

Patented Nov. 30, 1858.

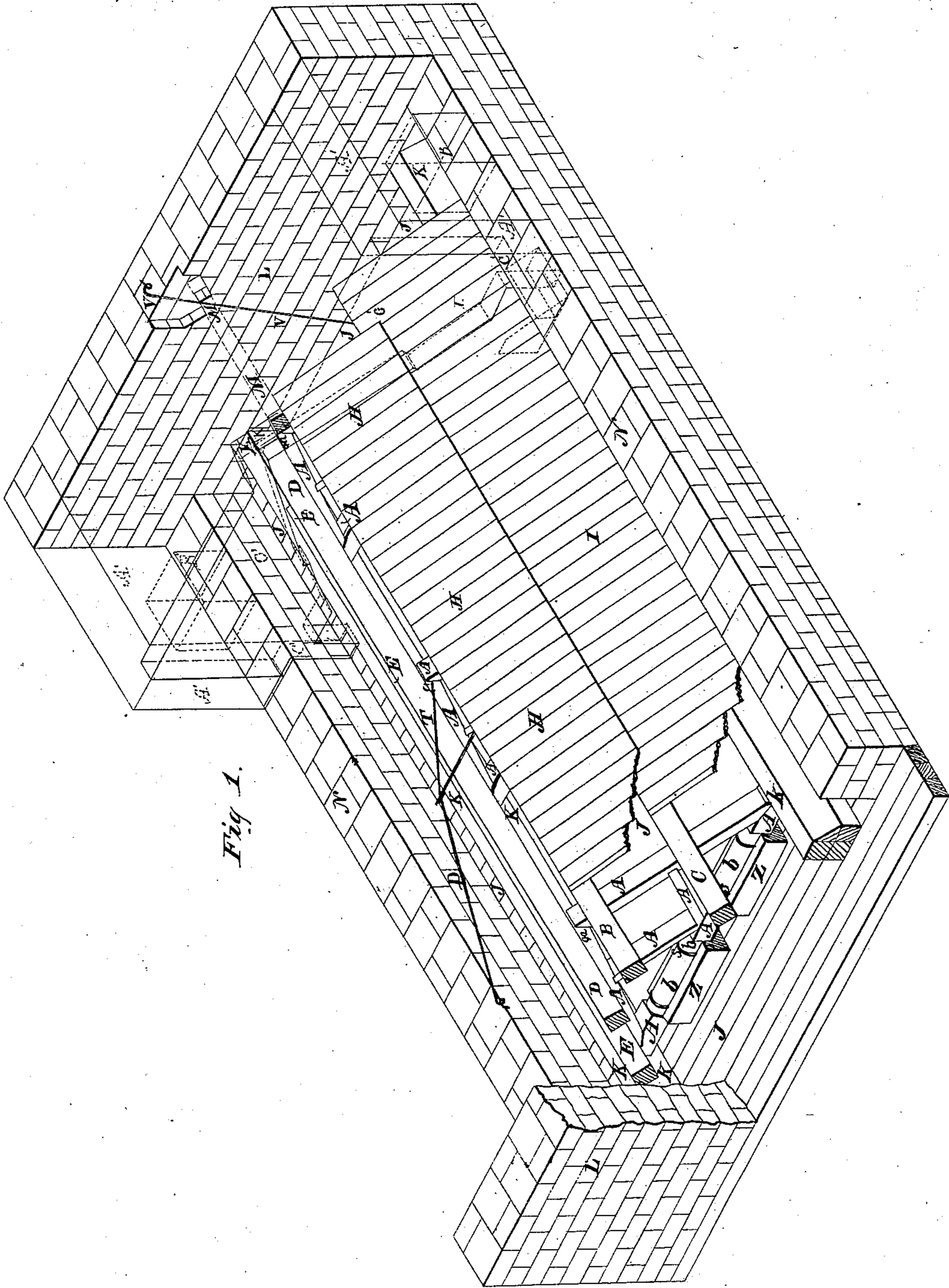


Fig. 1.

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Fig 5.

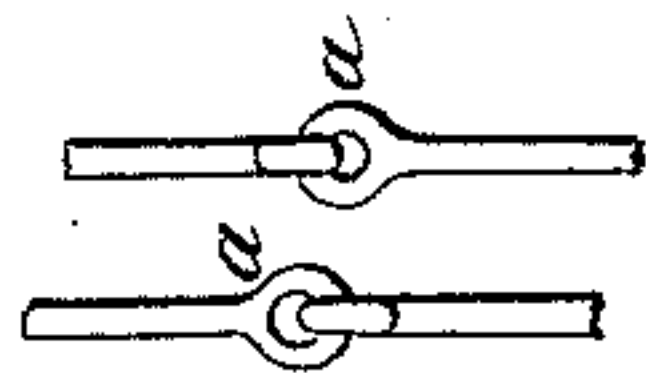


Fig 4.

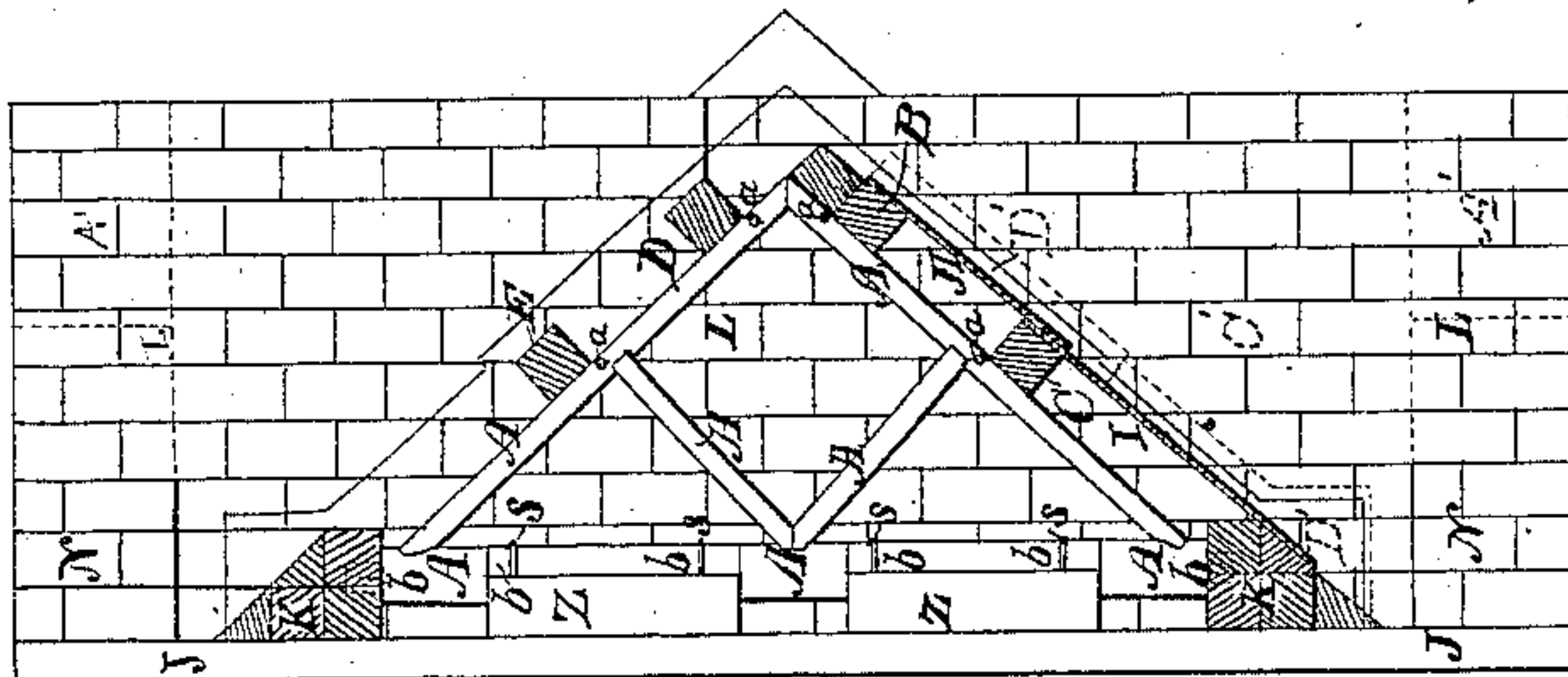


Fig 2.

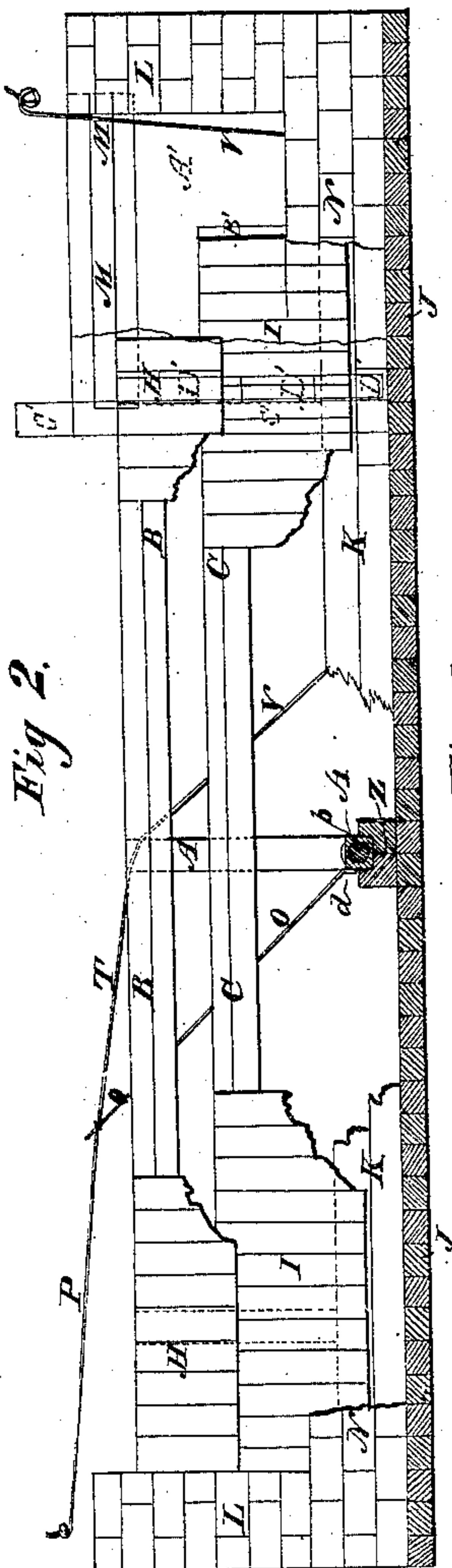
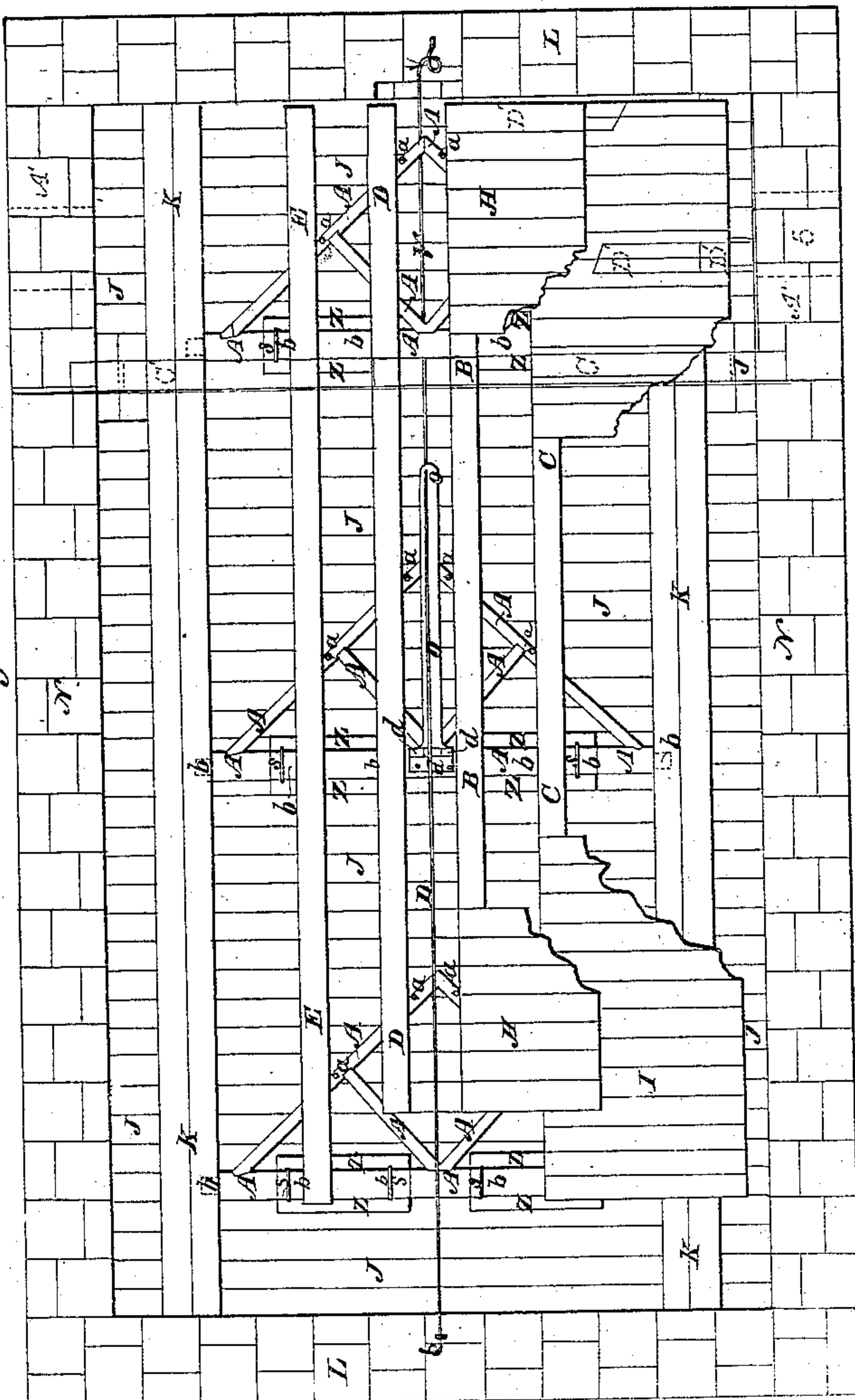


Fig 3.



UNITED STATES PATENT OFFICE.

JOSEPH W. SPRAGUE, OF ROCHESTER, NEW YORK.

STOP-GATE FOR CANALS, &c.

Specification of Letters Patent No. 22,204, dated November 30, 1858.

To all whom it may concern:

Be it known that I, JOSEPH W. SPRAGUE, of Rochester, in the county of Monroe and State of New York, have invented a new and Improved Stop-Gate for Canals, Rivers, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention consists in an improved construction of stop gates for canals and streams.

When applied to canals this gate would under ordinary circumstances lie below the level of the bottom of the canal, but when a break or leak occurs it may be easily and quickly raised so as to form a strong dam to prevent the flow of the water until the necessary repairs are made. As applied to streams it would form a dam for slack water navigation or for milling or other purposes which (in case of a freshet endangering its safety or for the passage of rafts or boats or for the sake of regulating the flow of water) could be partially or entirely lowered, again to be raised as circumstances should require.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 is an isometric perspective of my stop gate when up. Fig. 2 is a front elevation of the gate when up, Fig. 3, a plan of the gate when down, Fig. 4, an end elevation of the gate when up and Fig. 5 a plan of details.

In the drawings, L, L, represent wooden or stone abutments between which my gate is placed.

J, J, represent a foundation of timber and plank, kept in place by masonry below it (not shown in the drawings).

A, A, represent frames of timber firmly secured to the foundation by means of cast iron boxes, journals and gudgeons, s, s, in such a manner as to allow the frames to revolve from a perpendicular to a horizontal position and vice versa. B, C, D, E, represent cross timbers attached to these frames by means of the universal hinges a, a, shown on a larger scale in Fig. 5. These hinges a, allow the cross timbers to adapt themselves to the varying position of the revolving frames. Upon B are nailed the planks H,

H, constituting the upper section of the dam.

K, represents a sill of timber or masonry against which the bottom of the dam rests.

In moving the gate, the upper section of the dam H, H, is free to slide on the lower section I, I, and the lower section I, I, is free to slide over the sill K, K.

If it is desirable to construct the gate so that it may be used to stop the flow of water in either direction, a series of planks similar to H, H, can be attached to the cross timbers D, and another series similar to I, I, can be attached to the cross timber E.

M, represents a short piece of timber, to be placed as shown in Figs. 1, 2 and 4, after the gate is up. This timber M, and the sill K, form supports against which single planks can be placed to fill up the gap in the dam between the end of the gate and the adjoining abutment.

The system of red lines indicates a method of construction by means of which the necessity of closing the gap as just described may be avoided.

A' A' represent wing walls of masonry or timber.

B' B' are openings left to insert valve gates for filling the empty portion of the canal level before lowering the gate.

C', is a frame work of timber and plank resting against the wing walls A, A, and so shaped on the under side as to allow the gate to revolve without touching the frame C' in any of its positions.

D' D' are pieces of timber attached one to the upper section of the dam; the other to the lower. Just as the gate closes, these pieces of timber come together into line and press against the back side of the frame C', (as shown in Fig. 2) so as to close the space between the dam and the frame.

The frames A, A, may be elevated to a perpendicular position by means of the lever O which is drawn up by a chain P, operated by a windlass if necessary. The lever O is hinged to the lower part of one of the frames A, and its upper end is attached to the frame by a check chain T. This arrangement allows the lever O to fall down upon the frame A, when the latter is in a horizontal position, so as to offer no obstruction to the passage of boats over the dam; at the same time one end of the lever is permitted to rise some distance from the frame before the check

chain T begins to pull upon the frame A, in raising it. In this manner the position of the lever O greatly facilitates its action in elevating the dam. Another chain V, is employed to draw the frame A, A, from their perpendicular position and depress the stop gate or dam, said chain passing under pulley-blocks at each of its angles and being operated by a windlass.

N, N, represent cross walls of masonry or timbers, resting on the foundation timbers and reaching up to canal bottom. These walls prevent the earth from sliding or washing under the dam so as to obstruct its motions.

I am aware that a stop gate hinged to the bottom of a canal is not in itself new, but I

believe the construction and operation of my stop gate is both novel and a great improvement over any other heretofore known.

Having thus fully described my invention, what I claim as an improvement in stop gates and desire to secure by Letters Patent of the United States is—

1. The use of the revolving frames A, A, and their combination with the cross timbers B, C, D, E and with the planks H, I.

2. The use of the revolving lever O in connection with the check chain T, as described.

JOS. W. SPRAGUE.

Witnesses:

CYRUS BEARDSLEY,
GEO. ARNOLD.