

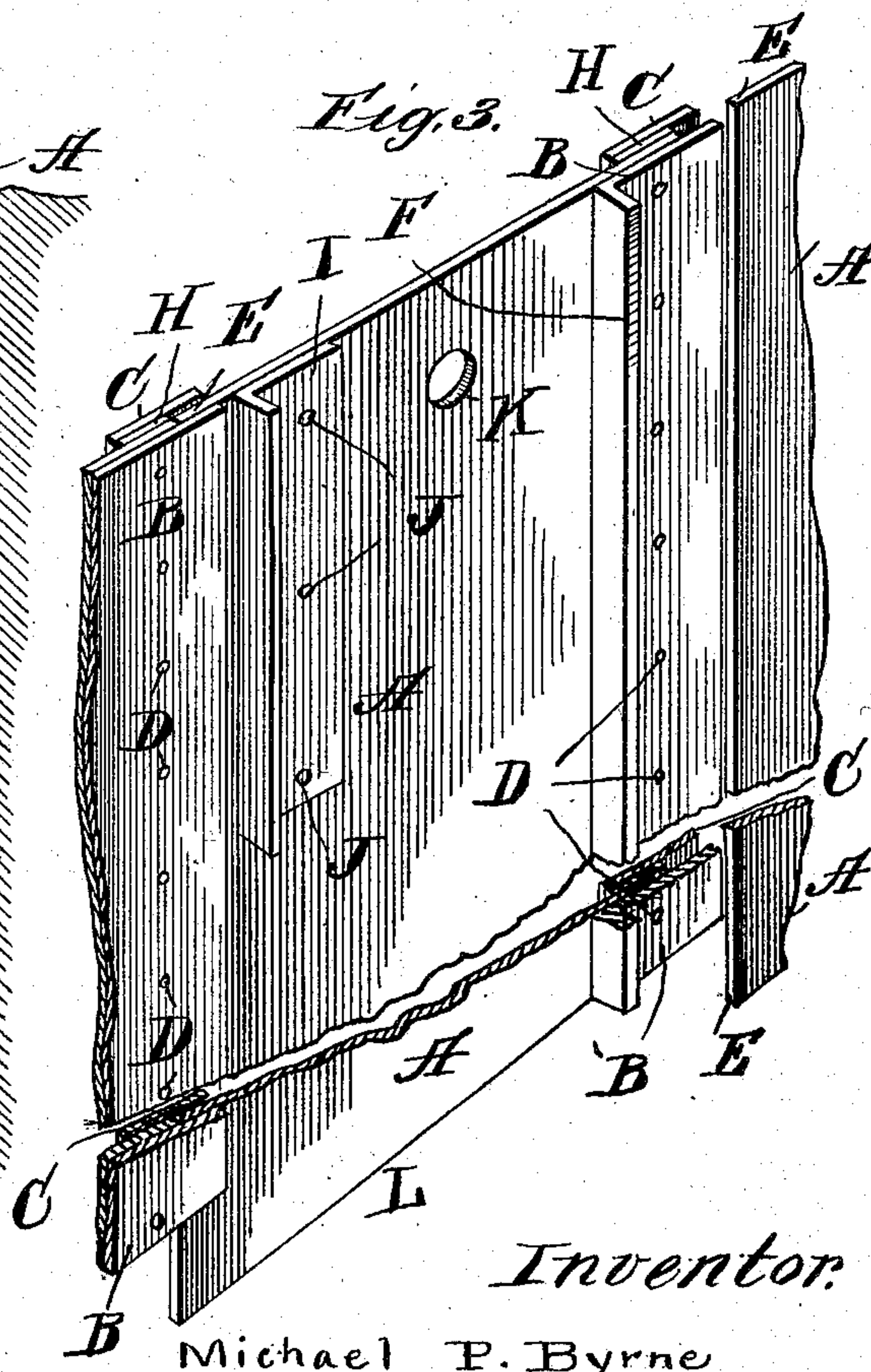
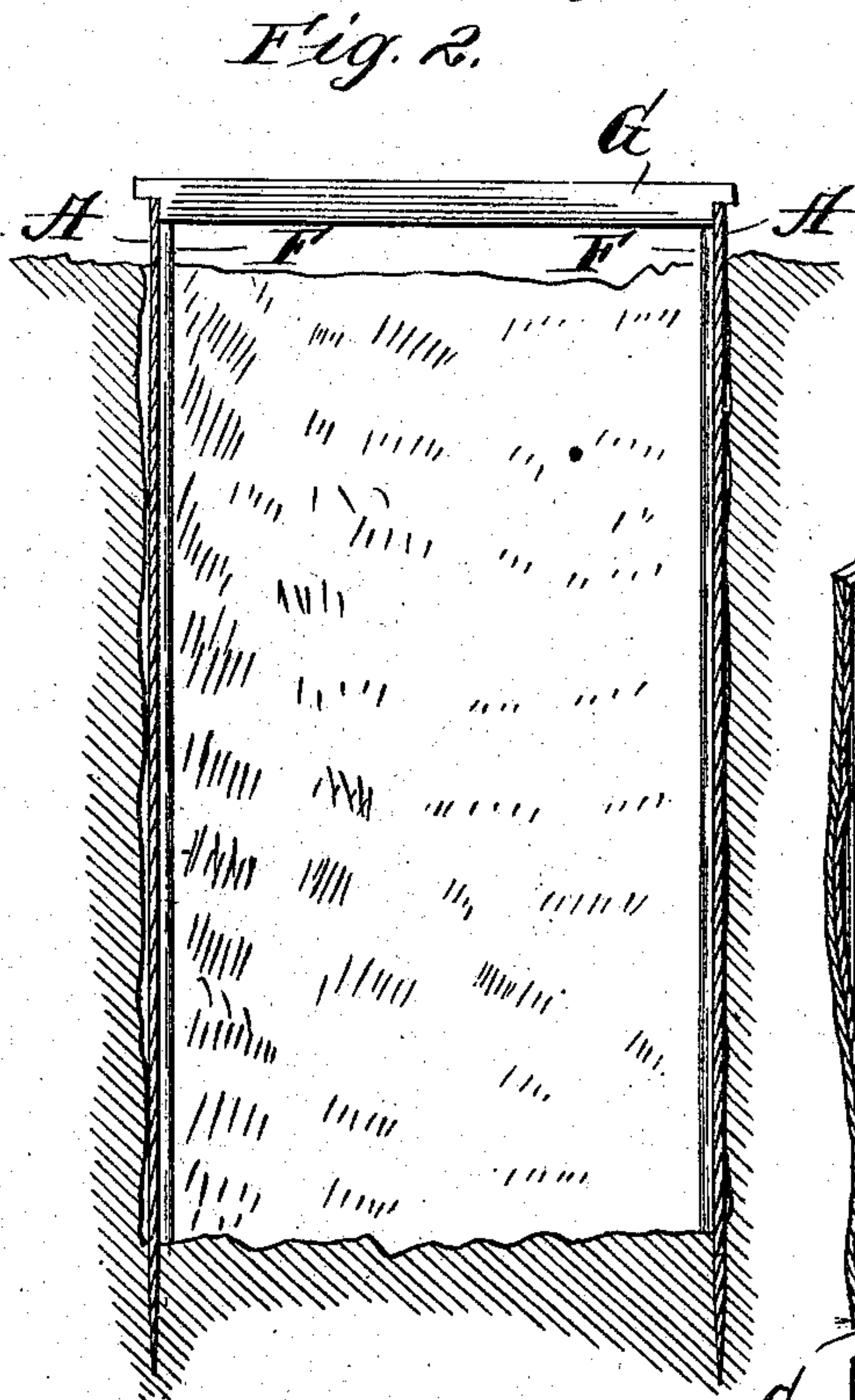
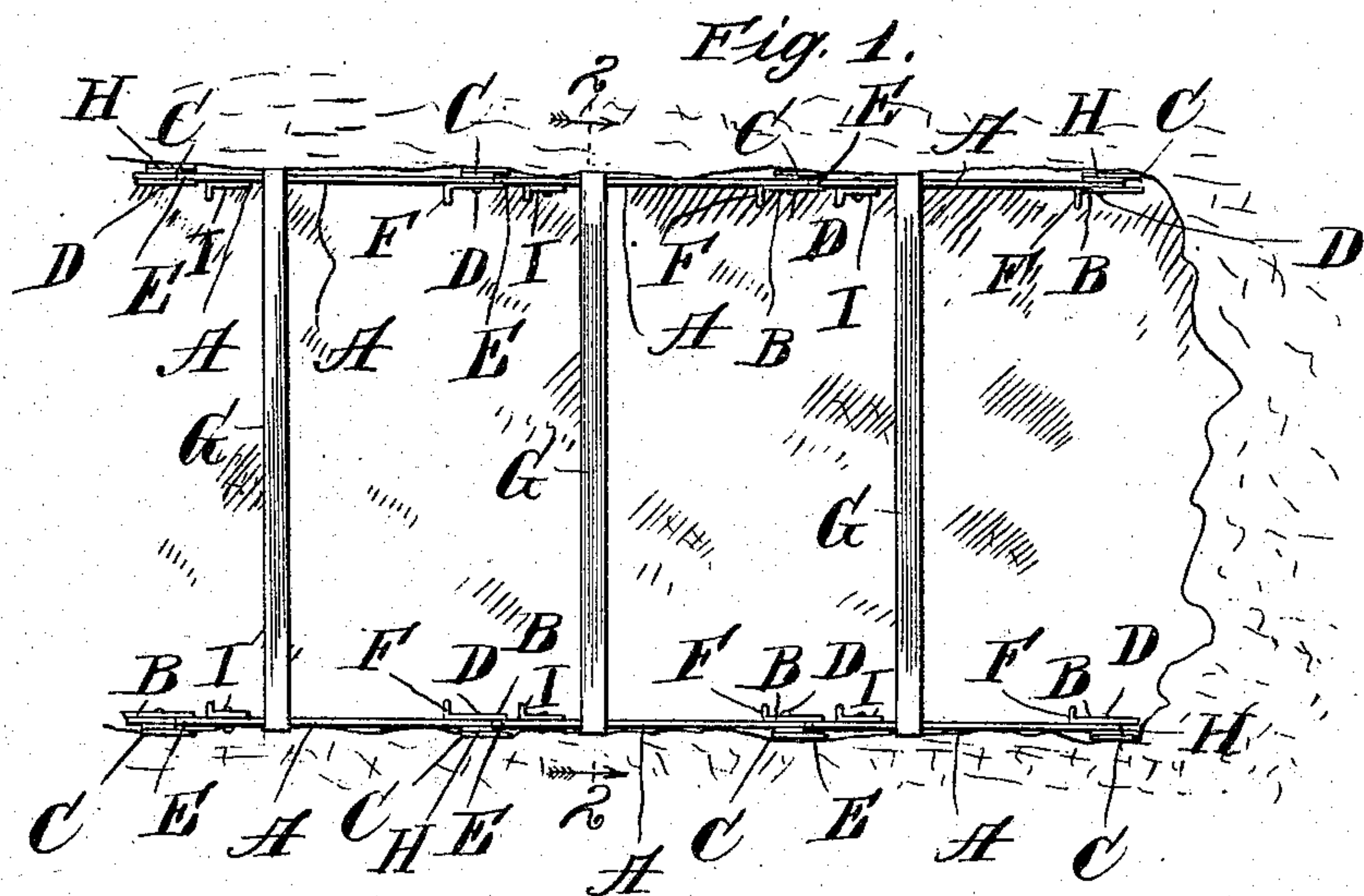
No. 840,747.

PATENTED JAN. 8, 1907.

M. P. BYRNE.

TEMPORARY RETAINING WALL FOR USE IN THE CONSTRUCTION OF SEWERS.

APPLICATION FILED OCT. 3, 1904.



Witnesses.

W. A. Pauberschmidt
Geo. F. Browner.

Inventor.

Michael P. Byrne

By Cyrus W. Rice

Atty

UNITED STATES PATENT OFFICE.

MICHAEL P. BYRNE, OF CHICAGO, ILLINOIS.

TEMPORARY RETAINING-WALL FOR USE IN THE CONSTRUCTION OF SEWERS.

No. 840,747.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed October 3, 1904. Serial No. 227,015.

To all whom it may concern:

Be it known that I, MICHAEL P. BYRNE, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Temporary Retaining-Walls Especially Adapted for Use in the Construction of Sewers and the Like, of which the following is a specification.

My invention has reference to such retaining-walls; and its object is to provide such a wall which will be simple and economical in construction and very efficient and easy of operation.

My said invention is embodied in and its ends are attained by the hereinafter-described mechanism; and my invention consists in the novel features of construction, arrangement, and combinations of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which like parts are designated by the same reference characters in all the views, Figure 1 is a plan view of an excavation, showing my retaining-wall in operation. Fig. 2 is a transverse vertical section of the same on line 2 2 of Fig. 1; and Fig. 3 is a view in perspective of one of the leaves or plates, the middle part broken away, which form my retaining-wall, together with portions of the adjacent leaves or plates on either side, showing the joints or connections between the plates and the preferred construction of the parts.

My retaining-wall is formed in sections, each consisting of a leaf or plate A, preferably of iron or steel and strong enough to securely sustain the earth, &c., forming the walls or sides of the excavation. These several leaves or plates are connected together, each in a longitudinally-slidable manner, by a suitable joint, the preferred construction of which is as follows: Two strips B and C, preferably of iron or steel, are attached, as by the rivets D, on either side of each of the plates A at one of its edges and extend a suitable distance—say, two inches—beyond that edge of the plate, as plainly illustrated in Fig. 3, thus forming a socket or channel adapted to receive in slidable engagement the edge E of the next leaf or plate. In order that the edge E may slide easily in this channel, a filling-piece H, preferably of metal, is secured between one of the strips B or C and the plate A in the manner illustrated.

In order to strengthen the plates A against the pressure of the earth, &c., each has preferably a web F extending outwardly from one side of the plate, which web is preferably formed by bending at right angles a portion (about one inch in width) of one edge of one of the strips B, so as to form an "angle-bar" construction, and in order to further strengthen the upper part of the plates to withstand the blows necessary to drive them into the earth a short web I, preferably of iron angle-bar construction is attached, as by the rivets J, to each plate near its edge E, as plainly illustrated in the drawings. In order that the edge E of each plate, while the same is being driven into the earth, may be retained in the channel of the adjacent plate already placed, the lower end L of the plate is preferably beveled transversely cut diagonally across, (as shown in Fig. 3,) instead of being cut square across. To facilitate the extraction of the plates from the earth, each is preferably provided with an orifice K, in which the hook or bar, &c., of the extracting device may be inserted.

My invention is operated as follows: A pair of the plates A are driven into the earth, one on either side of the proposed trench, &c. Two more plates are then driven down, one on either side of the proposed excavation, the edge E of each plate sliding along and in the channel of the adjacent one already placed. This operation being continued, each side of the proposed trench is thus defined by a wall of the connected plates. Suitable braces, as G, as shown in Figs. 1 and 2, may then be applied at or near the top of the plates to hold the two walls apart against the pressure of the earth, and then the excavation between the walls may be made. The work being finished, the plates are withdrawn to be used in like manner in other work. It is evident that where the character of the earth, &c., requires or permits the excavation may be first made, wholly or in part, and the plates then applied, being braced at their tops and driven into the earth at the bottom of the trench sufficiently to retain their lower ends, thus sustaining the earthen walls of the excavation.

Not confining myself to the exact details of construction above described, which may manifestly be varied without departing from the spirit and scope of my invention, I claim—

1. In a retaining-wall, the combination of

a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide.

2. In a retaining-wall, the combination of a series of plates each having at one edge a channel in which the opposite edge of the adjacent plate is adapted to slide, one side of which channel is formed by a strip, parallel with the plane of the plate and extending at one edge beyond the edge of the plate, and bent at its other edge at an angle to the side of the plate to form a strengthening-web.

3. In a retaining-wall, the combination of a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide, one of which strips has one of its edges turned at an angle with the side of the plate to form a longitudinal strengthening-web.

4. In a retaining-wall, a plate or section provided at one side margin with a channel

located in the vertical plane of the plate and made plain at its other side margin to enter a like channel of an adjacent plate or section, said channel being formed between two plates attached to the opposite faces of the plate or section and extending laterally beyond the side margin thereof, one of said channel-forming plates being turned at an angle to said section or plate to constitute a strengthening-web for the latter.

5. In a retaining-wall, the combination of a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide, one of which strips has one of its edges turned at an angle with the side of the plate to form a longitudinal strengthening-web, the lower end of each plate being beveled transversely.

In testimony whereof I have signed my name to this specification in presence of two attesting witnesses.

MICHAEL P. BYRNE.

Witnesses:

W. J. BYRNE,
JACOB H. GRAF.