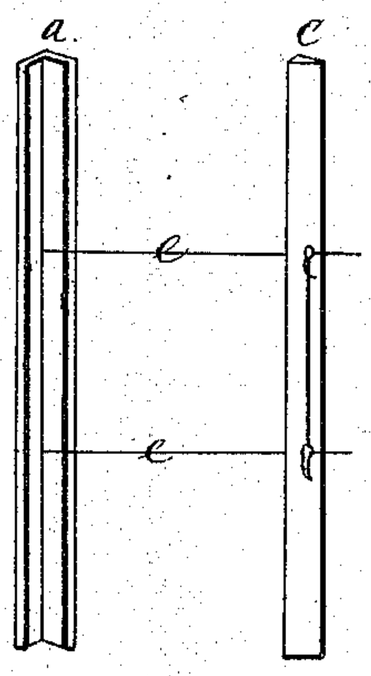
S. Ellis.

Constructing Concrete Walls.

No. 12,676. Patented Apr. 10, 1855.

Fig: 2.



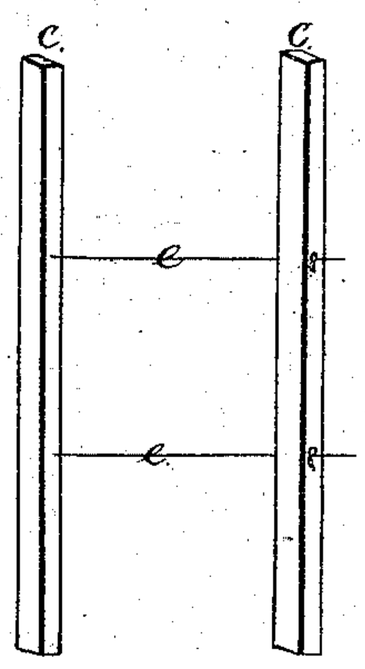
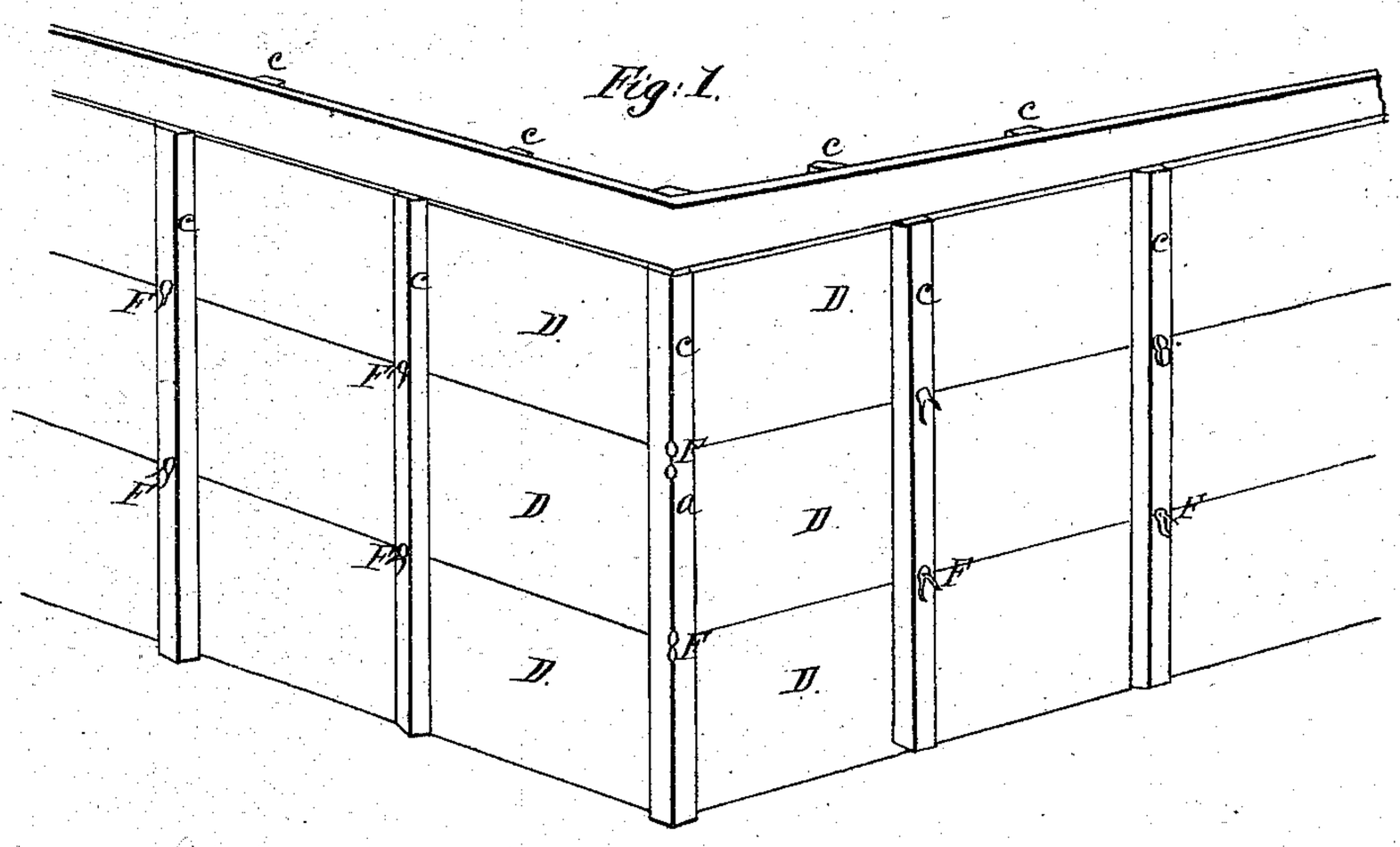


Fig: 1.



Witnesses:

S. D. Law

James Laird

Inventor.

Salathiel Ellis

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UNITED STATES PATENT OFFICE.

SALATHIEL ELLIS, OF NEW YORK, N. Y.

FRAMING FOR BUILDING CONCRETE WALLS.

Specification of Letters Patent No. 12,676, dated April 10, 1855.

To all whom it may concern:

Be it known that I, SALATHIEL ELLIS, of the city and county and State of New York, have invented a new and useful Contrivance for Building Gravel and Concrete Walls, which I term "A Self-Supporting Frame for Building Gravel and Concrete Walls;" 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.

The nature of my invention consists in providing a sectional frame or box, to embrace each side of the wall to be built, and so contrived that, as the wall progresses, the lower section or part may be disconnected, and be made the upper part, and without any injury to the wall, and the several parts of which are so connected with, and supported by each other, that they keep the wall plumb, and of equal thickness.

I make my frame of six boards or more three for each side or six if required preserved at any required distance from each other (which is the intended thickness of the wall to be built) by rods or cross pieces having a head at one end and fastened at the other with nuts and screws, or pins. Upon the outsides of this frame the boards composing which are shown by D, D, D, D, D, D, Figure 1, I place clamps *a*, *b*, *c*, *c*, through which the rods *e*, *e*, before spoken of pass, and to which they are fastened. A view of this frame with its two sets of clamps, is shown by either of the faces of Fig. 1. The rods *e*, *e*, may pass through the upper edges of the boards *d*, *d*, or between them the slight spaces made between them in the latter case in no way effecting the wall.

Suppose the wall built up to the top of the upper boards, I then unscrew the nut *f*, of the lowermost rod, and drive this rod out of the wall, and thus release the lower board of the frame. The clamp is then held by but a single rod, which becomes a sort of pivot, upon which you can turn the clamp at pleasure. The lower ends of the clamps, after the lower rods of each are thus removed, are then turned uppermost, which can be done without disturbing the position of the two upper boards and these ends, thus upturned become then supports to which to attach the lower board disconnected in the manner above described and which is now made the upper board of the frame, and the wall can again be laid. This description applies to the laying of straight walls.

In turning angles, the frame is constructed a little different, though in such case the alteration necessary is only in the construction of the clamp. The form of the clamp for angles is shown by *a* and *b*, Figs. 1 and 2. The outside clamp *a*, projects over the boards on each side and the inside clamp *b*, is triangular shaped, filling up the corner of the wall, and also broad enough to support the boards of either side. As these corner clamps from their position, can not be turned end for end, as before described like the side clamps *c*, *c*, I make in the center part of each a groove *g*, in length equal to the distance between the two rods *e*, *e*, and large enough to allow the free passage of these rods through such groove, so that these clamps can be slid upward, when the others are reversed. To elevate them, the lower rod passing through them is removed in the same manner as before described, and these clamps moved or slid up until stopped by the upper rod, when the other rod is placed through them, at the top of the groove *g*, and there fastened, and the frame is again ready for use. By this contrivance of side and corner clamps the frame may be continually elevated in portions, as the wall is built, and the whole frame needs to be but three boards deep, and it is entirely self supporting. As only one board is detached at a time and the clamps are kept in their proper position by the remaining boards, which are also kept in their proper perpendicular position and at the required width by the wall itself, it follows as a matter of course that the top board, added from time to time will always be in the same perpendicular line with the others, and the wall be kept, at all times of a given height.

The clamps *a*, *b*, *c*, will perhaps be found the cheapest and most reliable, in the erection of a house, if made of iron, and if they are also provided with strong iron rods *e*, *e*, having either thumb screws or pins to fasten them. But these parts may all be of wood if desired, or more convenient, and they are so simple of construction that almost any one can make them. And indeed one great recommendation of my whole contrivance is its great simplicity, and cheapness which enables all to avail themselves of it, and to use it equally well.

In erecting a house of gravel wall, I bounded the entire circuit of the wall with my scaffold and then laid up one part as fast as the other so that at about the same time the lower boards of the entire circuit were released and the clamps elevated, and the boards relaid at top.

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

The construction of the clamps, substantially as before described, so that they can be moved or turned up, as necessity requires, and the combination of these clamps with the rods and boards to form a self-supporting frame for the use and purposes above described.

SALATHIEL ELLIS.

Witnesses:
HALL COLBY,
S. D. LAW.