S. J. SEELY.

METALLIC HOUSE.

No. 37,248. Patented Dec. 23, 1862.

Fig. 3.

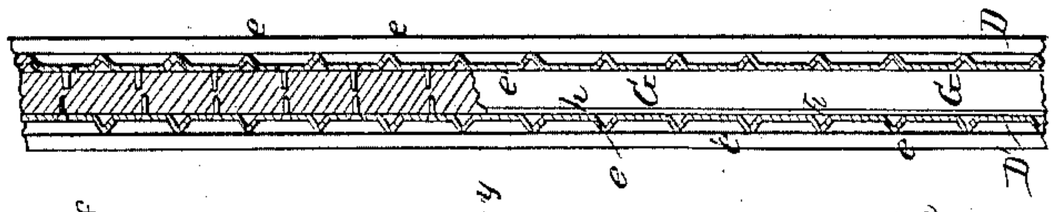


Fig. 2.

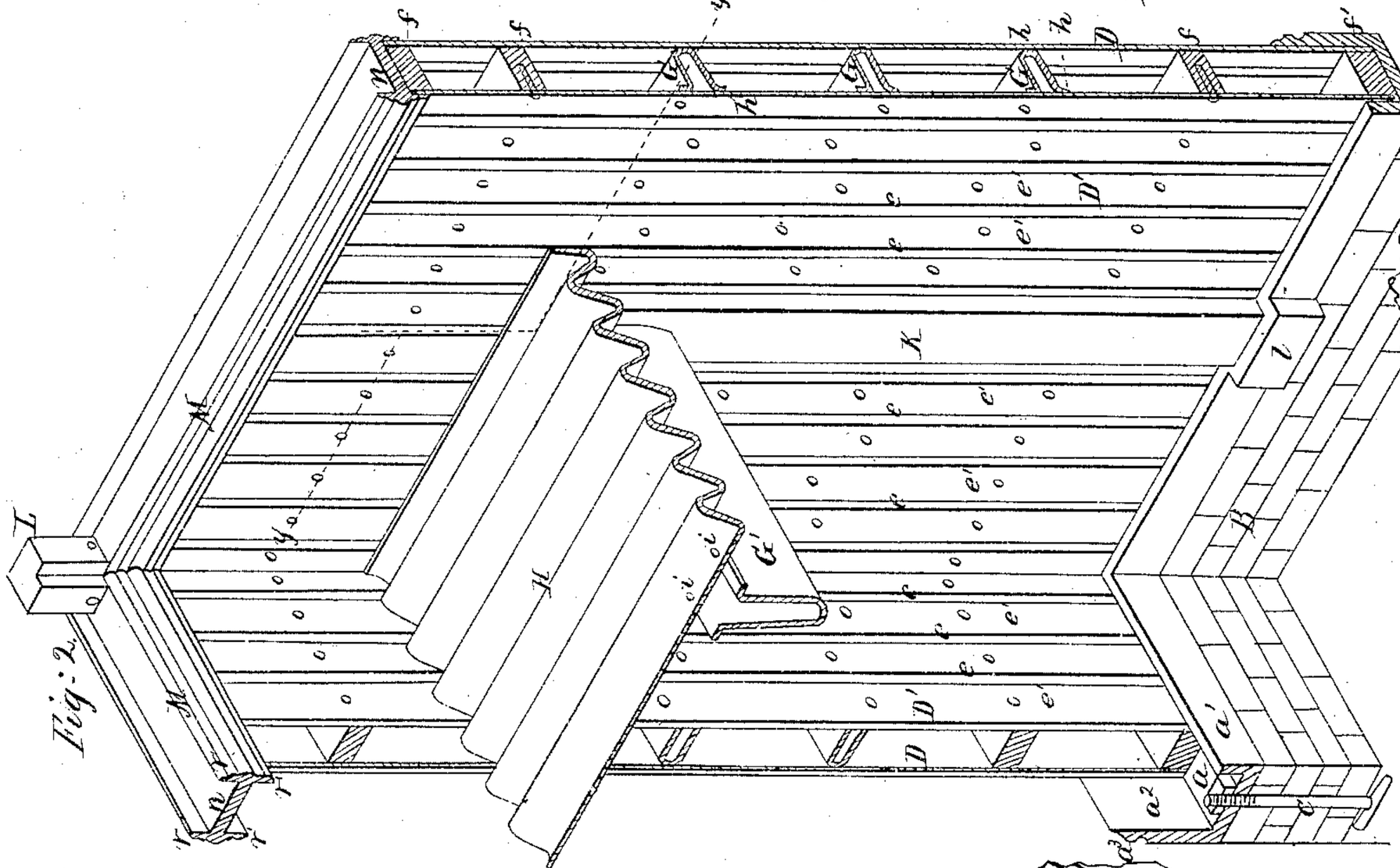
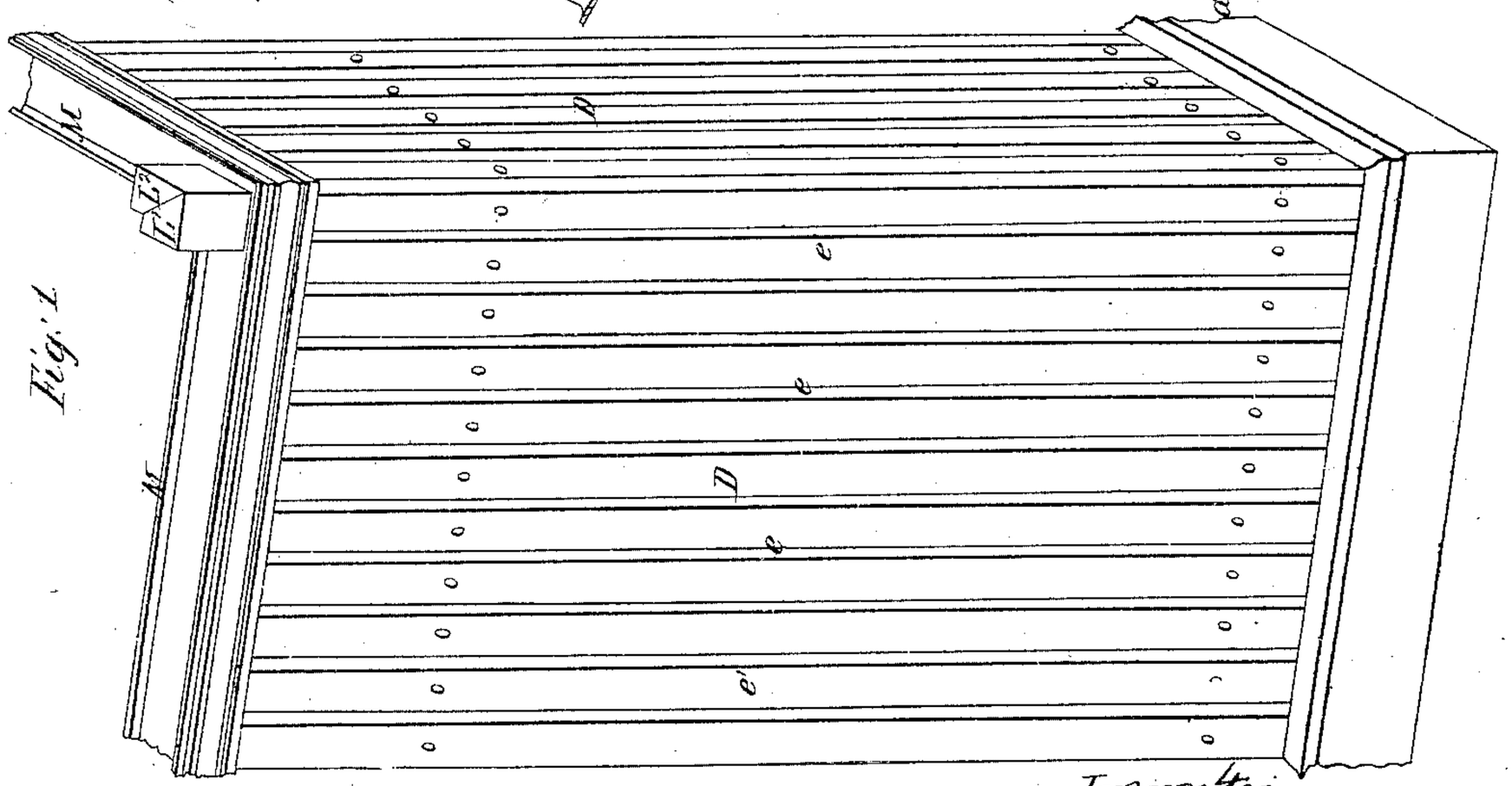


Fig. 1.



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UNITED STATES PATENT OFFICE.

SAMUEL J. SEELY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN METALLIC HOUSES.

Specification forming part of Letters Patent No. **37,248**, dated December 23, 1862.

To all whom it may concern:

Be it known that I, SAMUEL J. SEELY, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Mode of Constructing Metallic Houses; 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, like letters in the several figures indicating the same or analogous parts, and in which drawings—

Figure 1 represents a perspective view of the lower story of a metallic building embodying my improvements, said figure showing an outside view thereof. Fig. 2 is an inside view of a portion of a metallic building, showing my improvements; and Fig. 3 is a sectional view in the line *y y* of Fig. 2.

In the construction of metallic houses a difficulty has heretofore existed in the construction of the metallic base-work for the support of the superincumbent metallic structure, as well as in the care and labor required in bolting the outer and inner walls to the horizontal girders interposed between them. Beside this, as heretofore constructed, no sufficient provision has been made for properly "staying" the terminating upper portions of the several "stories" of which the building may be composed when made of metal, and at the same time furnishing a proper foundation for each succeeding story above the first. To obviate such difficulties I, in the first place, provide a metallic base or sill, the bottom *a* of which is of proper width to sustain and receive the extreme lower portion of the first or basement story of the building, as represented in Fig. 2, such lower portions of the first story of the building being inclosed within the gutter formed by the sides a' and a^2 and bottom *a* of the metallic sill, as represented.

Previous to receiving the superstructure the metallic base is anchored to the foundation B of the building by anchor-bolts *c*, set at proper distances apart around the foundation and in the manner indicated in Fig. 2, thus holding said base firmly to the foundation.

By casting the base or sill $a\ a'\ a^2$ in the form shown by the drawings, the portion a' will constitute a mop-board around the interior of the building, while at the same time the portion a^2 will form an ornamental base-board around its exterior—said last-named portion of the said base or sill extending upward from its bottom *a* a sufficient height for such purpose, as shown—and also being beaded, as at a^3, in order to present the requisite ornamental appearance.

The said sill, as clearly indicated in Fig. 2, is so proportioned to the depths of the main walls D D′ as to receive the same with a close joint, in which position they may be held together by transverse bolts, if desired. The sill, as shown at $a\ a'\ a^2$, Fig. 2, is cast of metal in one entire piece—said figure only representing one of several sections of which the entire sill is composed.

As heretofore constructed the main upright portions or walls D D′ have been of corrugated sheet metal, in the form indicated at H, which in Fig. 2 I have shown as the foundation upon which to lay the second-story floor. Such corrugated metal, however, when used to form the walls, presents a serious difficulty in the time and labor required to properly bolt the interior and exterior courses or walls together, owing to the fact that the heads of the bolts are required to be accurately fitted to the convexity of the corrugation on both the inner and outer walls; and, owing to the numerous bolts used, such fitting becomes the most difficult and expensive process in the erection of the building.

To obviate such difficulty and at the same time preserve the necessary strength or stiffness to the sheets of metal composing said walls, I form said walls, as shown at D D′, of ribbed sheet metal, the ribs *e* running longitudinally of the sheet and rising vertically from the foundation B when said walls are in position, as shown in Fig. 2, thus securing plane-faced surfaces *e′*, between the ribs *e*, through which to pass the bolts e^2, the said bolts being so formed as to have their heads fit into an ordinary countersink in the plane-faced surfaces *e′*.

Between the walls D D′, I interpose horizontal tie-beams *f f′*, of wood, as shown; and at intermediate points, to secure strength as well as lightness of structure, the walls are stayed by U-formed girders, as indicated at G in Fig. 2. These girders are formed with longitudinal lips *h*, as shown, thus giving

them a steady and firm bearing against the inner wall, D′, and also furnishing the means whereby the girder may be bolted to said wall. Such formed girder I have also shown in Fig. 2, applied as a beam, G′, to support the foundation H of the flooring, and in which position the lips *h* afford a proper bearing for said foundation, as well as proper means for securing the former to the latter by bolts *i i*, said parts H and G′ being themselves supported by a post, K, whose rear surface is set against the wall D′ and having its lower end inclosed by a box, *l*, formed in the sill *a a′ a²*, as shown.

In order to properly sustain the walls D D′, together with the corresponding walls necessary to complete the lower story, (not shown in the drawings,) as well as make a proper connection between said walls and the superincumbent walls composing the second story of the building, I provide an intermediate connecting-sill, M, a corner section of which is clearly shown in Fig. 2. This sill is formed with a central bearing-plate, *n*, having longitudinal beaded projections, which rise above and project below said plate, as at *r r r′ r′*, thus forming a double gutter, the one above and the other below the bearing-plate *n*. Thus formed it will be seen that the lower portion of the connecting-sill M may, by its projections *r′ r′*, be made to receive the upper extremities of the walls D D′, while the upper portion of said connecting-sill, by means of its projections *r r*, is made to properly receive the lower ends of the walls composing the second story of the structure. The several stories of a house may thus be placed, the one above the other, the beaded portion of the sill M serving as ornamental work both inside and outside.

For the purpose of adding stiffness to the structure, at each corner I insert upright timbers, as at L, Fig. 2, the same being inclosed by the walls of the building, and proper openings being formed in the connecting-sill M, through which to pass such uprights.

The corner posts, L, instead of being solid or in one piece, may be formed in two pieces, as at L′ L², Fig. 1, one half being bolted to its proper side wall, and so be transported therewith when the several walls are made up for shipping to distant markets.

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

1. The foundation sill *a a′ a²*, constructed in the manner and for the purpose substantially as described.

2. Constructing the sheet-metal walls D D′ with ribs *e* and plane-faced surfaces *e′*, substantially as and for the purpose set forth.

3. The connecting sill M, constructed in the manner and for the purpose substantially as described.

4. The girders G, in combination with the walls D D′, substantially as described.

SAML. J. SEELY.

Witnesses:

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