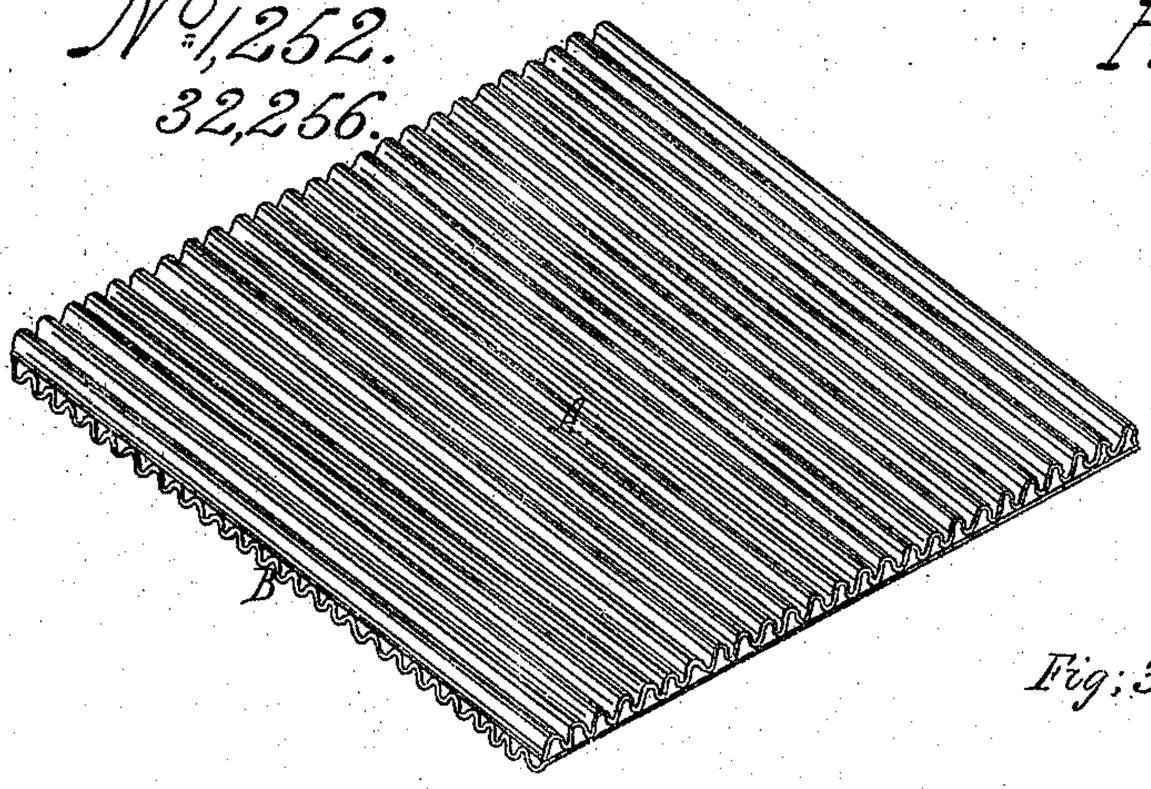
S. J. Seely.

Fire-Proof Building.

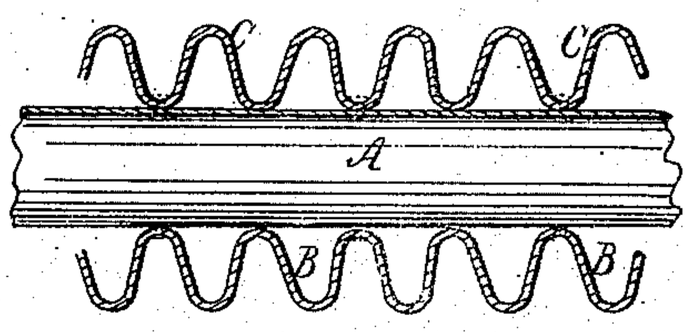
Fig; 1.



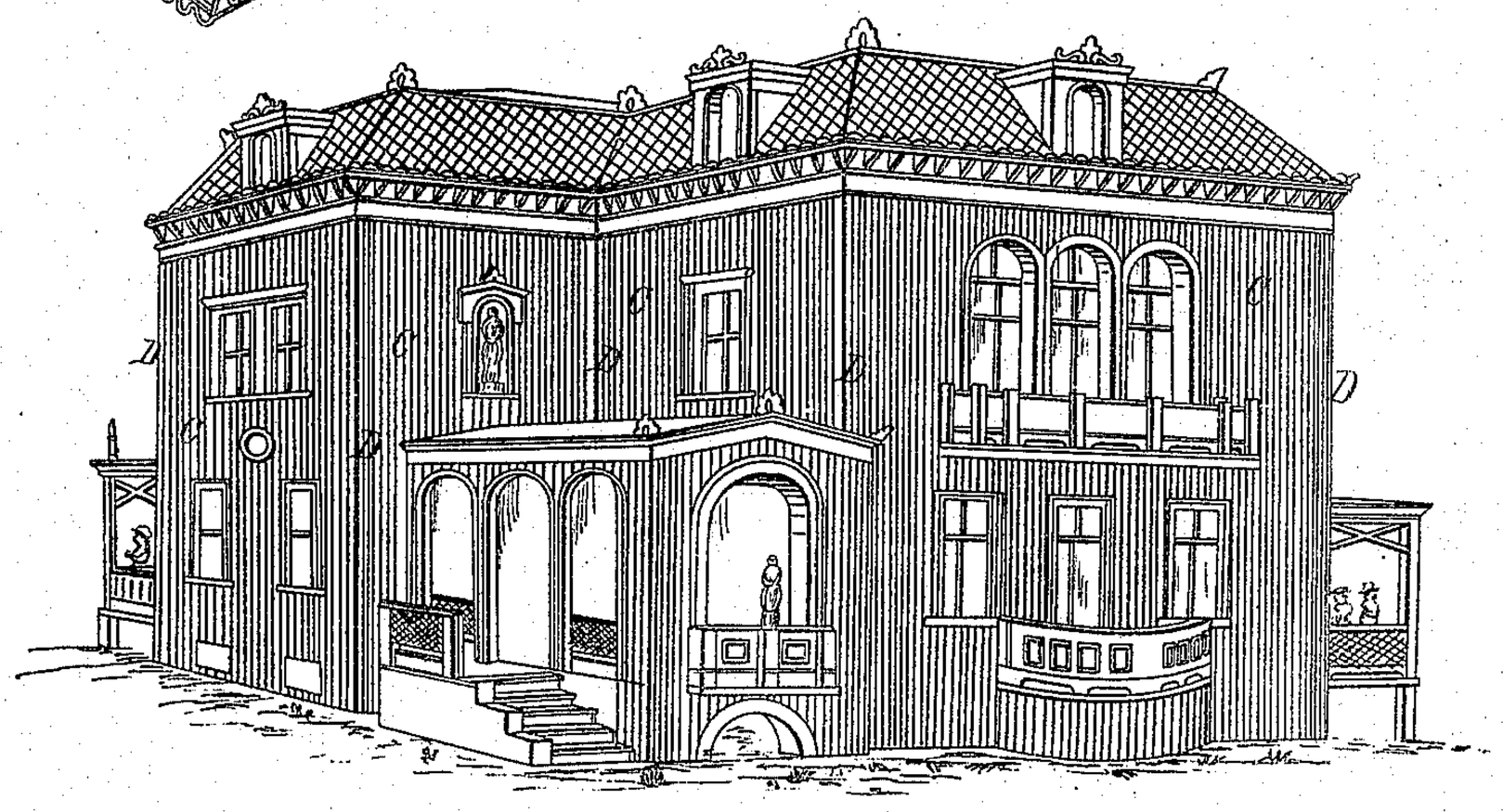
No. 1,252.
32,256.

Patented May 7, 1861.

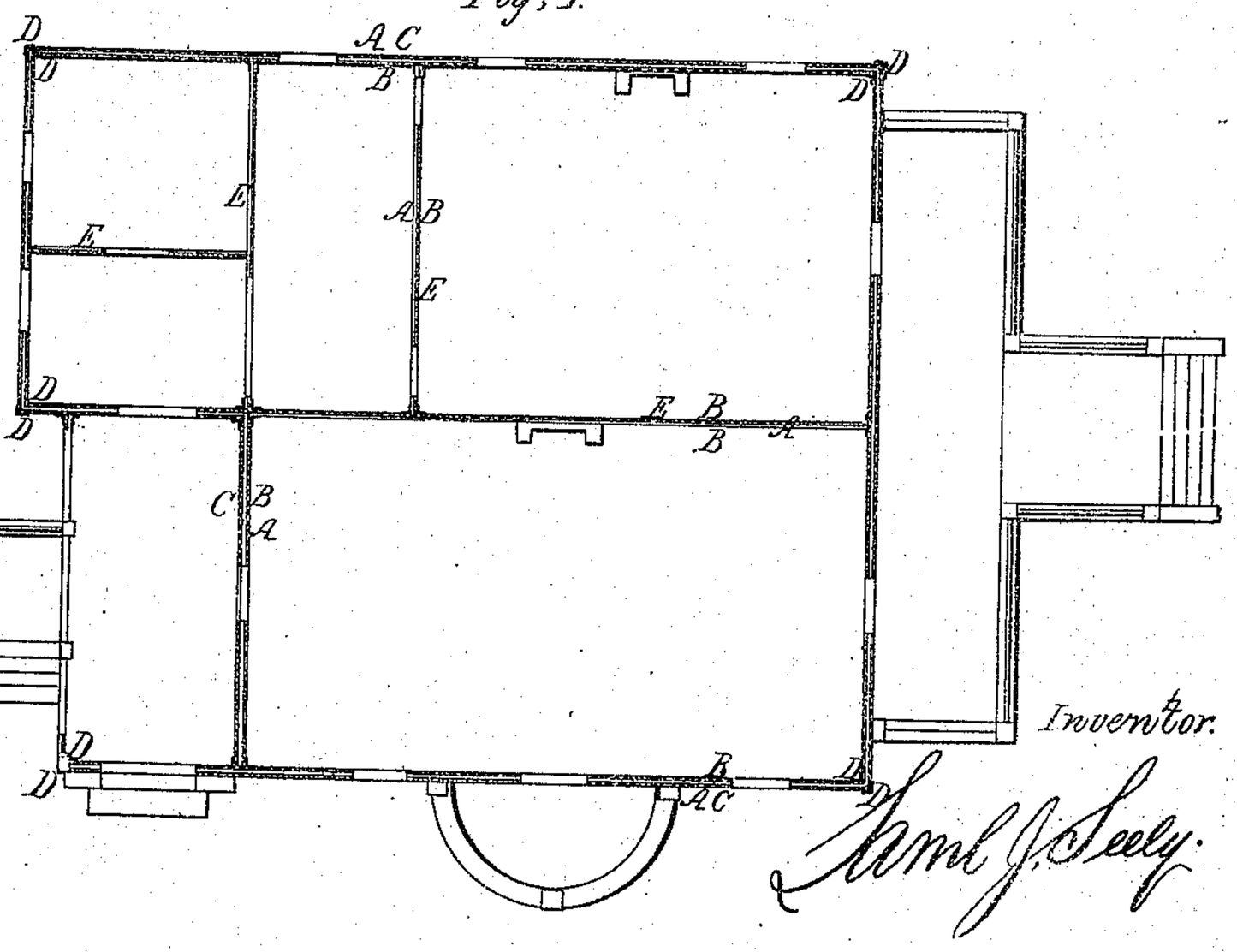
Fig; 2.



Fig; 3.



Fig; 4.



Witnesses.
Chas. J. Breck
R. A. Watkinson.

Inventor.
Sam'l J. Seely.

UNITED STATES PATENT OFFICE.

SAMUEL J. SEELY, OF BROOKLYN, NEW YORK.

MODE OF CONSTRUCTING IRON BUILDINGS.

Specification of Letters Patent No. 32,256, dated May 7, 1861.

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 certain new and useful Improvement in Constructing Dwelling and other Houses of Metallic Plates; 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, and to the letters and marks therein, forming a part of this specification.

Of these drawings, Figure 1, is an isometrical perspective view of two corrugated metal plates secured together with the corrugations of one plate at right angles to those of the other; Fig. 2, is a section of three corrugated plates secured together with the corrugations of the inner or central plate at right angles or transversely to those of the other two; Fig. 3, is a perspective view of a dwelling house constructed of corrugated metal plates arranged and secured together in the manner represented in Figs. 1 and 2; and Fig. 4, is a ground plan of the main portion of the same.

Similar letters and marks in the different figures refer to corresponding parts.

The nature of this invention consists in arranging and securing together two or more corrugated plates of metal with the corrugations of one plate at right, or other desired angles to the corrugations of the adjoining plate or plates, for the purpose of enabling the corrugations of each of the said plates to stay and strengthen the adjoining plate or plates on the line of the corrugations of the same, and thereby adapt them, when thus secured to the forming of walls, partitions, floors and roofs of houses where strength, economy of space, and the other advantages hereafter enumerated are desired.

In Figs. 1 and 2 of the drawings, A B represent two corrugated metal plates secured by bolts or other suitable means one upon the other, with the corrugations of one of said plates at right angles to those of the other, and in Fig. 3, C represents a third corrugated plate secured upon the plate, A, with its corrugations at right angles to the corrugations of the same, and parallel with and opposite to the corrugations of the plate B. Now it is a well known fact that a metal plate is greatly increased in strength by corrugating it, and that while its capacity to resist weight or pressure applied directly abreast or against its corrugations is thus increased from end to end of the several corrugations, from the fact that their *cima-reversa* and *cima-recta* relations to each other cause them to act as resisting arches to each other, yet along the line of its corrugations its strength to withstand a pressure tending to force the apex of the corrugations together is comparatively weak. Such being the case, it is apparent that securing two or more corrugated plates together in the manner described, the corrugations of one will strengthen right angled weaker portions of the corrugations of the similar adjoining plate or plates, and give them conjointly an extraordinary power to resist weight or pressure no matter from what quarter it may bear.

This arrangement or construction of corrugated plates together is designed for walls, partitions, floors and roofs of dwellings and houses as before stated, and to adapt it to the first mentioned purpose I secure three thicknesses or layers of corrugated plates together, as represented in Figs. 2 and 4, the corrugations of the central or intervening plate, A, running horizontal and being greater in size than the vertical corrugations of the others, B, C, in order to give the necessary space in the same to admit of the passage of water and gas pipes through them. The plates forming these walls are built or secured one upon the other and strengthened and braced at the corner of the building by vertical angle-irons, D, and at any other desired portions by horizontal rods or beams anchored to the sides of the corrugated walls, or by other suitable means. For the floors and partitions, E, of the building, two thicknesses or layers of corrugated plates only are required, as represented in Figs. 1 and 4, and in forming the floors and partitions the corrugated plates of which they are formed may be either built upon and between horizontal angle irons, and upon each other, with the general construction of the house, or they may be secured together to form an entire section of floor and partition and laid upon said angle-irons, as in the former case, and in the case of the partitions they may be slid between their angle or gutter irons, which, like those of the floors, may be ornamented

to the moldings of wash-boards, and ceiling cornices, usually applied to the interior of rooms.

By constructing dwellings and other houses of corrugated metal plates as described, not only will there be greater strength, durability and economy of space obtained, but they will also, be fire-proof; warmer in winter, and cooler in summer, through the interposition of columns of air and, if desired, other non-conducting material within the corrugations of the plates of the walls, and otherwise more comfortable to the occupants, and more ornamental in appearance both inside and out, from the fact of the corrugations affording a series of harmonizing lights and shades, and thus avoiding the monotonous appearance of blank walls.

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

Constructing dwelling and other houses of corrugated metal plates as herein set forth.

SAML. J. SEELY.

Witnesses:
CHAS. J. BRECK,
R. A. WATKINSON.