T. W. H. MOSLEY.

Construction of Iron Buildings.

No. 106,854. Patented Aug. 30, 1870.

Fig. 1.

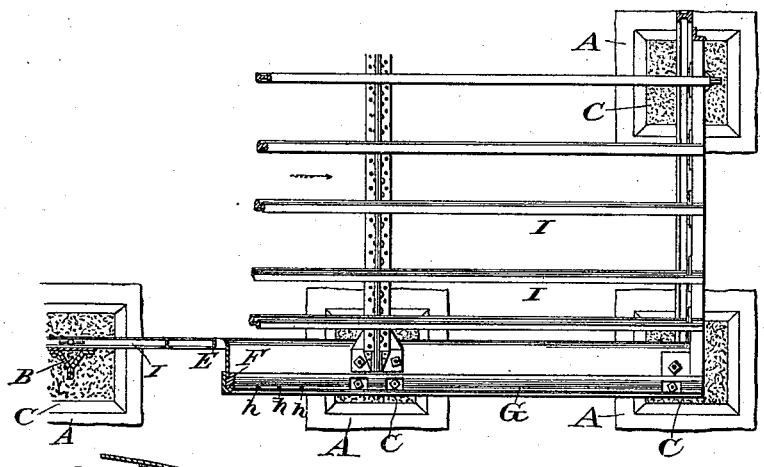


Fig. 2.

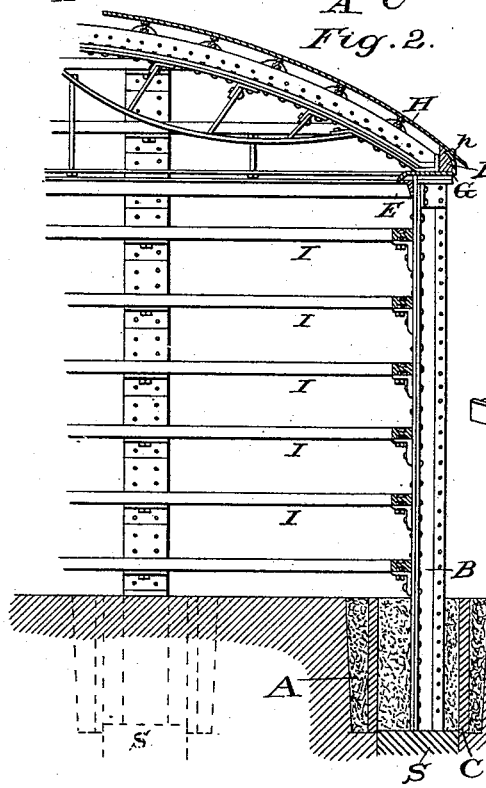


Fig. 3.

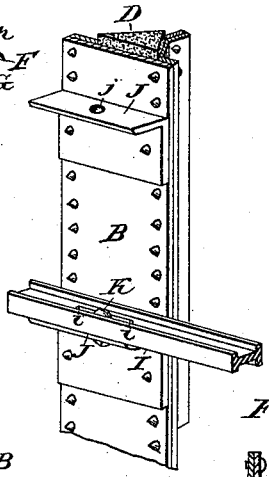
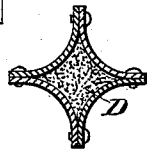


Fig. 4.



Witnesses:

H B Deming

Wm H Brereton Jr.

Inventor:

T W H Mosely

By Knight Bros

Attorneys

United States Patent Office.

THOMAS W. H. MOSELEY, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 106,854, *dated August* 30, 1870.

IMPROVEMENT IN IRON BUILDINGS.

The Schedule referred to in these Letters Patent and making part of the same.

I, THOMAS W. H. MOSELEY, of Boston, in the State of Massachusetts, have invented certain new and useful Improvements in the Construction of Iron Buildings, of which invention the following is a specification.

Nature and Objects of the Invention.

My invention consists in the mode of setting iron wall-posts upon a suitable foundation within a curb, which is filled with cement or concrete, so as to retain the base of the post immovably in position, and preserve it from oxidation.

The invention further relates to compound girders or plates, constituted of wood and metal, employed for the connection of the tops of the posts and the attachment of the roof-sheets, and so constructed and incased as to render the structure fire and water-proof.

The invention consists further in connecting the siding to the posts by horizontal girts, preferably of I-form, secured to each post by knees or brackets and longitudinal slots, as hereinafter described, so as to permit the said girts to accommodate themselves freely to the expansion and contraction, caused by changes of temperature, without violence to any part of the frame.

General Description with Reference to the Drawing.

In the accompanying drawing—

Figure 1 represents a plan, partly in section, of one corner of a buiding, illustrating my invention.

Figure 2 represents a vertical section thereof in the plane indicated by the line *x x*, in fig. 1.

Figure 3 is a perspective view, on a larger scale, of a portion of one of the posts with girt attached.

Figure 4 represents a transverse or horizontal section of a post constructed according to my invention, but under a modified form.

Similar letters of reference indicate corresponding parts in the several figures.

In building my iron house, I first dig holes in the ground, as shown at A A A, figs. 1 and 2, about four feet deep and four feet square. If the ground be found dry, and the soil gravely or clayey, or of other proper character to afford a solid foundation, I place flat stones at the bottoms of the holes; or, if the ground be soft, I drive piles, and on the piles I place flat stones, and upon these stones I set the posts B. The distance between the posts may be from six to fifteen feet, as the nature of the building requires.

The posts B are preferably made of plate-iron, of thickness from No. 11 to No. 9, Birmingham gauge.

They may be made of three plates, in triangular form, as shown in figs. 1 and 3, or of quadrangular form, with four curved plates, with the apexes or convexity of the curves inward, as shown in fig. 4.

Around the posts B, I place wooded curbs C, from two to four feet square, according to the size of posts required, extending down as far as the lower ends of the posts. The curbs may be made of boards about an inch thick, and are filled with hydraulic cement, or with a concrete of sand and cement, which hardens and gives the posts a solid foundation, and, at the same time, preserves them from oxidization. The interior of the posts is then completely filled with the cement or concrete, as shown at D, which affords internal support to the thin sheet-iron shell, and also preserves it from oxidization.

I thus produce a post or column of immense strength with a comparatively small weight of metal.

When these posts are set in their proper places on the line of the building, at sides and ends, I apply an angle-bar, E, from two and a half to four inches in width, according to the strength required, extending completely around on the inside at the tops of the posts, uniting the latter in its circuit around the building.

F represents a wooden scantling, running parallel with the angle-bar E, and attached thereto by plates or heavy sheets of iron, G, extending around the wood on the outside, and serving the triple purpose of connecting the wood and iron, making the wood fire-proof, and closing up the apertures, so as to make the structure completely weather-proof.

The compound bars E F G, thus constituted, are termed wall-plates, forming the upper frame of the walls, serving for the attachment of the lower edge of the roof-sheets H, and permitting the application of a cornice of any style desired.

The wooden plates F are necessary for the reception of barbed spikes *h*, by which the roof-sheets H are secured to the walls or wall-plates.

The siding of the building is preferably made of corrugated iron, and, to make a complete union of these sheets with the posts or frame, I employ double-flanged or I-shaped bars or girts, I, of from one and a half to three inches in width. The manner of securing these girts is most clearly shown in fig. 3.

They run horizontally from one post to another, at from two to four feet apart, and are held to the posts on the inner sides of the latter, by means of brackets J riveted to the posts, with holes *j* for the reception of bolts K, which pass through longitudinal slots *i* in the central web of the girts I, which slots permit the girts to expand and contract freely under changes of temperature, without causing any violence or strain between them and the posts, or to any part of the frame.

Other parts of the structure not herein specifically described may be constructed in any usual or suitable manner, or in accordance with patents heretofore granted to me.

Claims.

The following is claimed as new:

1. The foundations, formed of a suitable support, S, and a curb, C, and cement or concrete filling, D, surrounding the base of the posts B.

2. The compound wall-plate E F G, adapted for the purpose and constructed substantially as described.

3. The combination and arrangement of the angle-bars E, wooden plates F, connecting plates or sheets G, and roof-sheets H, substantially as represented.

4. The girts I, connected to the posts B by slot-joints *i*, to permit of motion under changes in temperature, as set forth.

THOS. W. H. MOSELEY.

Witnesses:

OCTAVIUS KNIGHT,

WM. B. DEMING.