

(No Model.)

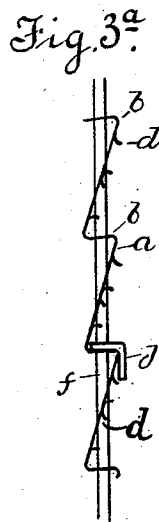
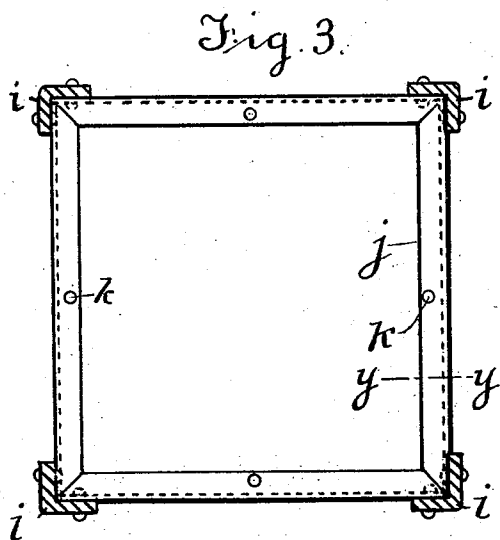
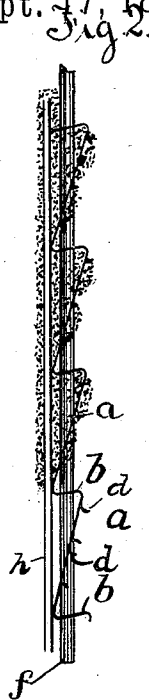
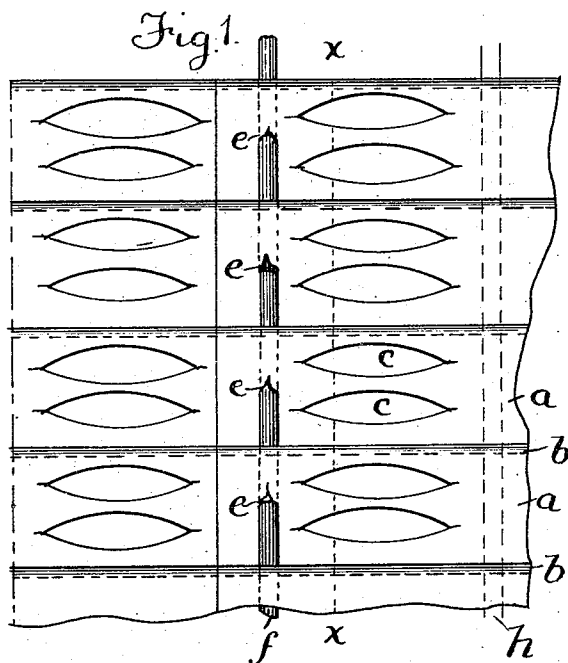
2 Sheets—Sheet 1.

T. BAILEY.

FIREPROOF PARTITION, CEILING, &c.

No. 546,502.

Patented Sept. 17, 1895.



Witnesses.

St. J. Morgan
S. H. Morgan

Inventor.

Thos. Bailey
By A. P. Thayer
att'y

(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

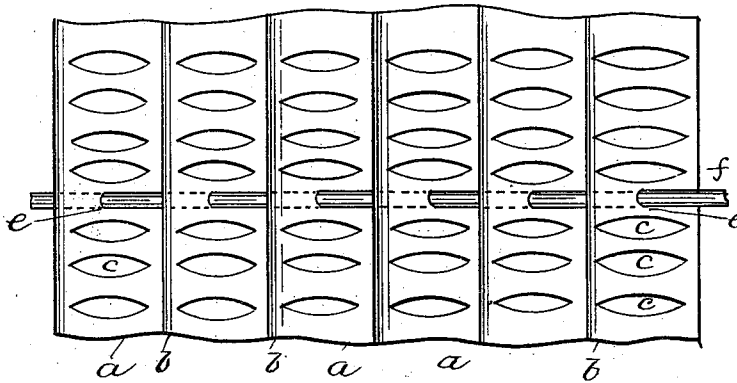


Fig. 5.

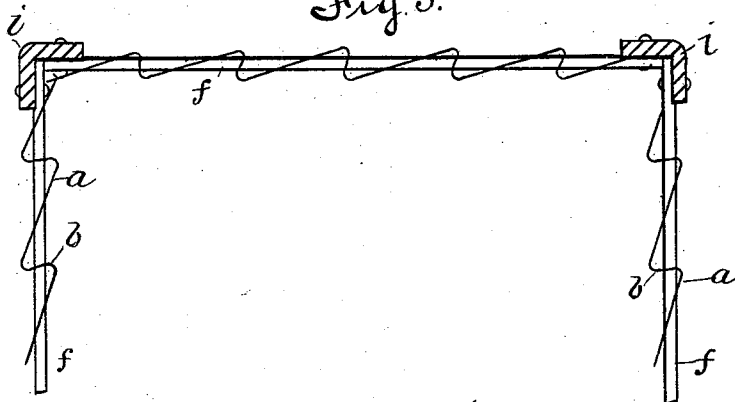
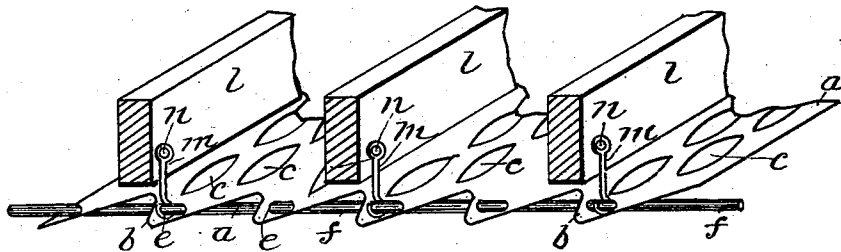


Fig. 6.



Witnesses
W. H. Morgan
S. H. Morgan

Inventor
Thos. Bailey
By *A. P. Thayer*
att'y.

UNITED STATES PATENT OFFICE.

THOMAS BAILEY, OF NEW YORK, N. Y.

FIREPROOF PARTITION, CEILING, &c.

SPECIFICATION forming part of Letters Patent No. 546,502, dated September 17, 1895.

Application filed December 22, 1894. Serial No. 532,674. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BAILEY, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Fireproof Partitions, Ceilings, &c., of which the following is a specification.

My invention relates to corrugated metal sheets as a skeleton foundation for thin fireproof plastered partitions, ceilings, and the like; and it consists of the improvements in the corrugations, manner of applying stiffening and staying-rods, manner of splicing the sheets, and manner of arranging and securing the sheets in position, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a skeleton foundation of metallic sheets for a plaster partition, in accordance with my invention. Fig. 2 is a section of the same on line *xx*, Fig. 1, with an additional stiffening-bar attached to one side and with one side plastered. Fig. 3 is a horizontal section of an elevator or other shaft inclosed with my improved skeleton partitions with the corrugations arranged horizontally, as in Figs. 1 and 2. Fig. 3^a is a section on line *yy*, Fig. 3. Fig. 4 is a side elevation of a portion of the skeleton foundation with the corrugations arranged upright, as they may be for ordinary partitions and as they will preferably be for elevator and other shafts. Fig. 5 is a horizontal section of part of an elevator or other shaft with the sheets of the skeleton arranged with the corrugations upright. Fig. 6 is a perspective view showing the manner of suspending the sheets when used for ceilings.

I take long sheets of thin metal and corrugate them transversely, making the corrugations with the wide and narrow sides *a b*, respectively, in acute angular relation to each other, and both in angular relation to the plane of the sheet, as shown in Figs. 2 and 5, and puncture them in the wide sides *a* of the corrugations, as at *c*, so as to produce projecting lips or fins *d* on one side, and make holes, as at *e*, lengthwise of the sheets through the sides of the corrugations, near the margins and intermediately, if desired, for stiffening and splicing rods *f*, which I insert in said

holes, as shown, especially where two sheets are lapped, as in Fig. 1, and for wide partitions. This improved form of corrugated sheets is distinguished from the dovetail corrugated sheets, in that it is a simple zig-zag form of two-sided ribs and grooves of different widths of the sides, both sides being in angular relation to the plane of the sheets and in acute angular relation to each other, instead of three sides with one side parallel to the plane of the sheet, as in the dovetail form, and one side of said ribs and grooves of the improved sheets being at a greater angle to the plane of the sheet than the angle of the other side. It will be noted that while this form of corrugated sheets requires much less material than the dovetail corrugated form, because the sinuosities are less abrupt, it is about as feasible as that form for plastering on both sides, especially when arranged with the corrugations horizontally, for if it be plastered first on the side which is at the left hand in Fig. 2 the plaster will be effectually anchored and supported in the perforations *c*, and then being plastered on the right side the plaster will be anchored in the ledges of the acute angular grooves formed between the sides *a* and *b* of the corrugations of that side, besides the anchorage afforded by the rolled or hooked lips or fins and the overhanging portions of the plaster previously applied to the other side and protruding through the perforations; and it is also well adapted for plastering on both sides when the corrugations are placed upright, because the rolled lips and the protruding portions of the first-applied coating afford good anchorage for the second coating without the ledges. If desired other bars or rods, as *h*, may be riveted or otherwise secured to the sides of the corrugated sheets for stiffening them.

When used in elevator or other shafts, the sheets will be secured in angle posts *i* of the shafts, said sheets being riveted or bolted to said posts in any approved way with angle tie-bars for the posts, as *j*, Figs. 3 and 3^a, when the sheets are placed with the corrugations horizontally, to which the sheets may be riveted, if desired, and they may also be secured to said tie-bars by rods *k*, inserted through them and also through perforations *k* of the tie-rods; but for such shafts it will

be preferable to arrange the sheets with the corrugations upright, as in Figs. 4 and 5, because the sheets can be first spliced together in lengths equal to the height from floor to floor of a building and then placed in position relatively to the posts, and the splicing and stiffening rods *f* may be riveted to the posts for ties to them, the said rods being placed at suitable intervals apart along the sheets for also serving as ties for the posts.

When used for ceilings where it is desired to support the sheets at a distance below wood beams, as *l*, for free space between the sheets and the beams for protection from fire, I employ suspending links *m* of any approved form or kind and connect them with the sheets, when the stiffening-rods are inserted, by inserting the rods through the links also, said links being suitably perforated at one end and being located at distances apart corresponding to the distances between the beams or some of them, as desired, and said links also being perforated at the other ends suitably to be spiked, screwed, or otherwise secured to the beams, as at *n*.

I claim—

1. The improved metallic plaster holding partition sheet, having corrugations produced with alternate wide and narrow sides in acute angular relation to each other, and being perforated in the wide sides of the corrugations suitably to anchor a plastic coating on them, and the edges of the perforations being projected on the side of the sheet having the ledges formed by the narrow sides of the corrugations for re-inforcing them to secure the plaster on that side of the sheet, when the sheet is arranged with the corrugations horizontally substantially as described.

2. The improved metallic plaster holding partition sheet, having corrugations produced with alternate wide and narrow sides in acute angular relation to each other, and being perforated in the wide sides of the corrugations suitably to anchor a plastic coating on them, and the edges of the perforations being projected on the side of the sheet having the ledges formed by the narrow sides of the corrugations for re-inforcing them to secure the plaster on that side of the sheet, when the sheet is arranged with the corrugations horizontally, and provided with stiffening bars connected transversely of the corrugations substantially as described.

3. The improved corrugated perforated metallic plaster holding partition sheets having corrugations produced in alternate wide and narrow sides in acute angular relation to each other and with one side in a greater angle to the plane of the sheet than the other side, and having stiffening rods inserted through the perforated sides of the corrugations substantially as described.

4. The combination in fire proof elevator and other shafts, of the angle iron corner posts, corrugated metallic plaster holding partition sheets having corrugations produced in alternate wide and narrow sides in acute angular relation to each other, and with one side in a greater angle to the plane of the sheet than the other side, and the bars connecting the posts, and having the sheets connected to them substantially as described.

5. The combination in fire proof elevator and other shafts of the angle iron corner posts, corrugated and perforated metallic plaster holding partition sheets having corrugations produced in alternate wide and narrow sides, in acute angular relation to each other, and with one side in a greater angle to the plane of the sheet than the other side and placed with the corrugations upright, and stiffening rods inserted through perforations in the sides of the corrugations and secured to and forming tie rods to the posts substantially as described.

6. The improved corrugated fire proof perforated metallic plaster holding partition sheets having corrugations produced in alternate wide and narrow sides in acute angular relation to each other, and with one side in a greater angle to the plane of the sheet than the other side, spliced together by overlapping edges secured by stiffening rods inserted through holes in the sides of the corrugations of the lapped sheets substantially as described.

7. The combination with the improved corrugated and perforated plaster holding sheets and stiffening or splicing rods inserted through the perforated sides, of the corrugations, of the suspending links connected to the sheets by the said rods and adapted for being secured to the floor beams to suspend the sheets with a free space between them and the beams substantially as described.

8. In a corrugated fire proof skeleton partition base of sheet metal for receiving and supporting a plaster coating on each side, and having stiffening bars connected transversely of the corrugations suitably to be inclosed by the plaster coating of the two sides, said corrugations produced with alternate wide and narrow sides in acute angular relation to each other and being perforated in the wide sides of the corrugations for coaction with the ledges formed by the narrow sides of the corrugations to anchor the plaster coatings of both sides of the sheet substantially as described.

Signed at New York city, in the county and State of New York, this 3d day of November, A. D. 1894.

THOMAS BAILEY.

Witnesses:

W. J. MORGAN,
S. H. MORGAN.