(No Model.)

A. NORTHROP.

METALLIC CEILING.

No. 330,915. Patented Nov. 24, 1885.

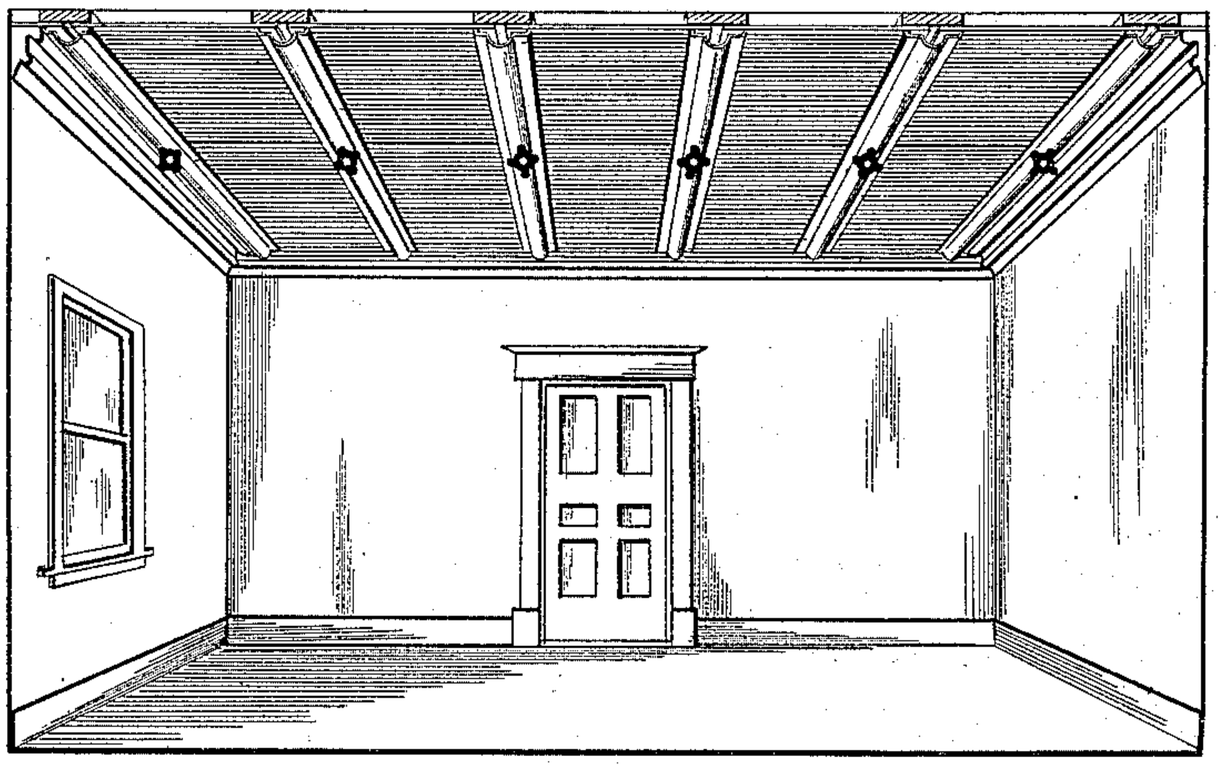


FIG. 2.

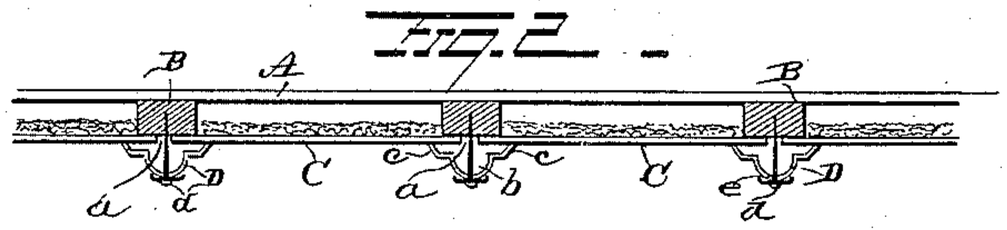


FIG. 3.

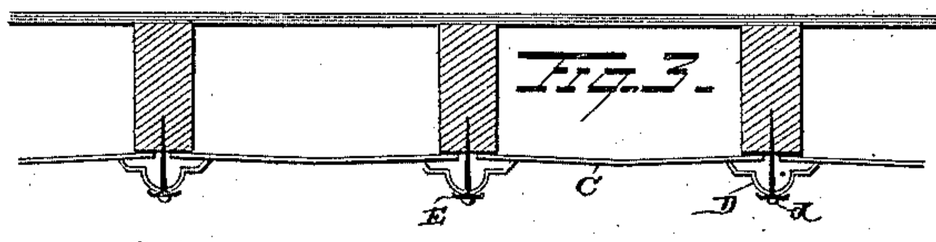


FIG. 4.

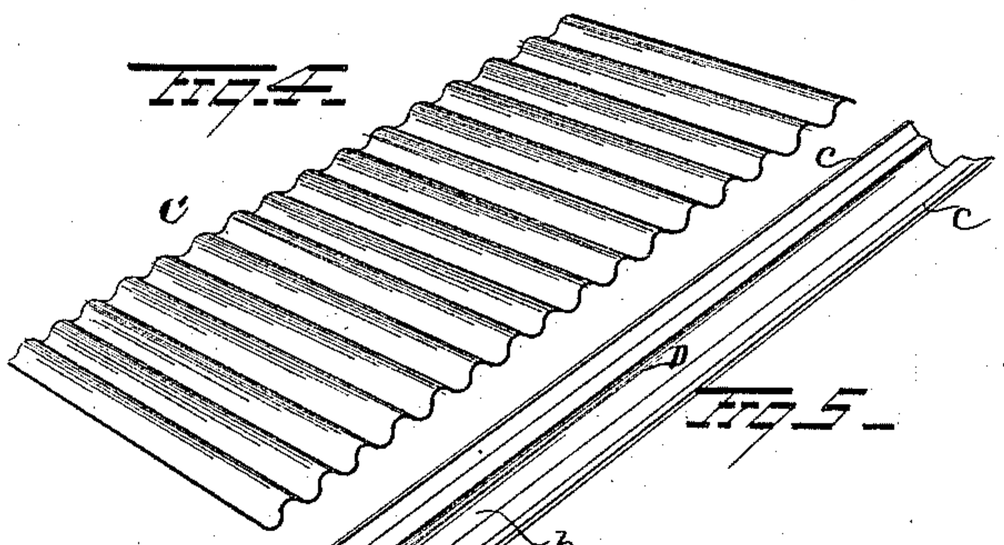


FIG. 5.

FIG. 6.

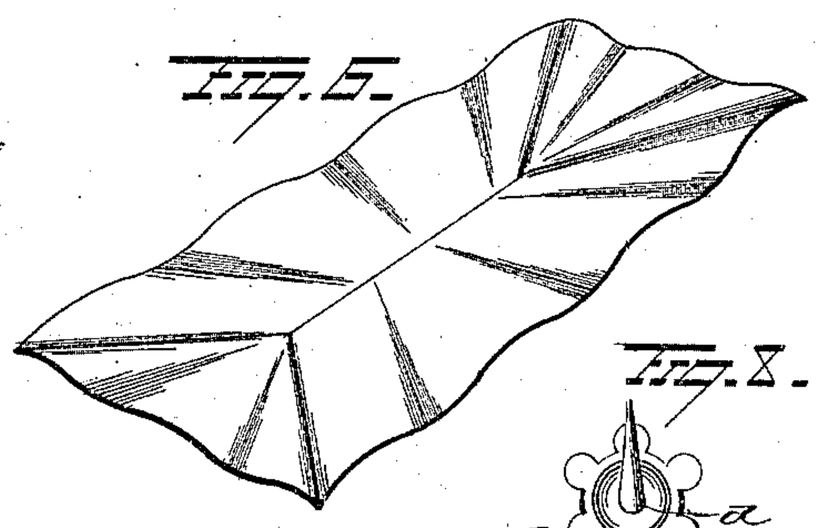
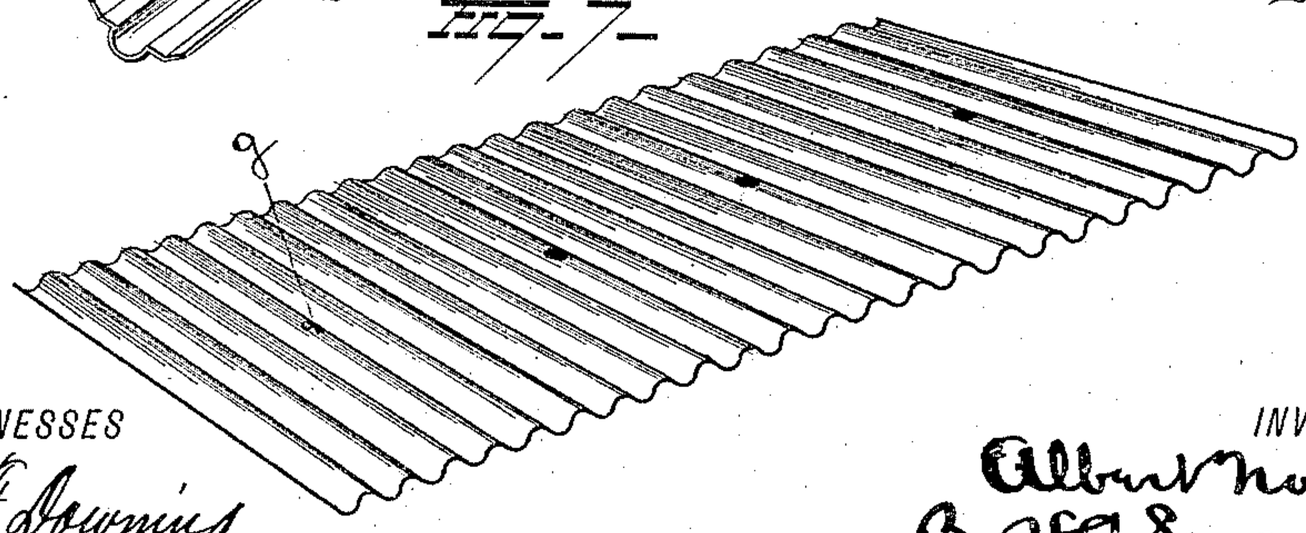


FIG. 8.

FIG. 7.



WITNESSES

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METALLIC CEILING.

SPECIFICATION forming part of Letters Patent No. 330,915, dated November 24, 1885.

Application filed June 29, 1885. Serial No. 170,108. (No model.)

To all whom it may concern:

Be it known that I, ALBERT NORTHROP, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Ceilings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in metallic ceilings, the object being to provide a metallic ceiling that shall be simple in construction and of small initial cost in its manufacture, that may be readily applied in sections, so as to present a neat and finished appearance, the parts to be so constructed and arranged as to allow of free expansion and contraction of the metallic panels, and thus prevent their warping or buckling, and also to make provision for the ready escape of any water that may find its way upon the upper surface of the ceiling by reason of a leakage in the roof or of the water-pipe in the floor or other cause.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described.

In the accompanying drawings, Figure 1 is a view in perspective of a metallic ceiling constructed in accordance with my invention. Fig. 2 is a sectional view of the ceiling having an asbestus covering applied to the metallic panels. Fig. 3 is a similar view with the asbestus lining dispensed with. Fig. 4 is a detached view in perspective of one of the panels. Fig. 5 is a similar view of the molding-strip. Fig. 6 is a view in perspective of a modified form of panel. Fig. 7 is a view in perspective of a large panel adapted to be fastened along its central portion, and Fig. 8 is a detached view of one of the rosette fastening-nails with a rosette applied thereto.

A represents the ceiling. If plastered, the furring-strips B are secured thereto for the attachment of the metallic ceiling. Instead of securing the metallic ceiling to furring-strips, it may be fastened to the joists.

C represents the panels, which are preferably made of corrugated sheet-iron, in order to stiffen the sheet, and, further, to provide for their expansion and contraction in one direction—that is, in a direction transverse to the length of the corrugations, and also to form channels to direct the flow of any water that may find its way onto the upper surface of the panels of the ceiling. These panels are applied to the furring-strips in such a manner that spaces *a* will be left between their adjacent side edges to allow of the expansion and contraction of the panels, and also to form intervening passages or openings for the escape of water.

D are molding-strips of sheet metal, and are constructed with a central gutter or conduit, *b*, and laterally-projecting flanges *c c*. Molding-strips D are placed over the side edges of two adjacent panels, the flanges *c c* of the strip resting under the side edges of the panels, and thereby supporting them in position. The molding-strips are secured by nails *d*, inserted through holes *e* in the strips and extending into the furring-strips.

In Fig. 2 I have shown a lining of asbestus placed on the upper surface of each panel to serve as an additional precaution against damage by fire, and also to deaden the sound from one floor to another; but I do not limit myself to the application of such asbestus lining, as in Fig. 3 I have shown the ceiling without it.

The nails used for fastening the molding-strips in place are provided with cup-shaped rosettes E, which cover and conceal the nail-holes in the molding-strips, and also serve to catch the water dripping from the molding-strips.

Instead of making the panels of flat corrugated plates, they may be made trough-shaped, as represented in Fig. 6, with their sides corrugated and inclined for the ready escape of water.

In the event that large panels are used, they may be fastened along their central portions by nails passing through holes *g*, the latter being formed of greater diameter than the nails to admit of the expansion and contraction of the panels. The fastening-nails have the rosette applied thereto to cover and conceal the nails and the holes in the panels.

From the foregoing it will be observed that

the panels are supported in position by the molding-strips, and are allowed free and independent expansion and contraction, and hence will not buckle or wrinkle in use. The corrugations operate to stiffen the panels, and also form channels to direct the flow of water into the molding-strips should any leakage occur in the roof or in the water-pipe. The rosettes serve to cover and conceal the fastening-nails, and also serve as receptacles to catch the dripping of water from the upper surface of the ceiling.

As it is evident that slight changes in the form and arrangement of the different parts of my improved metallic ceiling might be resorted to without departing from the spirit of my invention, I would have it understood that I do not restrict myself to the particular form, construction and arrangement of parts shown and described; but I am aware that it is old to cover the upper surface of the panels with ashes, fine earth, and cement; hence I make no claim, broadly, to panels having protecting covering or lining.

I am aware that it is not new to employ flanged panels and secure them to cleats located between the adjacent edges of the panels, either by concealed fastening devices or by cap-pieces; hence I make no claim to such construction.

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

1. In a metallic ceiling, the combination, with two adjacent panels, substantially as shown, arranged to form an intervening space between their edges, of the molding-strips overlapping the adjacent edges of both panels, and screws or other devices passing through the molding and between the adjacent panels for securing the molding-strip and panels in position.

2. In a metallic ceiling, the combination, with corrugated sheet-metal panels arranged to form an intervening space between their adjacent sides, and thereby allow of their expansion and contraction in all directions, of a molding-strip overlapping the adjacent side edges of the panels and devices passing through the molding-strip between the edges of the panels for securing the strip and panels to the ceiling.

3. In a metallic ceiling, the combination, with metal panels and molding-strips secured over their adjacent side edges to allow of the free expansion and contraction of the panels, of an asbestus lining on each panel, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALBERT NORTHROP.

Witnesses:
S. G. NOTTINGHAM,
GEO. F. DOWNING.