(No Model.)

F. G. CALDWELL.

METALLIC PANEL FOR CEILINGS.

No. 529,593. Patented Nov. 20, 1894.

Fig. 1.

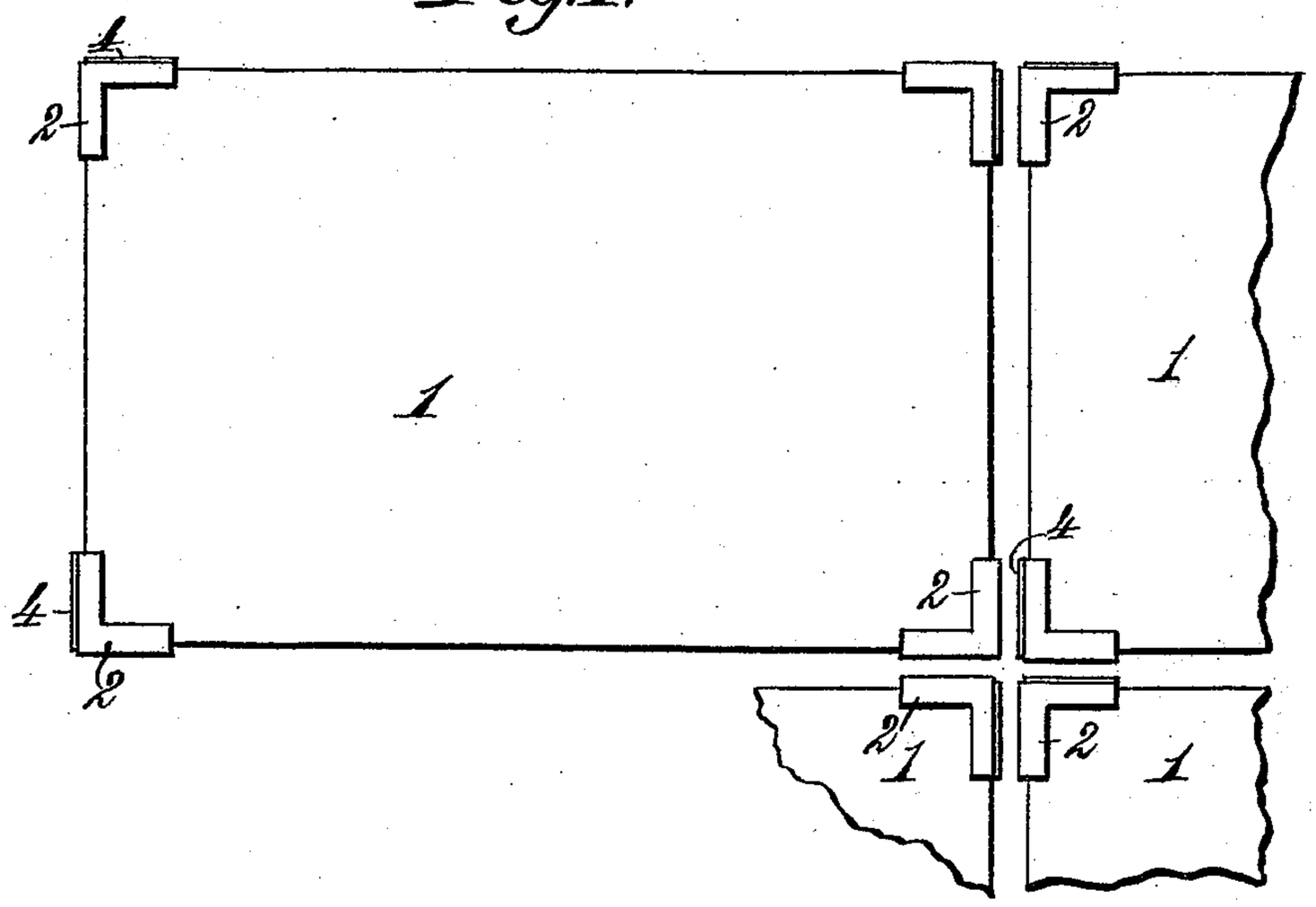


Fig. 2.

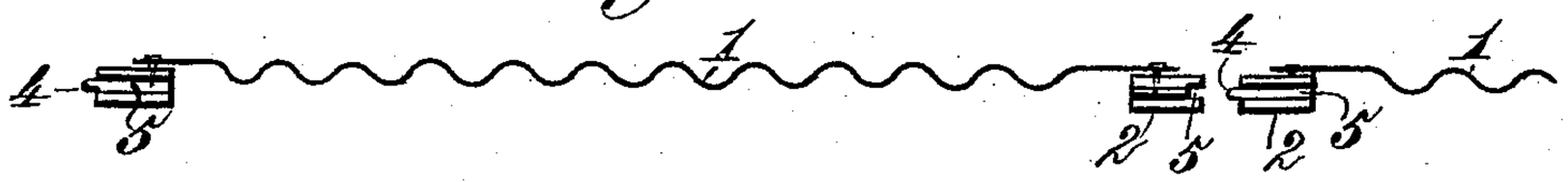
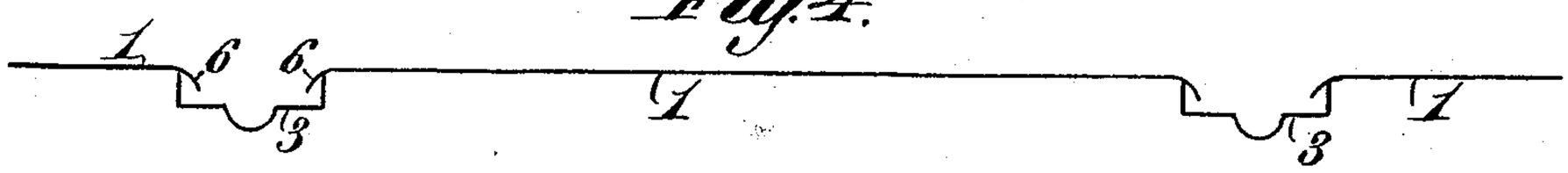


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK G. CALDWELL, OF WHEELING, WEST VIRGINIA.

METALLIC PANEL FOR CEILINGS.

SPECIFICATION forming part of Letters Patent No. 529,593, dated November 20, 1894.

Application filed August 16, 1894. Serial No. 520,469. (No model.)

To all whom it may concern:

Be it known that I, FRANK G. CALDWELL, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented new and useful Improvements in Metallic Panels for Ceilings, &c., of which the following is a specification.

Heretofore in the construction of sheet metal paneling for the ceilings and walls of apartments the edges of metallic plates or sheets have been secured to the side and end rails or bars of wooden frames or to gangs of separated or spaced apart wooden blocks through which frames or blocks the panels have been nailed or otherwise fastened to joists, rafters or studding and the wooden frames or blocks subsequently concealed by a covering of flanged metallic moldings or caps so that the completed paneling will present a practically continuous metallic surface. It is desirable that this general class of metallic ceiling panels should be light, durable and comparatively inexpensive. Without being of great weight the panels should have sufficient strength and stiffness to maintain their proper shape and be easily handled. They should be capable of being quickly and closely joined together and readily attached to the supporting joists, without the interposition of bulky and expensive frames; and in order that their cost may be reduced they must be of such simple construction that they will require less material and be made much faster and with less machinery than is ordinarily required.

To accomplish the purposes and results above indicated my invention consists in a metallic ceiling or wall panel composed of a metal plate provided at its several corners with wooden angle pieces that may be tongued and grooved to facilitate the making of close joints between contiguous panels and through which angle corner pieces the panels are to be nailed or otherwise secured in position.

My invention, also, consists in the combination of sheet metal plates, wooden angle pieces fastened to the corner edges of said plates and through which the panels are nailed to the joists, or to studdings, and sheet metal moldings or caps that are secured to and cover said corner angle pieces and conceal the joints between the panels.

The invention further consists in the combination of sheet metal plates having wooden angle pieces attached to their corners and in which the edges of each plate, between the corner angle pieces, are turned or curved downward or outward to prevent buckling of the plate and afford firm bearings for the sheet metal moldings or caps concealing the joints and attached to and covering the corner angle pieces.

In the annexed drawings illustrating the invention—Figure 1, is a plan of the outer or exposed side of one of my improved metallic ceiling or wall panels with portions of adjacent panels, before the moldings or caps are applied. Fig. 2, is an end view of two adjacent panels before the caps are attached and showing the tongued and grooved connection of two contiguous angle corner pieces. Fig. 3, is a sectional view of one panel and portions of two adjacent panels with corner angle pieces and moldings or caps complete. Fig. 4, is a section through the center of adjacent panels, between the corner pieces, and showing the edges of the metal plates turned outward to obviate buckling and provide a firm bearing for the sheet metal moldings or caps.

Referring to the drawings, the numeral 1, designates a metallic plate or sheet which may have any required form and dimensions. This metal plate or sheet may be plain or smooth surfaced, or it may be corrugated, or it may be embossed, ornamented or decorated according to any suitable design or in any well known and approved manner.

To each corner of the metal sheet or plate 1 is securely attached a wooden angle piece 2, Fig. 1, the outer edges of which are placed parallel with and may project slightly beyond the edges of the plate or sheet. The angle pieces 2 are spaced apart or separated from each other and are placed only on one surface of the metal sheet or plate and they may be fastened thereto by brads or tacks, as shown, or in any other convenient and secure manner. When the plates or panels are placed in position on the joists supporting a ceiling or against the studding pieces of a side wall or partition the angle corner pieces 2 will be outward. These wooden angle corner pieces 2 serve to stiffen the corners of

the metal sheets so as to prevent them from becoming bent or curled over and they also assist in attaching the metal sheets, plates or panels to the joists, rafters or studding and afford secure and firm points of attachment for the metal caps or moldings 3 by means of which the joints between adjacent panels are to be covered and concealed. It is preferable to provide the outer edges of the angle pieces 2 on contiguously arranged panels with interlocking tongues 4 and grooves 5, Figs. 2 and 3, so as to facilitate the making of close and firm joints between adjacent panels. Such tongues and grooves are not, however, essential and may be omitted.

In order to prevent any tendency of the metal sheet 1 to buckle, and for the further purpose of providing firm and close bearings for the contiguous edges of the sheet metal caps or moldings 3, it is preferable to provide the metal plates or sheets 1 with downwardly or outwardly bent edges 6, Fig. 4, between the points where the corner angle pieces 2 are attached. These outwardly turned edges 6 will prevent buckling of the metal sheet or plate and it will also be observed that by such construction the plates or sheets 1 and caps or moldings 3 may be brought into much closer and binding contact so as to obviate any appearance of cracks or open seams at their junction.

The flanged moldings or caps 3 are preferably made of sheet metal and may be formed in accordance with any suitable ornamental design. These moldings or caps are to be secured to the angle pieces 2 by nails or brads, as shown, or in any other suitable manner, so as to embrace and cover the said angle corner pieces and completely cover them, after the panels have been fastened in position.

The arrangement of the panels in constructing a ceiling or wall will be readily understood. Each panel is fastened in position on the joists or studding with the corner angle pieces 2 outward. The panels are preferably placed closely together at their edges and contiguous angle pieces 2 may be engaged with each other by tongues and grooves, if desired. These wooden angle pieces afford the most convenient points for the passage of nails to secure the panels in position and present an extensive surface for that purpose, along two edges at right angles to each other, but without materially increasing the weight of the panels. Such corner angle pieces are less costly, require less material and are less bulky and weighty than continuous wooden frames and they are more serviceable and convenient than the gangs of blocks placed along the edges of the metal sheets or plates. It is obvious, also, that by this construction a large number of panels can be turned out in a shorter time, with a smaller expenditure of material and with less labor and more simple machinery than heretofore required.

The corner angle pieces 2 and the joints between the panels are completely covered and concealed by the moldings or caps 3 and, as by turning outward the edges of the metallic sheets or plates 1 between the angle pieces 2, the caps will be permitted to come into close bearing contact with the metal sheets and bind firmly thereon. It is obvious that the completed ceiling or wall will present a practically continuous metallic surface without cracks or open seams.

What I claim as my invention is—

1. A metallic ceiling or wall panel composed of a metal sheet or plate provided at its corners with wooden angle pieces, spaced apart or separated from each other, for the passage of fastenings to secure the panel in place and for attachment of moldings or caps between contiguous panels, substantially as described.

2. A metallic ceiling or wall panel composed of a metal sheet or plate provided at its corners with tongued and grooved angle pieces of wood, whereby the angle pieces on contiguous panels are adapted to closely interlock with each other, the said angle pieces of each panel being adapted for passage of fastenings to secure the panel in place and for attachment of moldings or caps between contiguous panels, substantially as described.

3. The combination of sheet metal plates, wooden angle pieces fastened to the corner edges of said plates and spaced apart or separated from each other for passage of fastenings to secure each plate or panel in position, and sheet metal moldings or caps secured to and covering said angle pieces and concealing the joints between contiguous panels, substantially as described.

4. The combination of a series of metal sheets or plates, wooden angle pieces attached to the corners of each plate or sheet for passage of fastenings to secure the plate or panel in position, the edges of each sheet or plate being turned outward between the said corner angle pieces, and sheet metal moldings or caps secured to and covering said angle pieces and in close binding contact with the outwardly turned portions of the metal sheets to conceal the joints between contiguous panels and form a practically continuous surface, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

FRANK G. CALDWELL. [L. S.]

Witnesses:
JAS. P. MAXWELL,
FRANK FARIS.