No. 659,350. Patented Oct. 9, 1900.

T. F. OSBORN.

SHEET METAL FRAMEWORK FOR PARTITIONS

(Application filed Apr. 5, 1900.)

(No Model.)

Fig. 2.

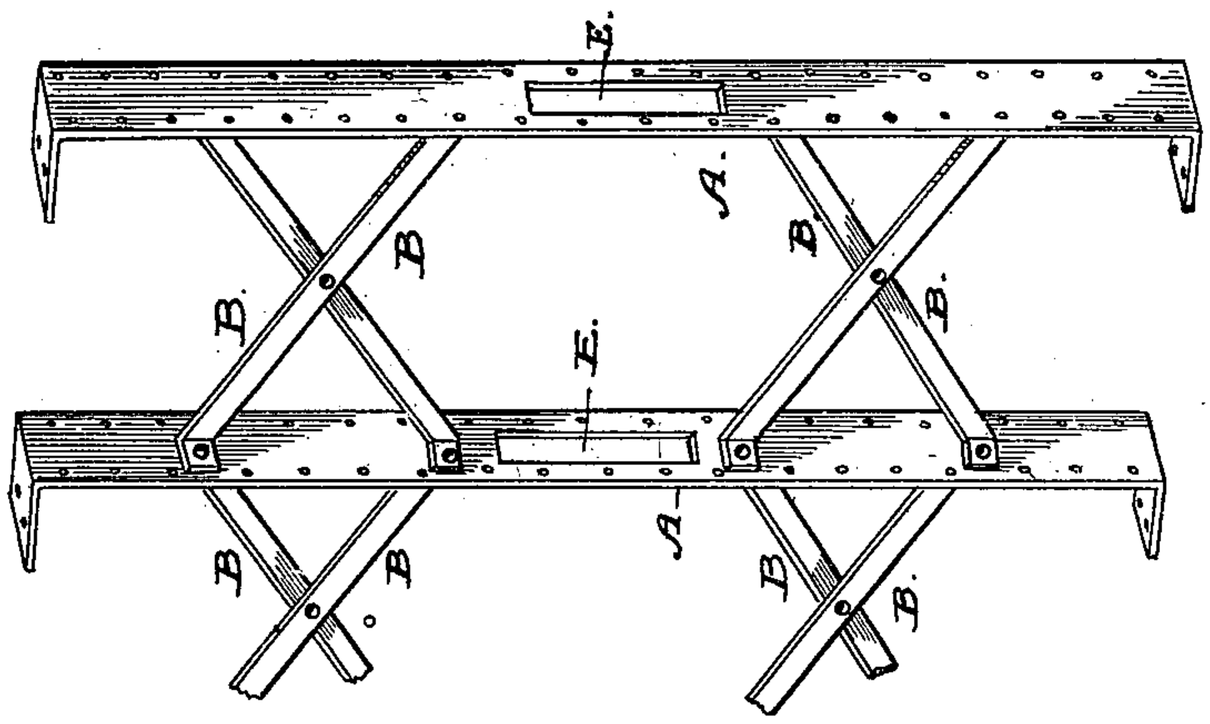


Fig. 4.

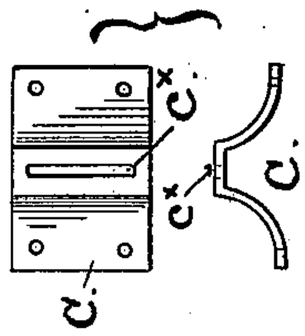


Fig. 3.

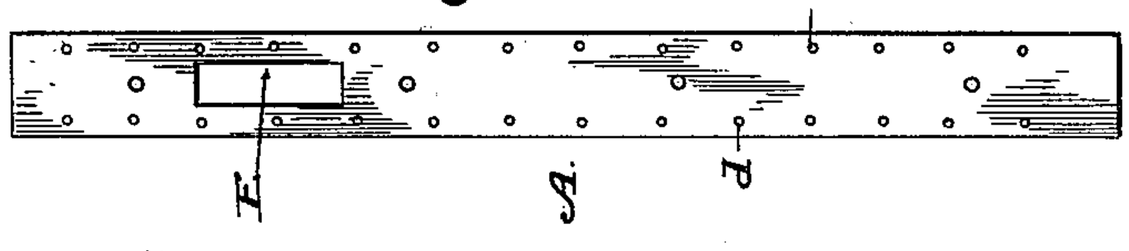
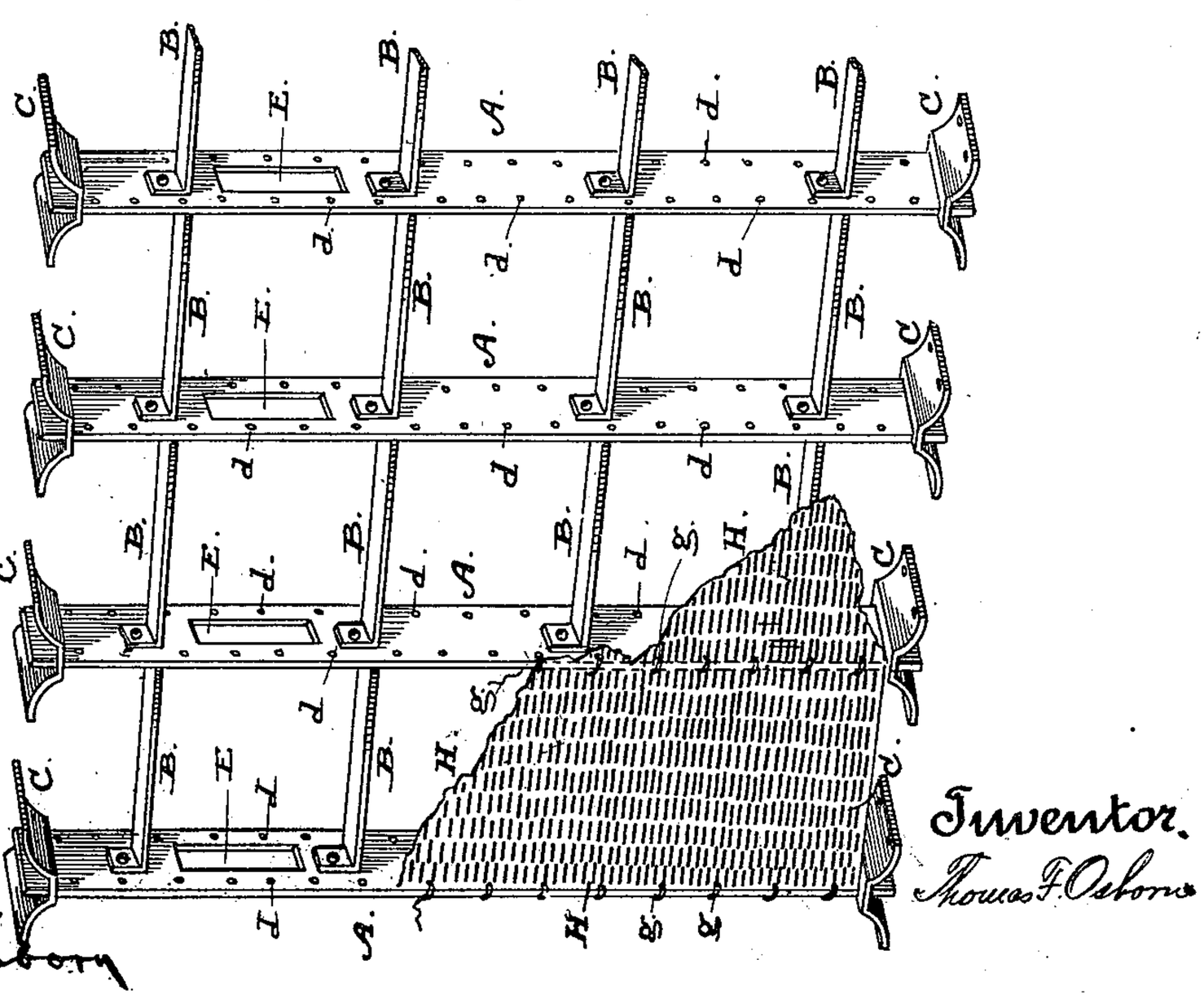


Fig. 1.



Witnesses.

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SHEET-METAL FRAMEWORK FOR PARTITIONS.

SPECIFICATION forming part of Letters Patent No. 659,350, dated October 9, 1900.

Application filed April 5, 1900. Serial No. 11,713. (No model.)

To all whom it may concern:

Be it known that I, THOMAS F. OSBORN, a citizen of the United States, and a resident of Oakland, in the county of Alameda and State of California, have invented an Improved Sheet-Metal Framework for Partitions, of which the following is a specification.

My invention relates to improvements made in sheet-metal work for the construction of partitions in buildings; and the same consists in the described construction and combination of parts, as hereinafter set forth and claimed, producing an improved structure having several advantages over similar structures of sheet metal heretofore employed in dividing the interior of a building into rooms.

This improved structure or framework is adapted especially for use in connection with metal lathwork. It enables a strong and sufficiently-rigid frame to be produced with less weight of metal, thereby materially reducing the cost of construction, while the labor of setting up the parts in place and producing the framework ready for plastering is greatly facilitated.

The following description explains at length the construction of this improved framework, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a section of framework for a partition. Fig. 2 is a view of a slight modification in which the metal struts or braces are set diagonally. Fig. 3 shows the upright in detail. Fig. 4 shows the shoe in detail.

A A indicate the upright members, set at proper intervals apart and rigidly secured at the ends to the floor and ceiling beams.

B B are struts or braces extending across the space between one upright and the next.

d d are holes in the uprights, along the edges of the plate, for the lacing-wires *g*, by which the metal lathing H is fastened in place over the spaces between the uprights.

E E are openings cut in the uprights, of proper height for carrying electric wires, gas-pipes, and other conductors through the inclosed space between the walls or covered sides of the partition.

The upright members A, technically known as "studding" in structures of this character, are strips of sheet metal of uniform dimensions and of greater or less width, according to the thickness of the partition to be produced and the height between floor and ceiling.

C is a shoe having a socket $c^{\times}$ to receive the end of the upright and provided with flanges for nailing or clamping the piece to the floor or ceiling. The ends of the uprights A are so fitted to the sockets that they will be confined in place and securely held, while at the same time the shoe will have sufficient play to allow for any unevenness or irregularity or variation from the horizontal in the floor and ceiling beams, thereby preventing twisting strains from being thrown on the studs and maintaining a true vertical position and a parallel relation with all the other studs.

Where the framework of the floor and ceiling is sufficiently straight and even to insure true vertical positions of the studs, the ends of the studs may be fastened directly to the floor and ceiling by bending them at right angles and nailing them in place. Between their top and bottom ends the studs are tied and stiffly braced at intervals in their length by straight and relatively-narrow strips B B, having upturned feet at their ends at right angles to the plane of their bodies and provided with holes for bolts or rivets. These bracing-strips are placed at intervals between each stud and the ones adjacent to it and either in the horizontal position shown in Fig. 1 or in a diagonal position, one across another, as illustrated in Fig. 2, each strip being securely fastened in place by turning up the feet at its ends at the required angle and riveting or bolting the same to the stud. These strips B act both as ties and as braces to maintain true upright position and parallel relation between the studs and prevent bending or bucking in the plate or strip forming the individual stud. To this end the strips are placed as closely together as the dimensions of the stud in length and width and thickness may be found to require, and where openings E are cut in the stud for electric wires or pipes, as shown in Fig. 1, the braces are placed in suitably-close relation to the aperture to secure increased stiffness in the stud in the vicinity of the aperture, so as to compensate for the loss of metal removed to form these apertures and for the

resulting reduction in the resistance of the stud to crushing strains. The braces are placed diagonally between the studs, as illustrated in Fig. 2, particularly where the horizontal distance between the centers is increased, in which case each pair of oppositely-inclined braces is riveted together at the crossing-point. This manner of setting the braces permits the use of lighter material, and thus, while the braces may be increased in length, they can safely be reduced in weight to a material reduction in the cost. Particular attention is called to the fact that with these diagonal strips, as with those shown in Fig. 1, the feet are turned at right angles to the plane of the body of each brace; but as the braces in Fig. 2 are on edge and each in the plane of that which crosses it and oblique to the uprights the feet to be bent into the plane of said uprights must in stamping the blank be formed slightly out of alinement with the body of the brace. When thus constructed, it will be clear that feet on the diagonal braces can be bent at right angles to the plane of their bodies and riveted to the uprights, yet without imparting a twist to the body of the brace, which would obviously weaken it.

The lathing to complete the structure and furnish the required surface for the plaster is secured in place over the studs and intervening spaces by means of wire fastenings. Holes for such fastening means are provided in the stud along both margins as close to the edge as the same may be placed with safety, in order to reduce the length of lacing-wire to a minimum and allow the same to be drawn up and tied closely.

The structure thus produced is light, strong, and economical both with regard to the space occupied by it and the labor involved in setting it in place. The construction is also comparatively inexpensive by reason of the material reduction I am able to gain in the weight of the metal required to construct a partition of given dimension and also because of the absence of waste in getting out the pieces and the readiness with which they can be produced from the sheet metal.

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

1. The improved framework for partitions, comprising the uprights A having openings for pipes, &c., shoes securing the ends of the uprights to the floor and ceiling, braces at intervals formed of separate strips having at their ends feet at right angles to the plane of their bodies, which feet are attached to the uprights, and the lacing-holes along the edges of the uprights, as described.

2. A structure for metal partitions in buildings comprising the upright strips of sheet metal corresponding approximately in width to the thickness of the partition required, means for securing in place the top and bottom ends of the upright strips, braces arranged diagonally to the uprights and between them in pairs whereof the members stand in parallel planes and are connected at their point of crossing, feet at the ends of said braces bent at right angles to their bodies and their plane and riveted to the uprights, holes for lacing-wires in the upright strips along the marginal edges thereof, and lathing covering the space between the uprights and secured in said holes, as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS F. OSBORN. [L. S.]

Witnesses:
EDWARD E. OSBORN,
M. REGNER.