No. 860,884. PATENTED JULY 23, 1907.

A. PRIDDLE.

FIREPROOF PARTITION AND FURRING.

APPLICATION FILED JULY 9, 1906.

3 SHEETS—SHEET 1.

Fig. 1.

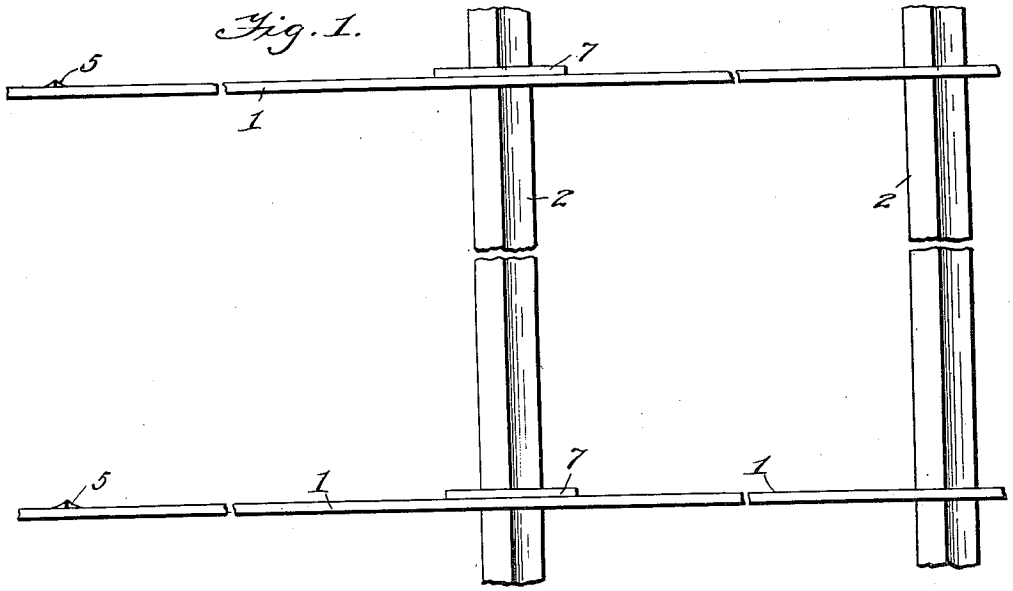
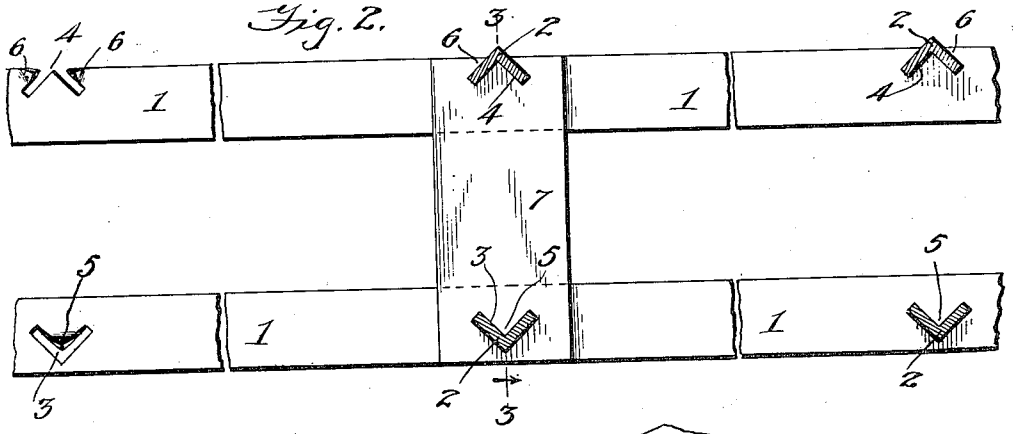


Fig. 2.



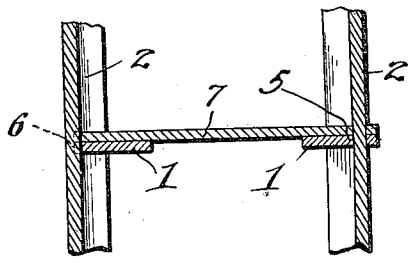


Fig. 3.

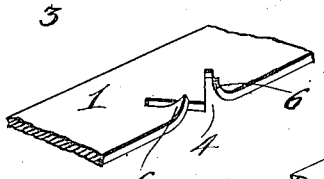


Fig. 4.

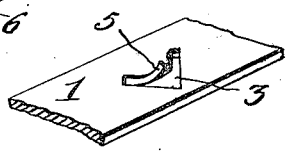


Fig. 5.

Witnesses
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3 SHEETS—SHEET 2.

Fig. 6

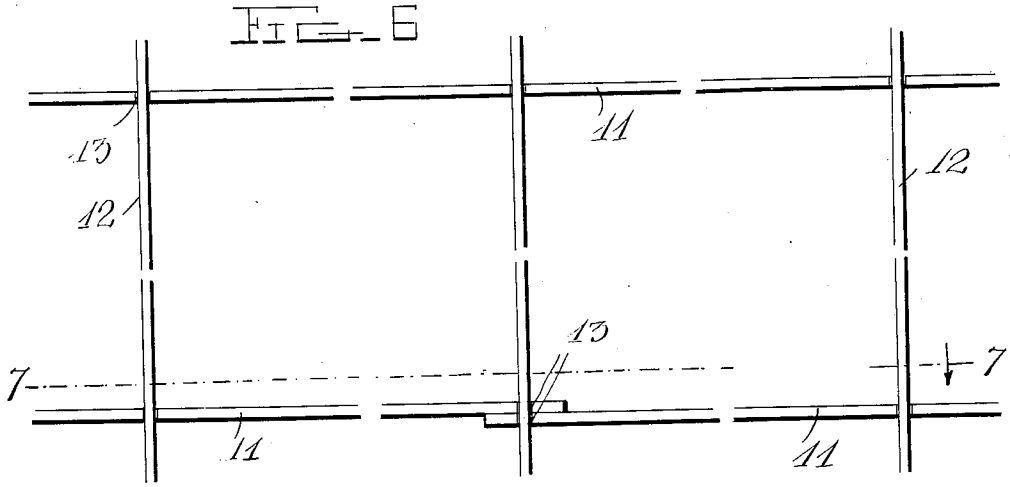


Fig. 7

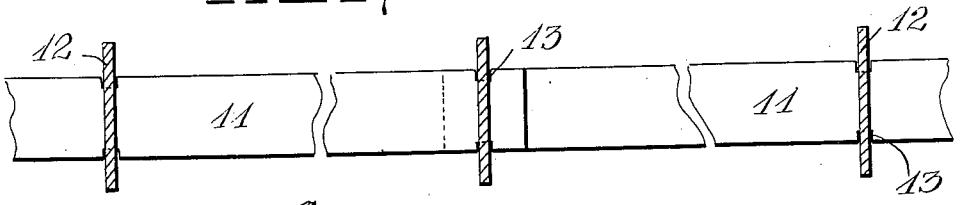


Fig. 8

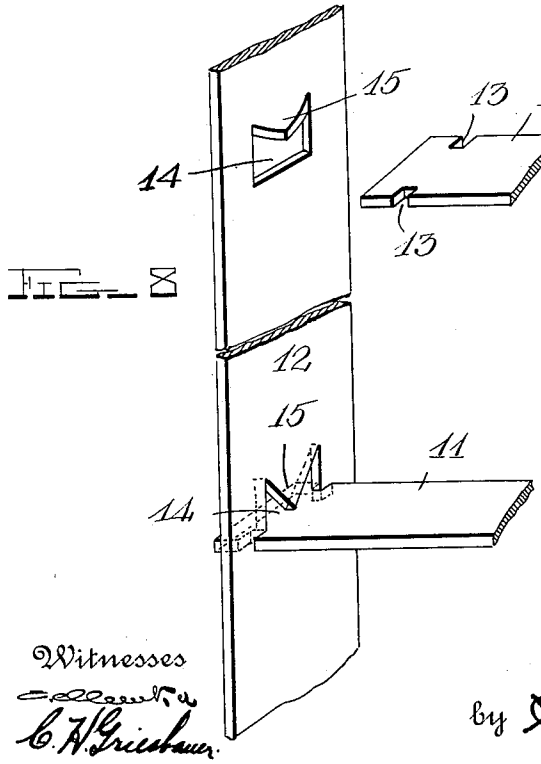


Fig. 9

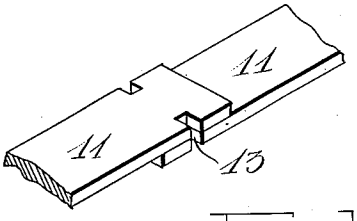
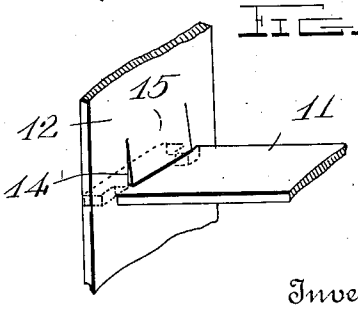


Fig. 10



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3 SHEETS—SHEET 3.

Fig. 11

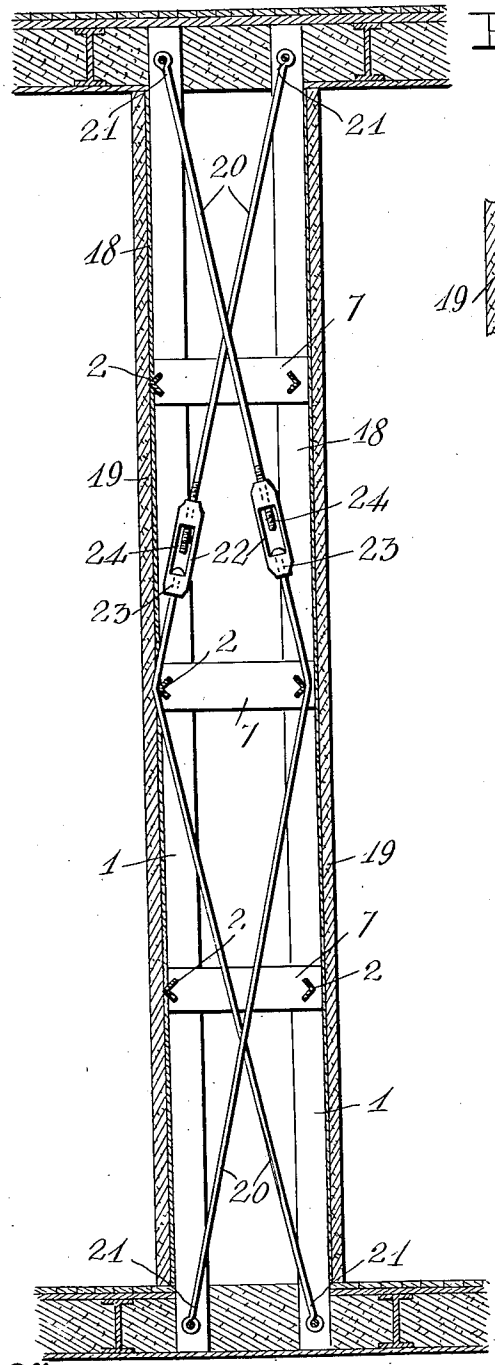


Fig. 12

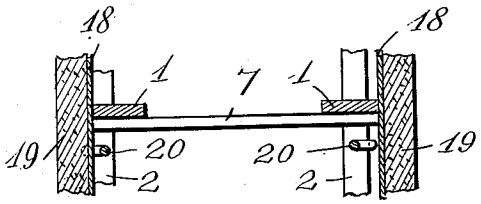
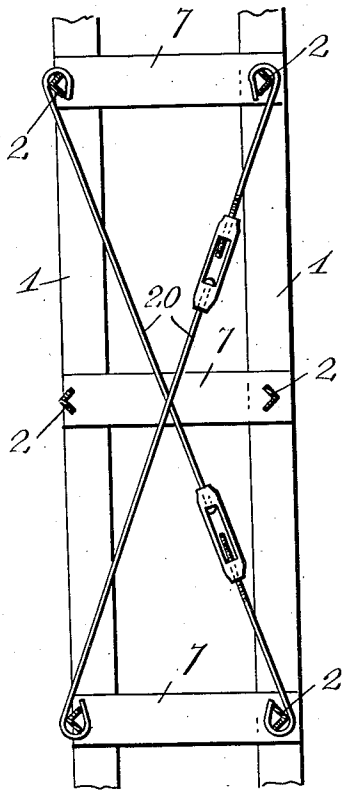


Fig. 13



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UNITED STATES PATENT OFFICE.

ARTHUR PRIDDLE, OF SAN FRANCISCO, CALIFORNIA.

FIREPROOF PARTITION AND FURRING.

No. 860,884. Specification of Letters Patent. Patented July 23, 1907.

Application filed July 9, 1906. Serial No. 325,340.

To all whom it may concern:

Be it known that I, ARTHUR PRIDDLE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Fireproof Partitions and Furring; and I do 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 improvements in fire-proof building construction, and more particularly to partitions and furring made of metal beams or bars of various shapes in cross section.

The object of the invention is to provide a light, strong and rigid structure of this character which may be easily manufactured at a small cost from flat, channel, L-shaped, V-shaped, T-shaped, U-shaped, etc., metal bars or beams now on the market, or from other shaped metal bars or beams constructed especially for the purpose intended.

Another object of the invention is to provide a structure of this character in which the intersecting bars or beams will be effectively locked and upon which the lightest metal lathing may be used to advantage without the necessity of stiffening or reinforcing the structure.

With the above and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a portion of a double partition constructed in accordance with my invention of V-shaped or angle metal studs and flat connecting bars or beams; Fig. 2 is a horizontal sectional view through the same; Fig. 3 is a detail vertical sectional view taken on the plane indicated by the line 3—3 in Fig. 2; Figs. 4 and 5 are detail views showing the two forms of locking dogs; Fig. 6 is a side elevation, with parts in section, of a single partition or furring composed entirely of flat intersecting beams or bars; Fig. 7 is a horizontal sectional view taken on the plane indicated by the line 7—7 in Fig. 6; Fig. 8 is a perspective view of a portion of one of the studs and one of the tie-bars shown in Figs. 6 and 7; Fig. 9 is a perspective view of two tie-bars, showing the alining notches in their overlapping ends; Fig. 10 is a detail view similar to Fig. 8, showing a slightly modified form of the locking dog; Fig. 11 is a vertical sectional view through another modified form of my improved partition, showing truss rods for bracing the same, and the metal lathing and plaster secured upon the opposite sides of the partition; Fig. 12 is a detail horizontal sectional view through the same; and Fig. 13 is a vertical sectional view through the partition, showing another manner in which the truss rods may be applied thereto.

In the practice of my invention, I employ metal bars or beams of any desired form and shape in cross-section and lock them together in intersecting positions at right angles or at other angles by means of locking dogs formed integral with such of the bars or beams which are slotted or recessed to receive the other.

In the accompanying drawings, the numeral 1 denotes a flat bar or beam, or one of any other form in cross-section, which is cut or punched to receive bars or beams 2 of V-form or bars or beams of any other shape which intersect the bars 1 at right angles or at any other angle. The angle bars 2 are shown in Fig. 1 in vertical positions for use as studs, and the connecting bars 2 are arranged horizontally or laterally for connecting said studs, but it will be understood that the bars 1 may be arranged vertically and used as studs and the bars 2 arranged laterally for use as spacing and connecting members. The openings or slots punched in said bars vary in shape according to the shape of the bars they are to receive, and they may be arranged at a distance from the outer edges of the bars 1, as shown at 3 in Fig. 2, or so as to intersect the said outer edges, as shown at 4 in said figure. When the slots are arranged as shown at 3, they form locking dogs 5 which are within the side edges of the bars 1 and are bent upwardly, as clearly shown in Fig. 5, so that the bars 2 may be readily inserted in the slots 3, and when they are arranged as shown at 4, they form at the outer edges of the bars 1 pair of dogs 6 which are also bent upwardly, as shown in Fig. 4, for a similar purpose. After the bars 2 have been placed in position in the slots, the dogs 5, 6 are bent downwardly so as to grip the bars 2 and tightly lock the parts together. The intersecting bars 1, 2 form a frame which may be used either as a wall furring, ceiling furring or a single partition, but when a double partition or wall is desired, two of such frames are connected together and spaced apart by connecting elements 7 in the form of metal plates arranged transversely and having slots or openings adjacent to their ends to correspond to the slots or openings in the bars 1 and for the reception of the bars 2, as clearly shown in Figs. 1, 2 and 3 of the drawings. These connecting plates or clips 7 may be arranged at any desired intervals along the bars 1 and 2, and it will be also understood, that the latter may be arranged at any distances apart. The plates or clips 7 simply tie the two single partitions together, thus forming a double partition, between which pipes, electrical conductors and the like may be run. When a single partition or frame composed of the intersecting bars 1, 2 is to be used as a furring either for a wall or for a ceiling, the clips 7 may be used for attaching the same to some suitable support upon a wall or under a floor. The partitions or frames provide a suitable background upon which to fasten metal lathing either of wire mesh, expanded metal, or any other similar material suitable for this purpose found on the market.

In the embodiment of the invention shown in Figs. 6

to 10, inclusive, of the drawings, a single partition is formed entirely of flat metal bars 11, 12, which intersect each other at right angles and correspond to the bars 1, 2, in the form of the invention previously described. In this construction, the tie-bars 11 are formed with notches 13 to engage the vertical or end walls of slots or openings 14, formed in the studs 12. These slots or openings 14 are formed by making angular slits in said bars and bending the portions between said slits outwardly, so as to form locking dogs 15. These dogs may be of any desired size and shape; as shown in Fig. 8, they are pointed or of V-form, and as shown in Fig. 10, they are square or rectangular. The width of the slots or openings 14 is slightly greater than the width of the slits formed between the notches 13 and the edges of the tie-bars 11, so that when said bars are inserted in an angular position in the opening 14, they may be turned to a horizontal position by allowing the notches 13 to engage the end walls of said opening, as will be readily understood by referring to the drawings. When the tie-bars are thus placed in position, they are retained therein by bending the dogs 15 downwardly, as shown in Figs. 8 and 10. Two or more tie-bars 11 may be secured together by forming in their overlapping ends alining notches, as shown in Fig. 9, both of said ends being inserted in one of the openings 14 and retained therein by one of the dogs 15. This construction provides a more rigid and stronger connection between the intersecting bars or beams, which latter may be curved or angular instead of flat, as shown in the drawings.

In Fig. 11 of the drawings, I have shown one of my improved partitions finished, that is, with the metal lathing 18 and the plaster 19 applied to its opposite faces. The form of partition shown in this figure is the same in construction as that shown in Figs. 1 and 2, but the angle-bars or studs 2 are arranged horizontally, and the flat bars or beams 1 are arranged vertically; hence the connecting elements or plates 7 are arranged vertically instead of horizontally. – In this form of the invention, I provide truss rods 20, for the purpose of strengthening the partition. These rods 20 are only employed when the partition is very high, or when it is desired to have the same especially strong and rigid, and they may be of any desired form and construction. As shown in Figs. 11 and 12, each one comprises two metal rods, which have their upper and lower ends 21 secured to or engaged with the ceiling and floor between which the partition is located, and their adjacent ends are adjustably connected by a turn-buckle, sleeve nut or the like 22. As shown, this turn-buckle is swiveled at 23 to the end of one of the rod sections and has its nut screwed upon the screw-threaded end 24 of the adjacent rod section. The intermediate portions of the truss rods are arranged diagonally or angularly, being bent around the horizontal bars 2 and their tie-plates 7, as shown in Fig. 11.

The truss rods shown in Fig. 13 of the drawings, are similar but shorter, and their hooked ends are engaged with the bars 2 of the partition, turn-buckles or the like being provided between their sections as shown. It will be understood that the truss rods instead of being arranged vertically may be arranged diagonally or horizontally.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined by the appended claims.

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

1. In a structure of the class described, the combination of a pair of intersecting bars or beams, one having an opening and a tongue forming one side of said opening, the other extending through said opening, bearing against one side thereof and engaged by the said tongue.

2. In a structure of the class described, the combination of a pair of intersecting bars or beams, one having an opening and a tongue forming one side of said opening, the other extending through said opening, bearing against one side thereof and engaged by the said tongue, and a third element arranged at an angle to the other two, at the point of intersection thereof, bearing on one of them and having an opening, and a tongue forming one side of said opening, the other of the first-named bars, beams or elements extending through said opening, bearing against one side thereof and engaged by the said tongue.

3. A fire-proof partition or furring comprising intersecting metal bars or beams, some of said bars or beams being formed with angular slots or openings arranged between their edges to receive the other bars or beams and to provide locking dogs, substantially as described.

4. A double fire-proof partition comprising side frames, each composed of intersecting metal bars or beams, some of said bars or beams being formed with slots or openings to receive the others and to provide locking dogs adjacent to said slots or openings, and connecting elements having slots or openings therein to aline with the slots or openings in some of said bars or beams and to receive the other of said bars or beams.

5. A double fire-proof partition comprising side frames, each composed of intersecting metal bars or beams, some of said bars or beams being formed with angular slots or openings to receive the other of said bars or beams and to provide locking dogs, and spacing clips or plates connecting said frames, said plates or clips being formed with slots or openings to aline with the slots or openings in some of said bars or beams and to receive the other of said bars or beams, substantially as described.

6. A fire-proof partition or furring, comprising intersecting bars or beams, some of said bars or beams being formed with openings to provide locking dogs, and the other of said bars or beams being formed in their edges with notches to engage the walls of said slots or openings, said locking dogs being adapted to be bent out to permit of the insertion of the notched bars or beams in said slots or openings, and to be bent inwardly to retain said notched bars therein, substantially as described.

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

ARTHUR PRIDDLE.

Witnesses:
JOHN MCGUIGAN,
MILTON PRIDDLE.