J. GIBSON.

BUILDING CONSTRUCTION.

APPLICATION FILED OCT. 22, 1908.

923,507. Patented June 1, 1909.

Fig. 1.

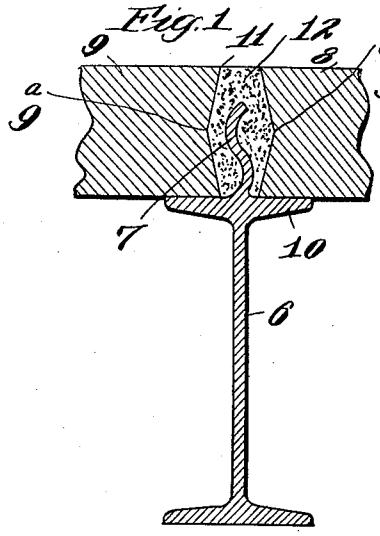


Fig. 2.

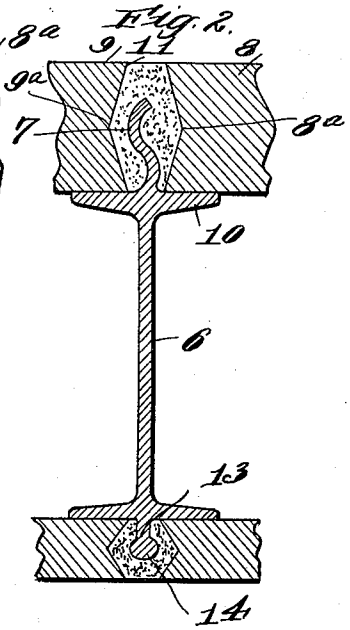


Fig. 3.

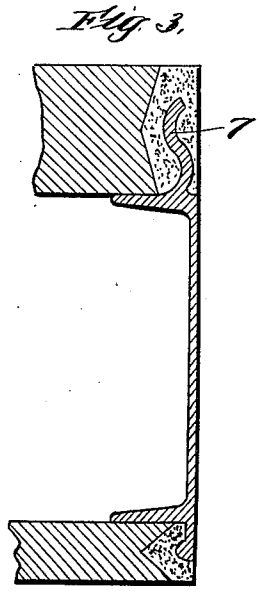
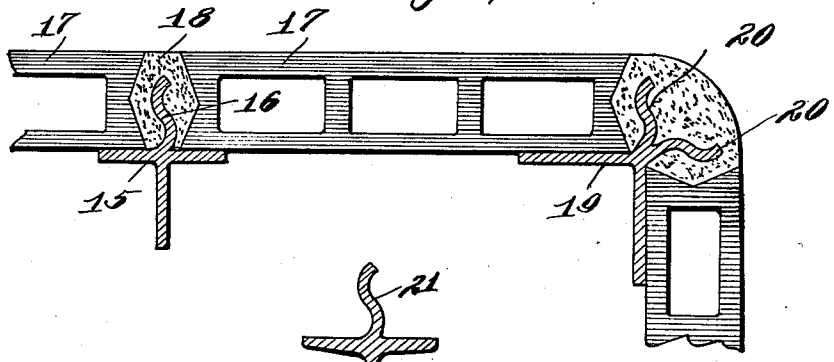


Fig. 4.



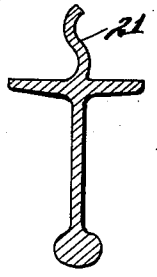


Fig. 5

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BUILDING CONSTRUCTION.

No. 923,507. Specification of Letters Patent. Patented June 1, 1909.

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To all whom it may concern:

Be it known that I, JOSIAH GIBSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Building Construction, of which the following is a specification.

The invention relates in general to a building construction in which metallic beams are employed but pertains more in particular to a concrete building construction in which structural shapes, such as beams, channels, bulb beams, tees, angles, or as a matter of fact, any metallic structural shape are used for supporting weight or resisting lengthwise push or pull.

The principal object of the invention is to form such metallic shapes, with an external anchoring projection, such as a curved **S**-shaped flange or a straight flange with a bulb thereon, or as a matter of fact, with any form of a flange having ribs or projections thereon so formed that they will project into a binding material whereby the beam cannot be displaced from the material in which said anchoring projection is embedded.

The principal object of the invention is to assure a permanent adherence between the anchoring projection on the beam and the article which the beam supports or to which it is attached.

In the accompanying drawing, Figure 1 is a vertical section of an **I** beam supporting the floor of a building or the like. Fig. 2 is a similar view as Fig. 1, the lower portion of the beam having a ceiling secured thereto. Fig. 3 is a vertical section of a channel beam. Fig. 4 is a vertical section of a tee and angle beam. Fig. 5 is a vertical section of a bulb beam.

Referring now more particularly to the drawing, in the preferred form, 6 is an ordinary **I** beam having an **S**-shaped flange 7 or an external anchoring projection formed integral therewith and on one edge thereof which is preferably formed during the rolling process in which the **I** beam is formed.

8 and 9 represent floor sections and as herein shown said sections are first formed and then raised to their proper position to rest upon the side flange 10 of the **I** beam. The floor sections are preferably grooved or **V**-shaped at their adjacent ends as shown at 8^a and 9^a, and are so formed as to be placed on opposite sides of the flange 7 leaving a space 11 between said floor sections which is adapted to be filled in with a binding substance 12, such as concrete or any other suitable filling. The binding substance may also be of a water proof material, such as is well known in the art. After the floor sections have been placed in their respective positions and the margin between them filled in with the binding material, it can be readily seen that on account of the **S**-shaped anchoring projection 7 being embedded in the cement and the cement adhering to the floor sections and within the grooves, it would be impossible for any vertical or lateral movement to occur between the floor sections and the beam.

Referring now to Fig. 2 which is primarily adapted for a hanging ceiling, wall, or the like, the lower end thereof is provided with a flange 13 and is formed with a head or bulb 14 thereon preferably extending the entire length of the flange. Such a construction is preferably used for supporting ceilings or the like, as the ceiling is generally of a less thickness than the floor and therefore the **S**-shaped member could not be best used as it would be too long. The bulb member is formed during the process of rolling the beam the same as the **S**-shaped member is formed and its objects and purposes are identical therewith.

Fig. 3 shows the **S**-shaped flange or anchoring projection and the bulb flange formed upon the channel beam which is preferably used at the end of a building or room, or as a matter of fact in any construction work.

In Fig. 4, 15 represents a tee beam having the anchoring projection 16 formed the entire length of one edge thereof and is adapted to support a floor or ceiling 17 that may be formed in the same manner as the floor 8 with a binding substance 18 identical with the binding substance 12.

Another use of the invention is applying the same to an angle beam 19, the angle beam being preferably provided with two or more curved anchoring projections or flanges 20, and is generally used in corner construction work where a greater anchoring surface is required for the purpose of binding the surfaces together such as the wall and ceiling, as the case might be.

Fig. 5 is the ordinary form of bulb beam with the **S**-shaped anchoring projection 21 formed integral therewith; a beam of this character ordinarily being used for supporting ceilings or the like, the bulb being used for the reason that it will not present so great

a surface on the interior of a building as an I beam would, if the end of the beam projects slightly therethrough.

It is to be noted that the curvature of the anchoring projection in both instances is less than the distance between the two nearest points or adjacent edges of the floor sections so that the floor sections may be easily placed upon the I beams or flanges of the various shapes without interfering with the anchoring projection.

The invention is of course not necessarily limited to metallic beams or the like having an S-shaped flange formed thereon, as it is obvious that the same might be formed with various curvatures.

Therefore without confining myself to the specific details hereinbefore mentioned, I claim:

1. In a building construction, a metallic beam having a concrete anchoring projection along one edge thereof, in combination with concrete sections abutting the metallic beam on both sides of the anchoring projection, and a binding substance within the margin between said sections in which said anchoring projection is embedded for the purpose of holding said sections and beam together, substantially as described.

2. In a building construction, a metallic beam having a concrete anchoring projection along one edge thereof, in combination with concrete sections, the adjacent edges of which are grooved and abut the metallic beams on both sides of the anchoring projection, and a binding substance within the margin between said sections in which said anchoring projection is embedded for the purpose of holding said sections and beam together, substantially as described.

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