April 27, 1965 R. J. SIPCHEN 3,180,461

BUILDING CLIPS

Filed Oct. 10, 1960 2 Sheets-Sheet 1

FIG. 1

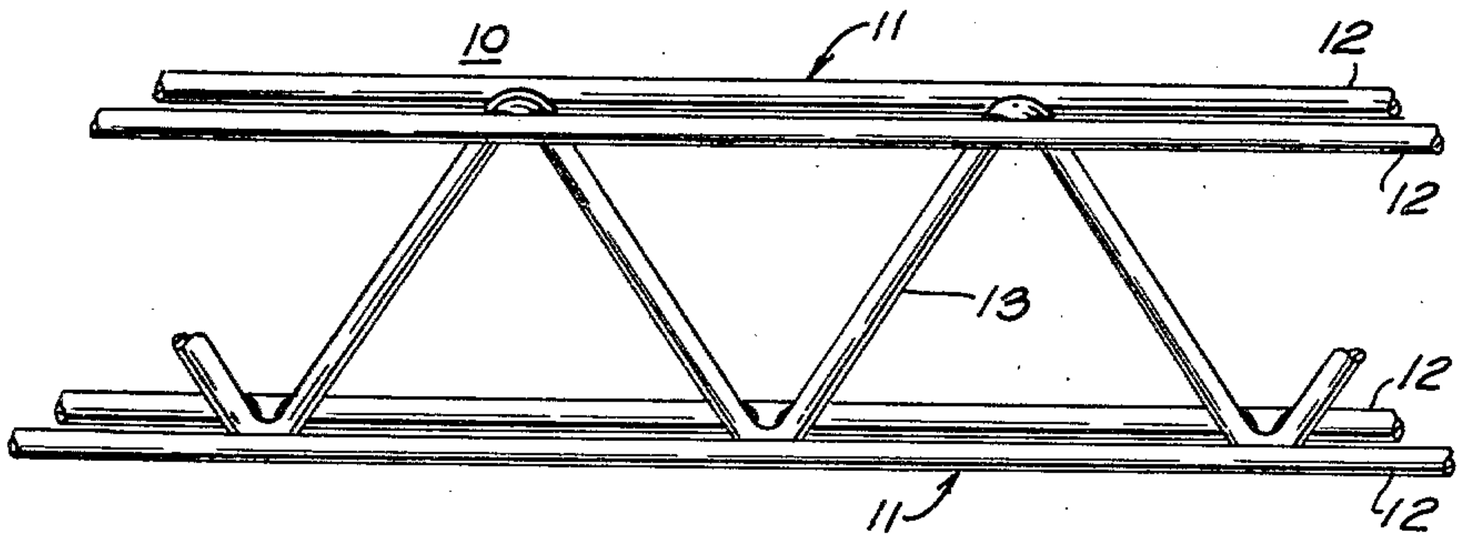

FIG. 3

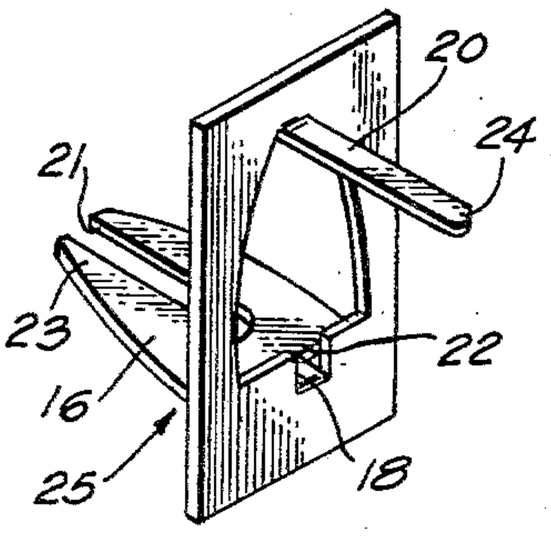

FIG. 2

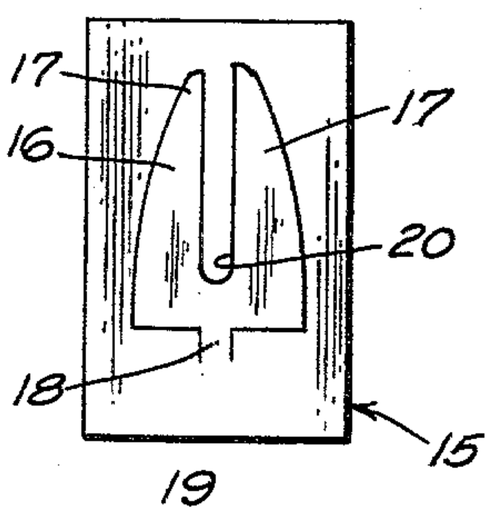

FIG. 9

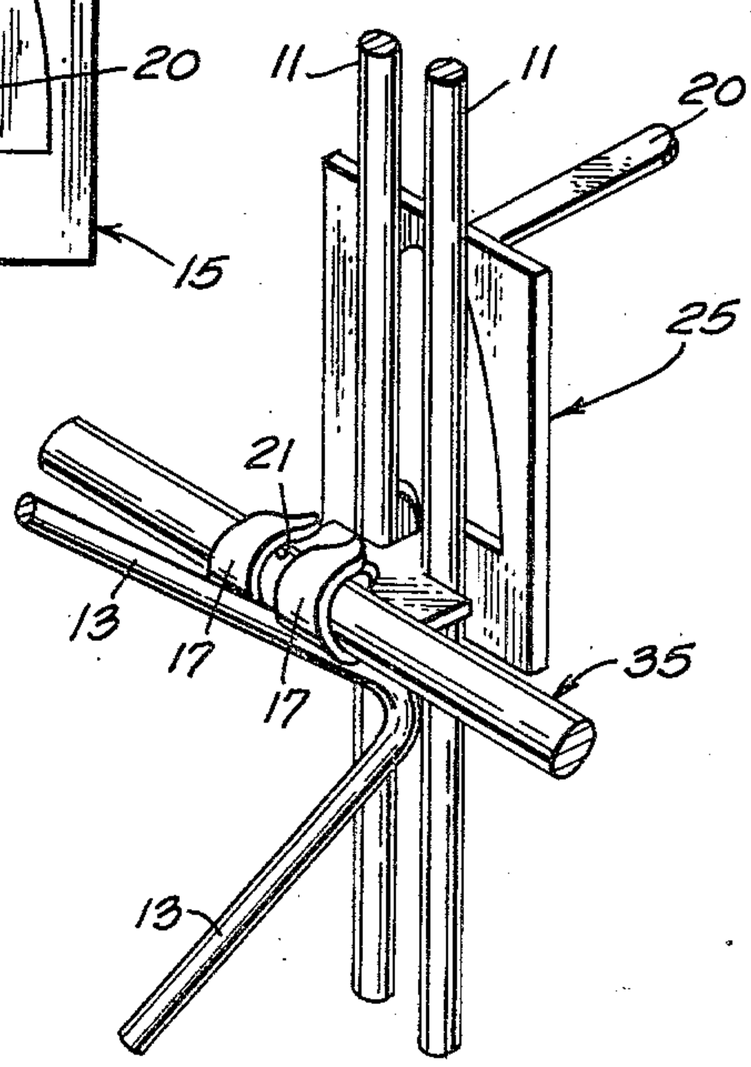

FIG. 10

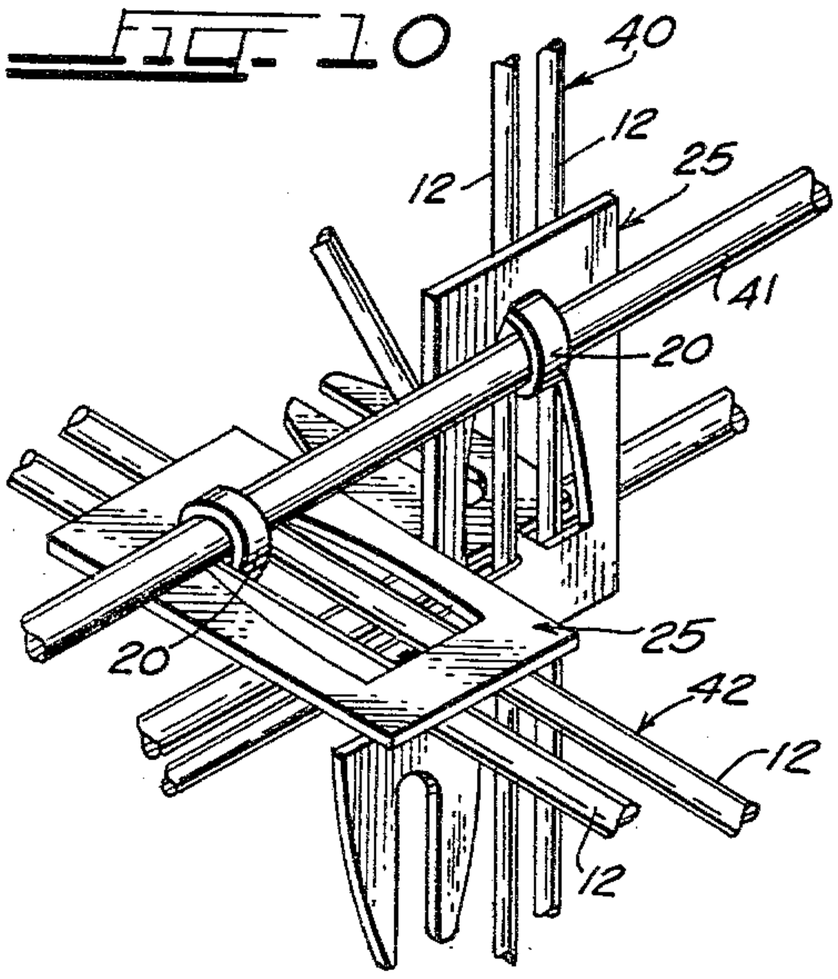

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FIG. 4

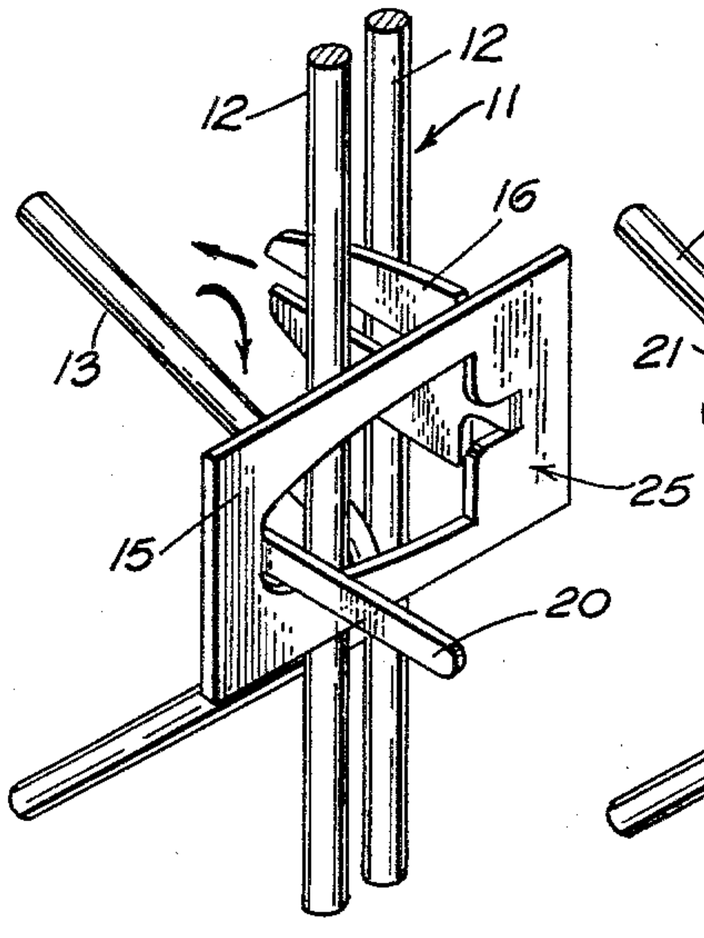


FIG. 5

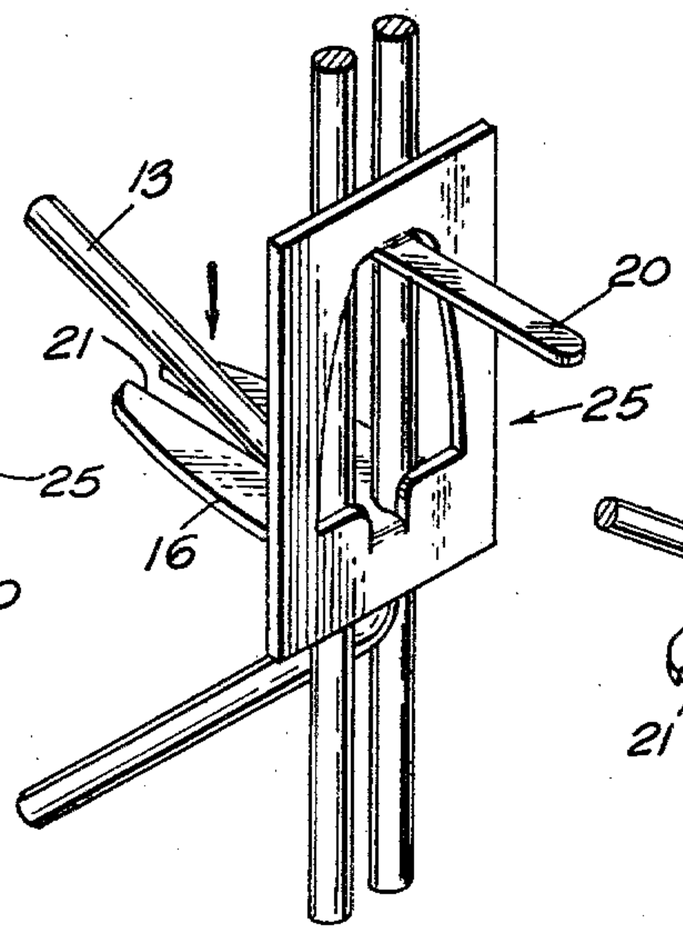


FIG. 6

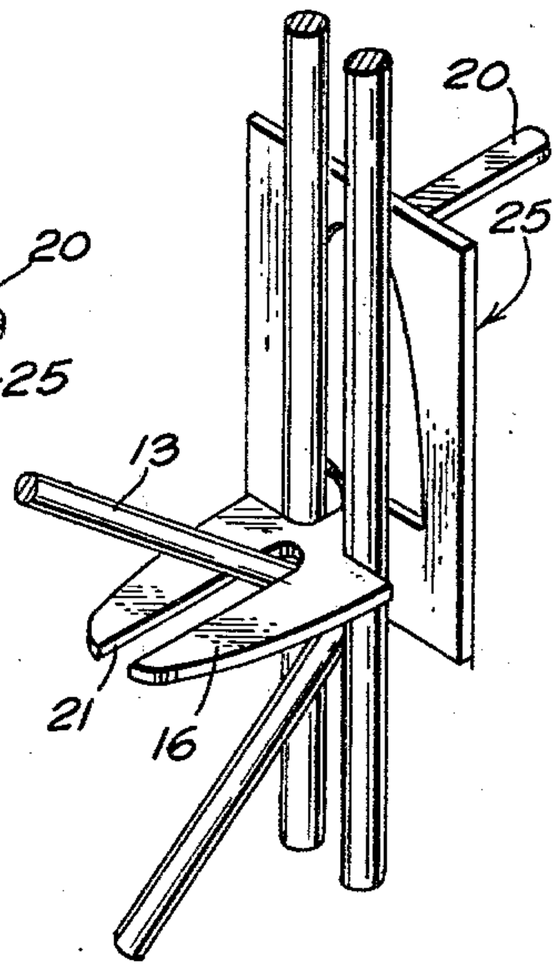


FIG. 7

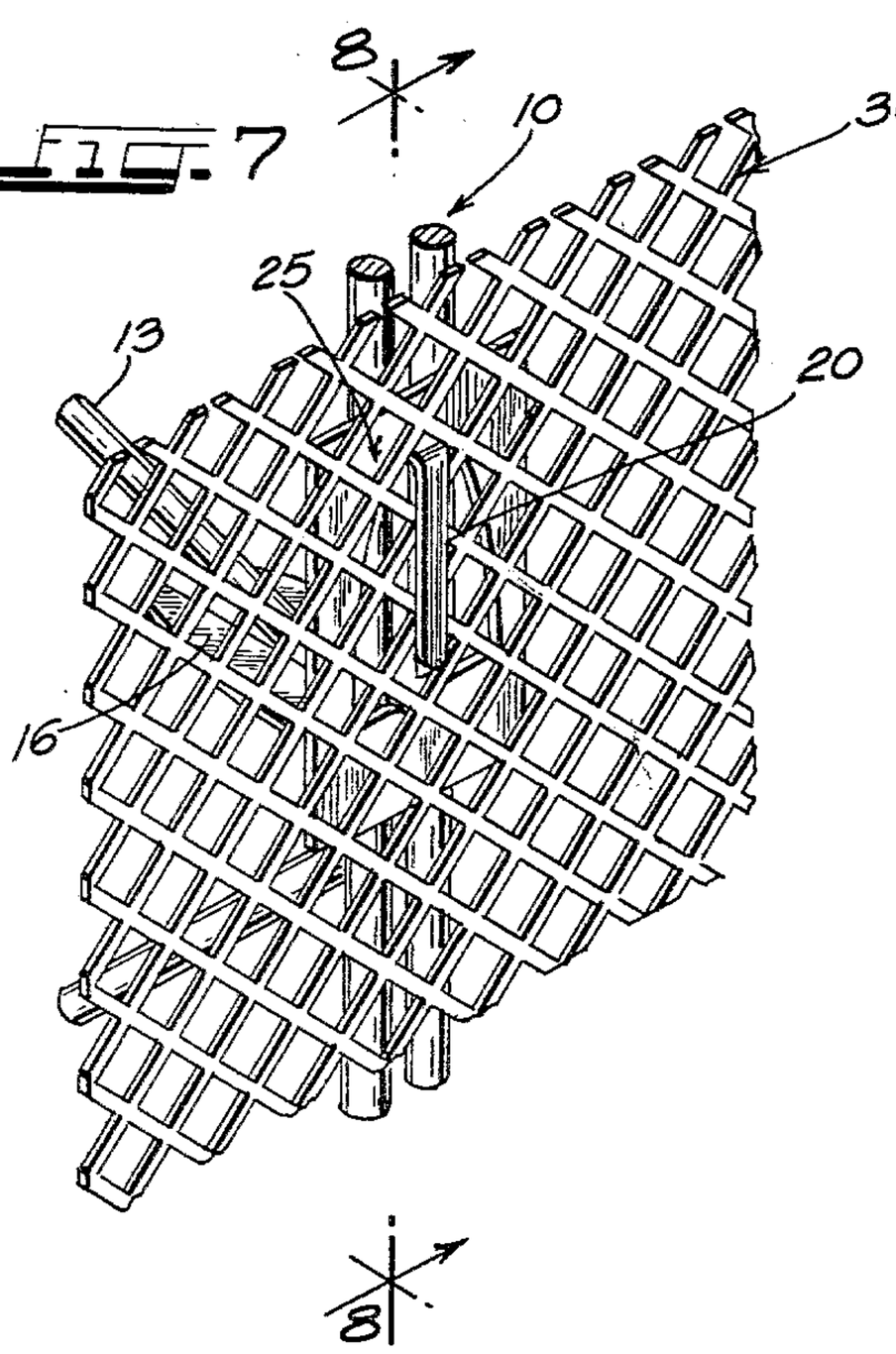
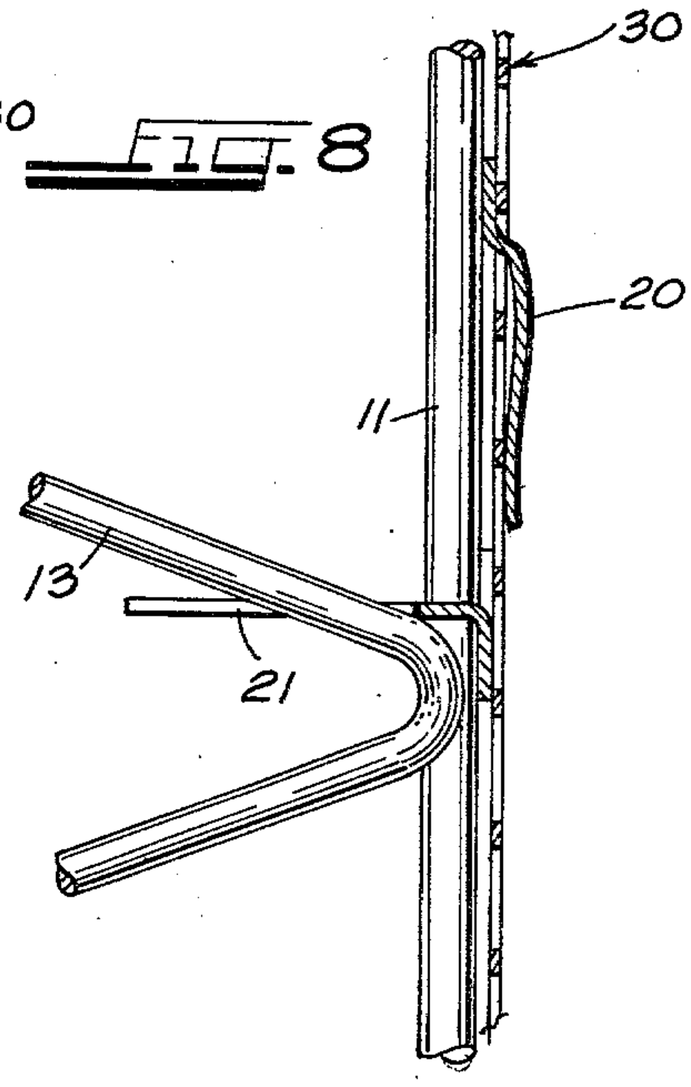


FIG. 8



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3,180,461

BUILDING CLIPS

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Filed Oct. 10, 1960, Ser. No. 61,634
11 Claims. (Cl. 189—35)

This invention relates to building structures wherein clip means is used for securing to studs, joists, rafters, or other structural members in buildings lathing, temperature rods, or other members to be attached and to a new and improved clip for use in such structures.

In accordance with common practice, lathing is attached to the studs by hog nails and/or by tie wires, which must be individually attached by hand. Even when hog nails are used to attach the lathing to the studs, it is first necessary to temporarily attach the lathing to the studs by means of tie wires. All of this requires considerable time, and although some workers are able to do this very quickly, most of them are not, so that the cost of attaching lathing of the expanded metal type to metal studs is high.

Another difficulty encountered when using hog nails is that the lathing is not drawn up tightly against the studs. While efforts have been made to improve the use of hog nails, such efforts have not proved successful in respect to the saving in erection time by the use of hog nails.

Attempts have been made to overcome the deficiencies of the use of tie wires or hog nails by using double-headed fasteners which can be inserted in short slots in metal studs for attaching metal lathing to such studs. Such fasteners are not entirely satisfactory for the reason that they do not hold the lathing tightly to the studs. Also, they cannot be used with studs or other structural members having elongated slots or openings, since they are not of such form as to be retained in proper position to receive the lathing thereon. Moreover, such prior fasteners are not suitable for attaching members to the studs on both sides thereof.

In accordance with the present invention, a clip is provided which is so formed that it can be assembled with a structural member, then turned to lock it in position on the structural member, whereafter a tongue on the clip is bent over against the member to be attached, such as lathing, to be secured to the structural member, to maintain the attached member in place.

An object of the present invention is to provide a new and improved building structure wherein a novel clip is employed for attaching a lathing or other member to a structural member such as stud, joist, rafter or the like.

Another object of the present invention is to provide a new and improved clip for attaching a lathing or other member to a structural member such as a stud, a joist, a rafter, or the like.

Another object is to provide a clip for attaching a lathing or other member to a structural member which clip is so formed that it need merely be assembled with the structural member and then turned whereafter a tongue of the clip is bent into position against the member to be attached to secure the latter to the structural member.

A further object is to provide a clip of the foregoing character which may be simply and inexpensively formed from sheet metal stock with a relatively small number of simple operations.

A further object is to provide a clip of the foregoing character which may be formed from sheet metal stock without any waste of material.

A further object is to provide a clip of the foregoing character which can be used successfully by relatively unskilled labor.

A further object is to provide a clip which can be

quickly and easily assembled with the members which it is desired to connect.

A further object is to provide a clip of the foregoing character which does not require any special equipment or skill to assemble it with and attach it to the members which it is desired to connect.

Other objects and advantages of the invention will appear from the following description taken in connection with the appended drawings, wherein:

FIGURE 1 is a perspective view of a structural member of conventional construction with which the clip of the present invention is specially adapted to cooperate;

FIG. 2 is a plan view of a blank from which the clip of the present invention is formed;

FIG. 3 is a perspective view of a clip formed in accordance with the present invention;

FIG. 4 is a front perspective view of a portion of a structural member and the clip in its preliminarily assembled position with the structural member;

FIG. 5 is a front perspective view of a structural member with the clip of the present invention assembled therewith in position to receive a member to be attached to the structural member;

FIG. 6 is a view similar to FIG. 5, only taken from the rear of the assembly;

FIG. 7 is a front perspective view of the structural member and clip with lathing secured by the clip to the structural member;

FIG. 8 is a view of a section taken along line 8—8 of FIG. 7; and

FIG. 9 is a front perspective view of a portion of a structural member and showing the clip as used in retaining a temperature rod on the inside of a structural member; and

FIG. 10 is a fragmentary view of a portion of a structural member and showing clips as used in retaining a temperature rod on the outside of a stud and the outside of a cooperating joist.

The clip of the present invention is particularly designed and adapted for use in connection with a structural member 10 of conventional form which includes two spaced parallel stringer elements 11, each including a pair of spaced bars or rods 12 and one or more cross elements 13 extending between the two stringer elements 11. The cross elements 13 are formed by bars or rods extending at each end into the space between the two rods 12 of each of the stringer elements 11 and secured thereto, as by welding. The cross elements may be formed each as a single member but preferably a single bar or rod of generally serpentine form is employed, the several sections thereof serving as cross elements. In connection with the foregoing it will be understood that while the members forming the structural members are usually of circular cross-section they may take other forms and the term "rods" as used herein is not limited to members of circular cross-section.

The clip of the present invention preferably is formed from a single blank 15 (FIG. 2), which may be of sheet metal, and a plurality of such blanks may be punched from a single sheet without waste of material. In this connection also it will be understood, as explained hereinafter, that the clip is so formed that there is no waste of material of the blank 15, all of the material of the blank being employed in forming the several elements of the clip.

The blank 15 is punched to form a first tongue 16 of generally spade shape having a head portion with two spaced arms 17 and a reduced neck 18 connecting the tongue 16 with the body 19 of the blank 15. A second tongue 20 is formed by the material located in the space between the two arms 17 of the tongue 16.

After the punching operations, the tongue 16 is bent

out of the plane of the body 19 and at right angles thereto, and the tongue 20 is bent out of the plane of the body 19 and at right angles thereto in the opposite direction from the tongue 16. Thus, the tongues 16 and 20 extend perpendicularly to the plane of the body 19 in parallel planes perpendicularly to the plane of the body, as seen particularly in FIG. 3 of the drawings.

The punching of the blank 15 and bending of the tongues 16 and 20 preferably is accomplished as a single operation in a progressive die (not shown) of suitable construction.

It will be seen that in the clip 25 formed as above described, the bifurcate tongue 16 is formed with a central open ended notch 21 which extends medially of the tongue for a substantial distance inwardly from the free end of the tongue toward the base, the purpose of which notch 21 will hereinafter appear. It will also be seen that the bifurcate tongue 16 is connected to the body 19 by the reduced neck 18, whereby the inner straight edges or shoulders 22 of the tongue 16 are parallel to and spaced from the adjacent face of the body 19.

The side edges 23 of the tongue 16 are curved, as illustrated, and the only sharp corners on the tongue are at the juncture of the side edges 23 and the inner edges 22 and at the outer ends of the sides of the notch 21. The outer free end 24 of the tongue 20 is preferably rounded, as shown. Thus, there are no sharp corners at any portion of the clip which might catch on the members with which the clip is to be assembled and interfere with the ready assembly of the clip with the members to be secured together by the clip.

The clip 25 is especially adapted for securing to a structural member of the character above described metal lathing, temperature rods, and other members. In the present application it is shown and described as used in attaching the members as particularly illustrated and described hereinafter.

The clip 25 is assembled with the structural member 10 by inserting the bifurcate tongue 16 through the space between the spaced rods 12, as seen particularly in FIG. 4, and moving the clip 25 into position, with the body portion 15 abutting the adjacent outer surfaces of the rods 12, whereby the bifurcate tongue 16 is located entirely on the opposite side of the rods 12 from the body portion 19. The clip 25 is then turned at right angles to the position shown in FIG. 4, the space between the inner edges of the bifurcate tongue 16 and the body 19 being sufficient to permit such turning movement. It should be understood that in inserting the bifurcate tongue 16 between the rods 12, the clip is positioned in spaced relation to the nearest cross member 13 so that the turning movement may be effected. Upon completion of the turning movement and when the clip is in position with the plane of the tongue 16 at right angles to the rods 12, the clip is then moved toward the adjacent cross member 13 and into the position shown in FIG. 5, wherein the cross member 13 is received within the notch 21.

In the aforesaid position of the clip, the cross member positions the clip and prevents further movement of the clip toward the cross member. At the same time the cross member prevents rocking of the clip about the structural member 10 in the plane of the tongue 16. Where the structural member is vertically disposed, as illustrated in FIGS. 4 to 8 of the drawings, and as is customary, the cross member serves as a support for the clip 25 and maintains its vertical position relatively to the structural member 10.

In the position of the clip, as just above described and as shown particularly in FIGS. 5 and 6 of the drawings, the single tongue 20 projects outwardly away from the structural member 10 and perpendicularly to the stringer portion against which the clip abuts. The single tongue 20 is thus in a position to receive the member to be attached to the structural member 10. The bifurcate tongue projects inwardly from the adjacent stringer portion and also

is positioned to receive a member to be attached to the structural member as hereinafter explained.

Where the member to be attached is metal lathing of the expanded metal type, such as the metal lathing 30 shown in FIG. 7, a plurality of clips 25 (one of which is shown in FIG. 7) are assembled with each of a plurality of structural members 10 (one of which is shown in FIG. 7), and the lathing 30 is hung on projecting tongues 20 of all of the clips 25.

Thereafter, all of the tongues 20 are bent downwardly, as by hammering, against the lathing 30 into a position such as shown in FIGS. 7 and 8, wherein the tongues tightly clamp the lathing against the outer faces of the body portions 19 of the several clips 25 and thus maintain it in position. Owing to the fact that the tongues 20 extend through the lathing 30 and their outer portions are outwardly of the plane of the lathing 30, a slight shoulder is provided on each tongue which may serve for aiding in supporting the lathing where the structural members 10 are disposed vertically.

The clip 25 alternatively may be used for attaching a member, such as a temperature rod, to the inner sides of the stringer rods. As is well known, temperature rods consist of metal rods of suitable lengths, commonly about 6' long, which are located, usually in horizontal positions, in concrete walls to distribute heat throughout the walls and thus prevent cracking, which might otherwise result from differences in temperature occurring in different portions of the wall. The temperature rod connected to the structural members, as described hereinafter, also serves to prevent the latter from being displaced or swaying.

Referring now particularly to FIG. 9, the clip 25 is assembled with the structural member 10 in the same manner above described and placed in the position as shown particularly in FIGS. 5 and 6 of the drawings. The member to be attached, such as the temperature rod 35, is then placed on the several clips, one of which is shown in FIG. 9, and then two legs 17 of the bifurcate tongue 16 of the clip are bent up around the temperature rod in tight clamping engagement therewith. Preferably, the clip and temperature rod are so positioned that the temperature rod rests upon and is supported by the adjacent cross member 13, the latter being received between the two legs 17, as illustrated. Where, however, the temperature rod or other member to be attached by means for the bifurcate tongue is of a larger size, the cross member 13 may not directly engage the temperature rod or other member but may engage the clip at the area of the body portion adjacent the neck portion. In any event, the clip and the connected member are supported by the cross member.

Where lathing (not shown) is to be attached to the clip 25 in addition to the temperature rod, it is attached in a manner similar to that shown in FIGS. 7 and 8 and described above usually after the attachment of the temperature rod.

The clip of the present invention also is adapted for attaching a temperature rod or other generally similar member to a structural member, such as a stud or joist by the use of the single tongue. In FIG. 10 of the drawings, clips are illustrated as used in attaching a single temperature rod in this manner to both a stud and an adjacent joist.

One of the clips 25 is placed in position against the stud 40 in a manner similar to that shown in FIGS. 5 and 6 and described hereinabove. The temperature rod 41 is placed against the outer face of the clip 25 and the tongue 20 is bent downwardly around the temperature rod 41 and through the opening in the clip 25, and the end is preferably extended through the space between the rods 12 of the stud 40. A second clip 25 is assembled with the joist 42 in a manner similar to the assembly of the clip 25 with the stud 40, and the tongue 20 of the second clip 25 is bent around the temperature rod 41 and passed through the opening in the clip 25 and into the space between bars 12 of the joist 42. Thus the

temperature rod is firmly and rigidly supported on both the stud and the joist.

It will be understood that the clip may be used to attach a temperature rod to the inside of a structural member by the use of the single tongue using the clip in a manner (not shown) generally similar to that illustrated in FIG. 10 except that the clip body abuts the inner side of the stringer portion.

It will be seen from the foregoing that my invention provides a simple and inexpensive means for attaching lathing or other members to studs, joists, rafters, or other structural members. The clip is of such form that it may readily be assembled manually with the structural member on which it is to be supported. It is of such construction that it is self-supporting on the structural members, and it is not necessary to use any tie wires or other separate means for connecting the clip to the structural member. The clip permits the ready assembly with the structural member of the lathing or other members to be attached quickly and conveniently, and it can be readily placed in securing condition by merely bending over the projecting tongue or tongues of the clip against or around the member to be attached. Such bending may be accomplished readily merely by hammering the tongue and without the necessity for the use of special equipment for this purpose. In this connection, it will be obvious that the placement of the clip and the attachment of the member by means of the clip is an extremely simple operation and can be accomplished by relatively unskilled labor. The clip itself is relatively inexpensive and the cost of labor required to assemble members by the use of the clip is also relatively inexpensive, and thus the entire cost of assembling members by the use of the clip is relatively inexpensive.

The clip itself is of relatively simple construction and can be made inexpensively by a relatively simple operation, as above explained, and without the loss or waste of any material, either between adjacent blanks or within each individual blank. No special material is required for making the clip, and it can be made from any suitable bendable metal having sufficient strength to secure the attached member to the structural member.

A clip of the present invention is disclosed in my copending application, Serial No. 70,699, filed November 21, 1960.

I claim:

1. In combination, a structural member including spaced parallel stringer portions each including a pair of spaced rods and a cross portion extending between said stringer portions and secured thereto, with at least a portion in inclined relation to said stringer portions, a clip including a body portion of plate-like form extending along the outer side of the rods forming one of said stringer portions, a first, slotted tongue extending substantially perpendicularly from said body portion and through the space between said rods and having an enlarged head wider than the space between said rods on the side opposite said body and receiving the adjacent cross portion in said slot to position said clip relatively to said structural member, said clip also having a second, single tongue extending substantially perpendicularly from said body portion in the opposite direction from said first tongue and having its base spaced from the base of said first tongue, and a supported member engaged and secured to said structural member by one of said tongues.

2. The invention as set forth in claim 1 wherein said supported member lies against said body portion on the opposite side from said structural member and is engaged and supported by said second tongue.

3. The invention as set forth in claim 1 wherein said second tongue has at least a portion offset from and generally parallel to said base and engaging said supported member.

4. The invention as set forth in claim 1 wherein said supported member is engaged by and supported by said first tongue.

5. The combination with a structural member having a slot-like opening therein, a clip having a plate-like body portion formed with a peripherally continuous opening therein and tongues extending out of the plane of the body portion in opposite directions and having their bases at different portions of the periphery of said opening, one of said tongues having an enlarged head wider than the width of said slot-like opening and a neck narrower than said opening, said one tongue being projected through said slot and positioned generally perpendicularly to said slot with the other tongue projecting away from said structural member, and a member engaged by at least one of said tongues and connected to said structural member by said clip.

6. The invention as set forth in claim 5, wherein said one tongue is deformed around at least a portion of the member engaged thereby.

7. The combination with a structural member having slot-like openings therein of a plurality of clips, each having a plate-like body portion formed with a peripherally continuous opening therein and tongues extending out of the plane of the body portion in opposite directions and having their bases at different portions of said periphery, a first one of said tongues having an enlarged head wider than said openings and a neck narrower than said openings, said first tongues of said clips being projected through at least certain of said slot-like openings respectively and positioned with their heads perpendicularly thereto, with the other tongues of each of said clips projecting away from said structural member, and an expanded metal lathing member received on said other tongues, said other tongues each having at least a portion deformed into position retaining said lathing member on said structural member.

8. In combination, a structural member including spaced, parallel stringer portions, each including a pair of spaced rods and a cross portion extending between said stringer portions and secured thereto with at least a portion in inclined relation to said stringer portions, a clip including a body portion of plate-like form extending along the outer side of said rods forming one of said stringer portions, said body portion having a peripherally continuous opening therein, a first tongue extending out of the plane of said body portion and having a head portion of greater width than the space between the rods of said stringer portion and an inner neck portion of less width than said space, said first tongue extending out of the plane of said body portion and through said space with said head on the opposite side of said stringer portion from said body portion, said clip having a second tongue extending out of the plane of said body portion in the opposite direction from said first tongue, said tongues being connected to said body portion at different portions of the periphery of said opening.

9. A clip for attaching a member to a structural member, said clip including a body portion of plate-like form having a peripherally continuous opening therein, a first, bifurcate, tongue extending out of the plane of said body portion in one direction with its base at one portion of the periphery of said opening and a second, single, tongue extending out of the plane of said body portion in the direction opposite to said first tongue and having its base at another portion of said periphery and spaced from the base of said first tongue.

10. A clip for securing a member to a structural member, said clip including a body portion of plate-like form having a peripherally continuous opening therein, a first, bifurcate, tongue extending generally perpendicularly out of the plane of said body portion in one direction with its base at one portion of the periphery and a second, single, tongue extending generally perpendicularly out of the plane of said body portion in a direction opposite to said

first tongue and substantially parallel to said first tongue and having its base at the opposite portion of said periphery from said first tongue.

11. A clip for attaching a member to a structural member, said clip comprising a body portion of plate-like form having a peripherally continuous opening therein, a first, bifurcate, tongue having an enlarged head and a reduced neck and projecting generally out of the plane of said body portion with its base at one portion of the periphery of said opening and a second, single, tongue projecting from said body portion in the opposite direction from said first tongue and having its base at another portion of said periphery and spaced from the base of said first tongue.

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