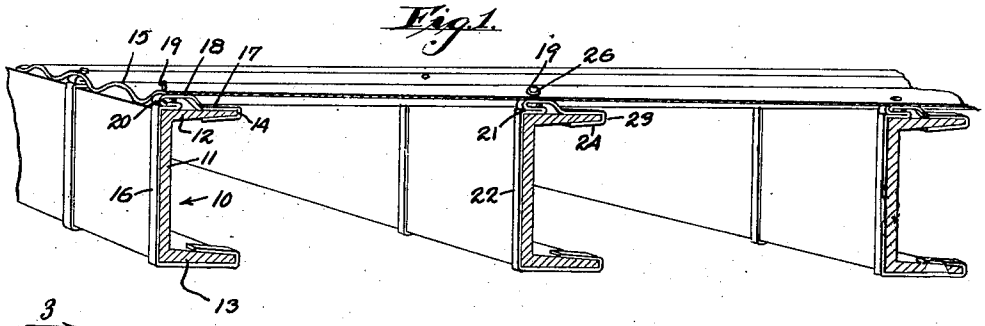
Feb. 17, 1931. J. WIDMAN 1,792,952

CORRUGATED IRON CLIP, BAND, AND WIRE FASTENER

Filed Jan. 26, 1929 2 Sheets-Sheet 1

Fig. 1.



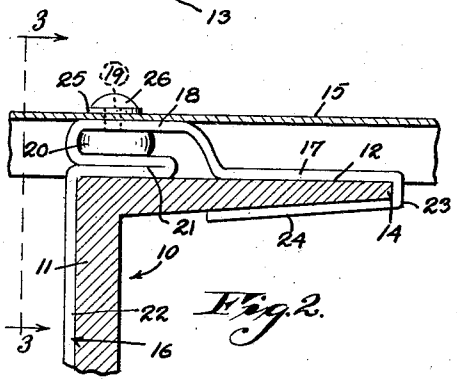


Fig. 2.

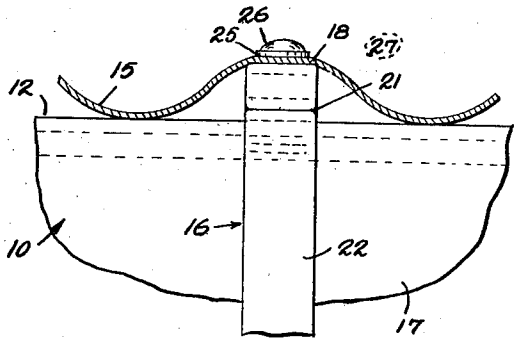


Fig. 3.

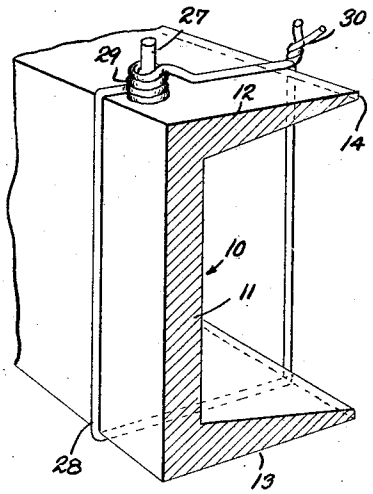


Fig. 4.

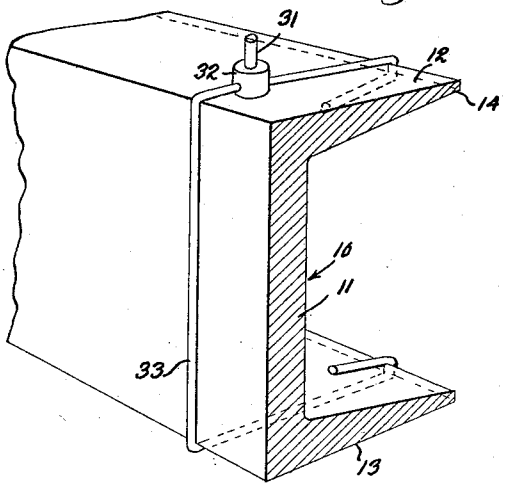


Fig. 5.

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CORRUGATED IRON CLIP, BAND, AND WIRE FASTENER

Filed Jan. 26, 1929 2 Sheets-Sheet 2

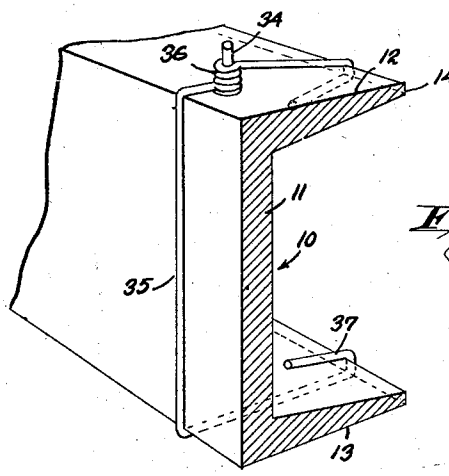


Fig. 6.

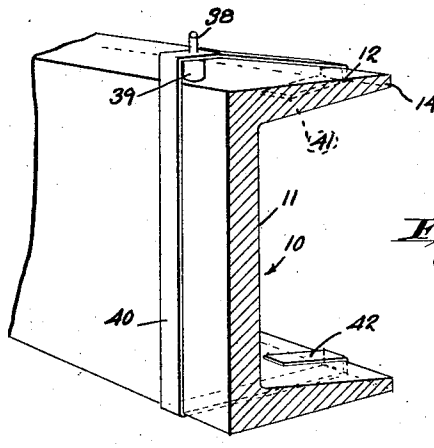


Fig. 7.

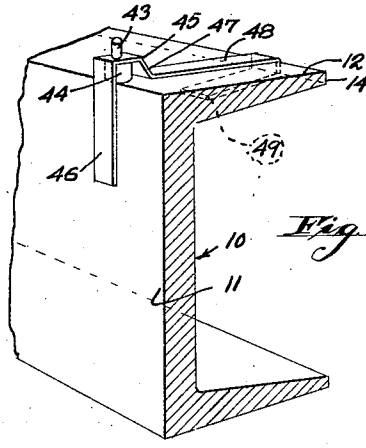


Fig. 8.

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UNITED STATES PATENT OFFICE

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CORRUGATED-IRON CLIP, BAND, AND WIRE FASTENER

Application filed January 26, 1929. Serial No. 335,278.

This invention relates to devices for securing corrugated iron sheets to supporting members.

In erecting structures employing the use of corrugated iron it is customary to employ channel irons, angle irons or the like as supporting members. The corrugated iron sheets are laid on top of the channel irons or angle irons in constructing a corrugated iron roof or they are positioned against them in erecting corrugated iron walls. Rivets are placed against sides of the supporting irons and are punched through the corrugated iron and the shanks of the rivets finally riveted over. Heretofore suitable clips have been provided which embrace an edge of the supporting irons and which have the rivets fastened thereto. However, in using such clips which embrace one edge only of the supporting irons it is necessary to erect an underslung scaffolding so that as the corrugated iron sheets are positioned on the supporting members a man may stand on the underslung scaffolding and position the clips with their rivets while a second man on the outside of the wall or on top of the roof punches the rivets through and rivets them over.

It is an object of this invention to provide an improved rivet fastening and positioning device which embraces and engages more than a single edge of the supporting iron. By such a construction it is possible to apply the device to the supporting iron at suitable intervals which are determined by the distances between certain ridges on the corrugated iron. The devices are first applied to the supporting members at these predetermined distances apart and serve to hold the rivets in proper positions. After being applied the corrugated iron sheets are positioned on the supporting members and a single man can punch the rivets through the corrugated iron and rivet them over. By such a construction the requirement of underslung scaffolding and a man thereon to position the clips carrying the rivets is entirely eliminated thus saving in time, labor and expense.

It is another object of the invention to provide a device for securing corrugated iron sheets to supporting members which comprises a readily bendable means carrying a rivet, which readily bendable means can be easily bent about a channel iron or equivalent support and be caused to engage and embrace more than a single edge of the supporting iron so as to firmly fasten the rivet to the supporting member and thus firmly fasten the corrugated iron sheets to the supporting member.

A further object of the invention is to provide a device for securing corrugated iron sheets to supporting members which may be easily, quickly and cheaply constructed and which may be easily, quickly and cheaply applied.

With the foregoing and other objects in view which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention wherein:

Fig. 1 is a partial view in perspective of a portion of a corrugated iron roof illustrating devices embodying the invention as having been employed in its construction.

Fig. 2 is a partial view in vertical section illustrating the details of construction of the device disclosed in Fig. 1.

Fig. 3 is a partial view in vertical section and may be considered as having been taken substantially upon the line 3—3 upon Fig. 2 in the direction indicated.

Fig. 4 is a partial view in perspective illustrating a modified form of construction.

Fig. 5 is a view similar to Fig. 4 illustrating a further modified form of construction.

Figs. 6, 7 and 8 are views similar to Fig. 4, each illustrating further modifications of construction.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, the roof or other structure is shown as being built of a plurality of parallel supporting members in the form of channel irons generally designated at 10. Angle irons or other shapes may be employed if desired. Each channel

iron has its back 11 vertically arranged and has at its top a side 12 and at its bottom a side 13. The sides 12 and 13 terminate in edges 14. The corrugated sheet iron indicated at 15 is of the conventional form of construction and the invention resides in providing a device for fastening the corrugated sheet iron to the channel irons 10. In Figs. 1 to 3, inclusive there is disclosed one form of device embodying the invention. This comprises a sheet metal strip or band 16 which is readily bendable having a portion 17 which engages and fits against the top side 12. The portion 17 extends upwardly and toward the back 11 as indicated at 18. The portion 18 has an aperture therein which receives the shank of the rivet 19. As clearly shown in Figure 2 the strip or band 16 is bent around the head 20 of the rivet and is then given a reverse bend 21 beneath the head 20 of the rivet. From the reversed bend the band or strip extends downwardly against the back 11 of the channel iron 10 as indicated at 22. It is then bent forwardly against the lower side 13. In Figures 1 to 3, inclusive, the ends of the strip or band are bent about the edges 14 as indicated at 23 so that the ends of the strip engage and embrace the inner faces of the sides 12 and 13 as indicated at 24. Prior to installation, however, the ends 23 are left unbent and in applying the strips 16 to the channel irons the strips are pushed forwardly over the channel irons. When thus applied the ends 23 are bent about the edges 14 so as to embrace the edges. In this construction it will be noted that the rivet 19 is positioned by the strip near the back 11 and against the side 12 with the shank of the rivet projecting upwardly. The portion 18, together with the thickened head of the rivet 20 forms a shoulder which is spaced from the top face of the side 12 approximately a short distance equal to the height of the ridges on the corrugated iron. This shoulder enables the furrows of the corrugated iron to rest against the top side 20 with the shoulder engaging and supporting the under side of one of the ridges. When the device is so applied it is possible to walk along the roof and punch the rivets through the corrugated iron. This can be accomplished by applying a rivet set to the corrugated iron and giving it a blow with the hammer, causing the shank of the rivet to punch its own hole through the corrugated iron sheets. As the distances between ridges on the corrugated iron are uniform it is possible to apply the rivets by these securing devices to the channel irons at predetermind intervals and when the corrugated iron sheets are applied to the supporting members the person punching the rivets through will know that there will be a rivet beneath every third or fourth ridge on the corrugated iron. This eliminates the requirement of underslung scaffolding and a person on which to position the rivets and inform the person punching the rivets where the rivets are located. After the rivets are punched through the corrugated iron washers 25 are applied to the shanks and the shanks are then riveted over forming the heads 26. The shoulder formed by the portion 18 forms a good bearing for the under side of a ridge on the corrugated iron and as the strip 22 embraces both sides 12 and 13 the back 11 and the edges 14 on the channel iron the rivet will be firmly held in place thus firmly fastening the corrugated iron to the channel iron.

In Fig. 4 a modified form of construction is disclosed. This is formed of a rivet 27 and a length of wire 28. The wire intermediate its ends, is given a plurality of turns indicated at 29 about the shank of the rivet so as to be fastened to the rivet and to form a shoulder about the shank which will form a bearing for the under side of a ridge on the corrugated iron. This wire may be more adequately fastened to the rivet than by the twists 29 by galvanizing the entire device. When the device is galvanized sufficient galvanizing metal will be retained between the twists 29 and the rivet to securely fasten the rivet thereto. In this construction the wire has its ends initially straight and after the device has been applied to the channel iron the ends are brought together and twisted about each other as indicated at 30 so that the device is fastened about the complete channel iron and positions the rivet 27 on the channel iron so that it can be easily located and punched through the corrugated iron.

In the construction shown in Fig. 5 a rivet 31 is provided which has a thick head 32 which is of sufficient thickness to form the shoulder at the base of the shank which forms a bearing for the underside of the corrugated iron. The thick head 32 has an aperture therethrough through which the length of wire 33 extends. The wire or "straw" has its ends initially straight and as being applied to the channel iron 10 the ends are bent about the edges 14 inwardly against the inner faces of the sides 12 and 13 so that the ends of the wire embrace both faces of the sides 12 and 13, firmly fastening the rivet 31 to the channel iron 10 and properly positioning it thereon.

Figs. 6, 7 and 8 disclose further modification of construction. In Fig. 6 the rivet is indicated at 34 about which the wire 35 is given a plurality of twists indicated at 36. In the construction which is very similar to that disclosed in Fig. 4 the ends of the wire or "straw" instead of being twisted about each other are bent inwardly as indicated at 37 so as to embrace the sides 12 and 13, in the same way that the ends of the wire in the construction shown in Fig. 5 are bent about the channel iron. In Fig. 7 the rivet 38 has a thick head 39 and a sheet metal strip 40 has an

aperture therethrough through which the shank of the rivet extends. This strip engages the back 11 of the channel iron 10 and from the rivet 38 it extends downwardly and forwardly to the edge 14 on the side 12. On application to the channel iron the end of the strip is bent around the edge 14 as indicated at 41. In a similar manner the lower end of the strip is bent forwardly against the side 13 and has its end bent about the edge 14 on the side 13 as indicated at 42. In Fig. 8 the rivet 43 has a thick head 44 and the shank is passed through an elevated portion 45 on the strip 46. From the elevated portion 45 the strip is bent downwardly and forwardly in a sharp manner indicated at 47 to provide a portion 48 which fits against the upper face of the side 12. The end of the strip is bent around the edge 14 as indicated at 49 so as to embrace the side 12. The opposite end of the strip or band 46 is bent downwardly against the back 11 of the channel iron 10 for a short distance and terminates at a point about an inch or an inch and a half down on the back 11.

From the above described construction it will be appreciated that an improved device is provided for securing corrugated iron sheets to supporting members which eliminates the use of underslung scaffolding and saves in time, labor, expense and hazard. Each device comprises a readily bendable embracing means adapted to be bent about a supporting member and embrace more than the outer and inner faces of one side of the channel iron so that when the device is applied it will be firmly held in position on the channel iron. Furthermore, each device provides a shoulder about the base of the rivet which forms a bearing or backing for the under side of a ridge on the corrugated iron so that the corrugated iron will be properly positioned without being deformed on the supporting members.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A device of the class described comprising a rivet, and a section of bendable wire given one or more turns about the shank of the rivet above the head thereof forming a shoulder.

2. A device of the class described comprising a rivet, and a section of bendable wire given one or more turns about the shank of the rivet above the head thereof forming a shoulder, the wire having the turns arranged intermediate its ends.

In testimony whereof I have signed my name to this specification.

J. WIDMAN.