Feb. 22, 1944. W. C. GEISLER 2,342,537

CORNER FASTENER FOR METAL FRAMES

Filed July 12, 1943

Fig. 1.

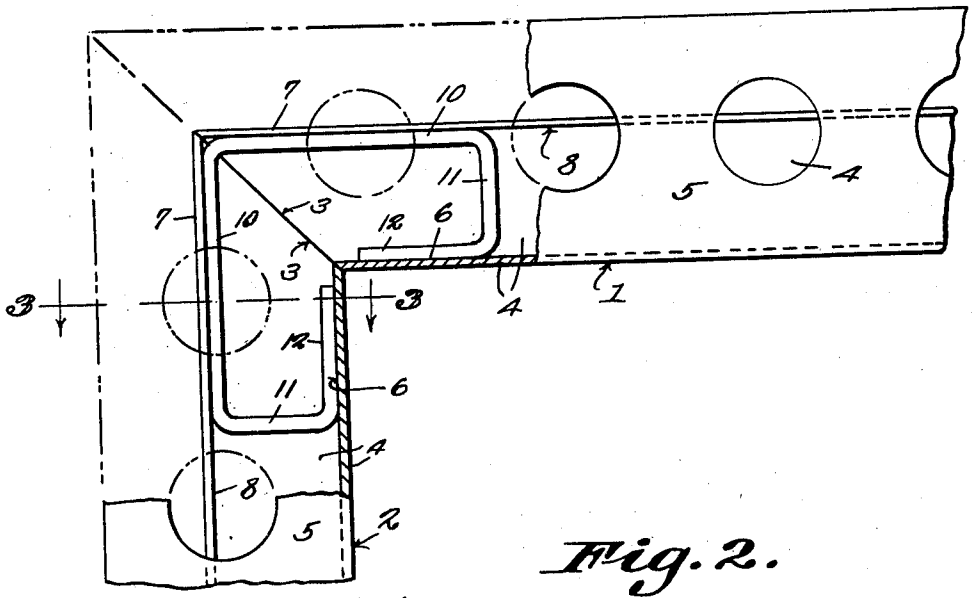


Fig. 2.

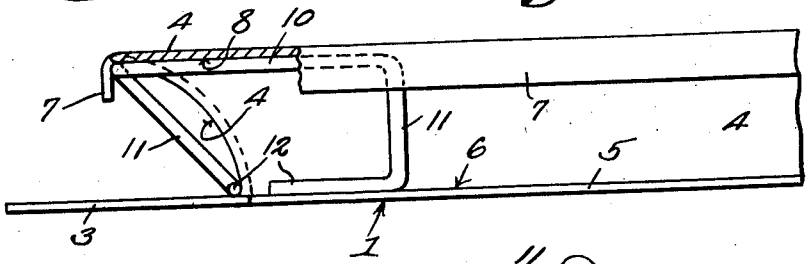


Fig. 6.

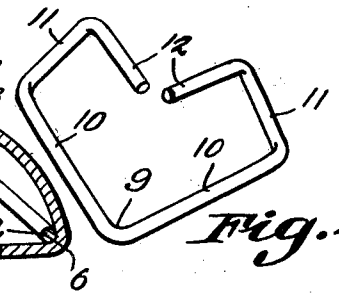


Fig. 3.

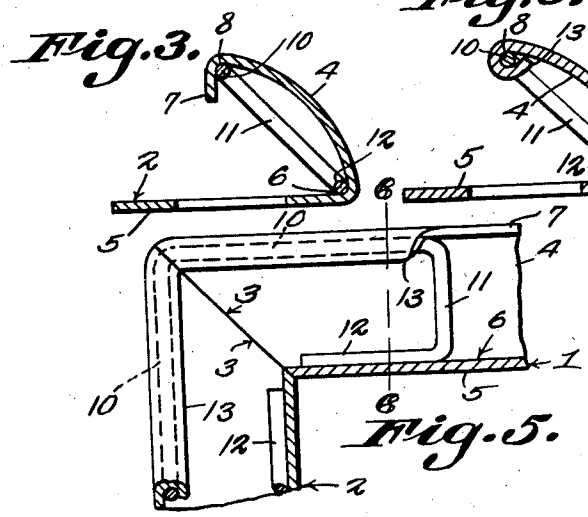


Fig. 4.

Fig. 5.

W. C. Geisler

INVENTOR.

BY Allsworth & Co.

Patented Feb. 22, 1944

2,342,537

UNITED STATES PATENT OFFICE

2,342,537

CORNER FASTENER FOR METAL FRAMES

William C. Geisler, Spokane, Wash.

Application July 12, 1943, Serial No. 494,386

3 Claims. (Cl. 189—36)

This invention relates to a corner fastener designed primarily for holding together the beveled ends of metal frame members and more especially frame members formed of sheet metal.

Heretofore in the installation of door frames, window frames, etc., in building structures, it has been difficult, where these frames have been made of sheet metal, to hold the meeting corners flush and firmly against separation.

An object of the present invention is to provide a fastener which can be applied readily to the parts of the frame and, after complete installation, will be concealed from view.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is a rear elevation of a portion of a frame held assembled by means of one of the fasteners constituting the present invention, part of the frame being shown in section to show the fastener in position.

Figure 2 is a top plan view of a corner portion of the assembled frame, a part being shown in section.

Figure 3 is a section on line 3—3, Figure 1.

Figure 4 is a detail view of one of the fasteners.

Figure 5 is a view similar to Fig. 1, showing a slightly modified construction.

Figure 6 is a section on line 6—6, Fig. 5.

Referring to the figures by characters of reference, 1 and 2 designate adjacent members of a metal frame designed to be held assembled by means of a fastener such as constitutes the present invention. These members have beveled ends 3 adapted to fit snugly together and each member, in the present instance, has an arcuate inner side or flange 4 extending from a flat base 5, the flange and base cooperating to provide a longitudinal angle portion 6. From the longitudinal edge of the flange 4 remote from base 5 there is extended a top flange 7 which, in the structure shown in Figs. 1 to 5 inclusive, is extended toward the base 5, as shown particularly in Figs. 1, 2 and 3. Thus there is formed a longitudinal angle 8 for the purpose hereinafter described.

As before stated the beveled ends 3 of the frame members are so shaped as to fit together snugly. When they are thus postioned the flanges 7 on the members will come together as will also the bases 5 and the flanges 4. For the purpose of maintaining them thus assembled, a special type of fastener shown in detail in Fig. 4 has been devised. This fastener comprises a single length of stiff wire, preferably of steel which is bent at 9 to provide arms 10 extending at a predetermined angle to each other. This angle corresponds with the angle at which the frame members are arranged and as the said frame members in the present instance are at right angles to each other, the arms 10 are also at right angles.

Extending from the free ends of the arms 10 are extensions 11 disposed at right angles thereto but each located along a line inclined relative to the plane occupied by the two arms 10 so that when these arms are located in the two angles 8 formed by flanges 4 and 7, as shown for example in Figs. 1, 2 and 3, the extensions 11 project diametrically from the angles 8 to the angles 6. Fingers 12 project from the extensions 11 at right angles thereto but are extended toward each other in a plane parallel with the plane occupied by the arms 10 so that these fingers 12 thus will fit in the angles 6 in the two frame members and extend toward each other as shown in Figs. 1 and 2.

As the fastener thus straddles the joint between the frame members and the respective end portions of the fastener are disposed at an angle to each other, as shown, it will be apparent that the two frame members will be held together firmly and will not shift at their meeting ends 3 relative to each other.

Instead of extending the flange 7 towards the base 5, those portions of the flange adjacent to the ends of the frame members can be bent around the adjacent arms 10 of the fastener as shown at 13 in Figs. 5 and 6.

What is claimed is:

1. The combination with sheet metal frame members having beveled ends in contact with each other, each member including an elongated base, an outwardly and laterally extended flange along one longitudinal edge of the base, and a stop extending from the flange and towards the base, said flange and stop cooperating to form an angle, the opposed edges of each flange being positioned in a common plane inclined relative to and overlying the base, of a fastener formed of a single length of material including joined

arms positioned at an angle to each other and seated in the angles formed by the stops and flanges of contacting frame members, extensions integral with the arms and inclined relative to the base, and fingers on the extensions projecting toward each other and parallel with the arms, said extensions being proportioned to support the fingers in the angles formed by the bases and flanges of the respective frame members, the angle portion formed by the joined arms of the fastener bridging the meeting edges of the frame members and the free ends of the fingers being spaced apart adjacent to the meeting edges of the frame members.

2. The combination with sheet metal frame members having beveled ends in contact with each other, each member including an elongated base, an outwardly and laterally extended flange along one longitudinal edge of the base, and a stop extending from the flange and towards the base, said flange and stop cooperating to form an angle, the opposed edges of each flange being positioned in a common plane inclined relative to and overlying the base, of a fastener formed of a single length of material including joined arms positioned at an angle to each other and seated in the angles formed by the stops and flanges of contacting frame members, extensions integral with the arms and inclined relative to the base, and fingers on the extensions projecting toward each other and parallel with the arms, said extensions being proportioned to support the fingers in the angles formed by the bases and flanges of the respective frame members, the angle portion formed by the joined arms of the fastener bridging the meeting edges of the frame members and the free ends of the fingers being spaced apart adjacent to the meeting edges of the frame members, portions of the stop flanges embracing the arms of the fastener.

3. A fastener for holding together the members of a sheet metal frame comprising a single length of wire bent to provide arms extending at right angles to each other, extensions converging toward each other and inclined relative to the plane occupied by the arms, and fingers extending toward each other from the extensions and parallel with the arms, said fingers being spaced apart at their free ends.

WILLIAM C. GEISLER.