

[54] **INTEGRAL CORNER FABRICATION**

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[22] Filed: **Feb. 27, 1973**

[21] Appl. No.: **336,398**

[52] U.S. Cl. **29/190, 29/180 A, 29/180 SS,**
29/183, 29/193, 52/658

[51] Int. Cl. **B21c 1/00**

[58] Field of Search 29/180 A, 180 SS, 190,
29/193, 183; 52/658; 248/188

[56]

References Cited

UNITED STATES PATENTS

1,572,003	2/1926	Fleming	248/188 UX
1,925,804	9/1933	Hiering	52/658 X

2,241,266	5/1941	Mayne et al.	52/658
3,129,841	4/1964	Loewenthal et al.	312/351 X
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3,305,998	2/1967	Deisenroth	52/656
3,478,483	11/1969	Baker	52/658

FOREIGN PATENTS OR APPLICATIONS

495,571	4/1930	Germany	248/188
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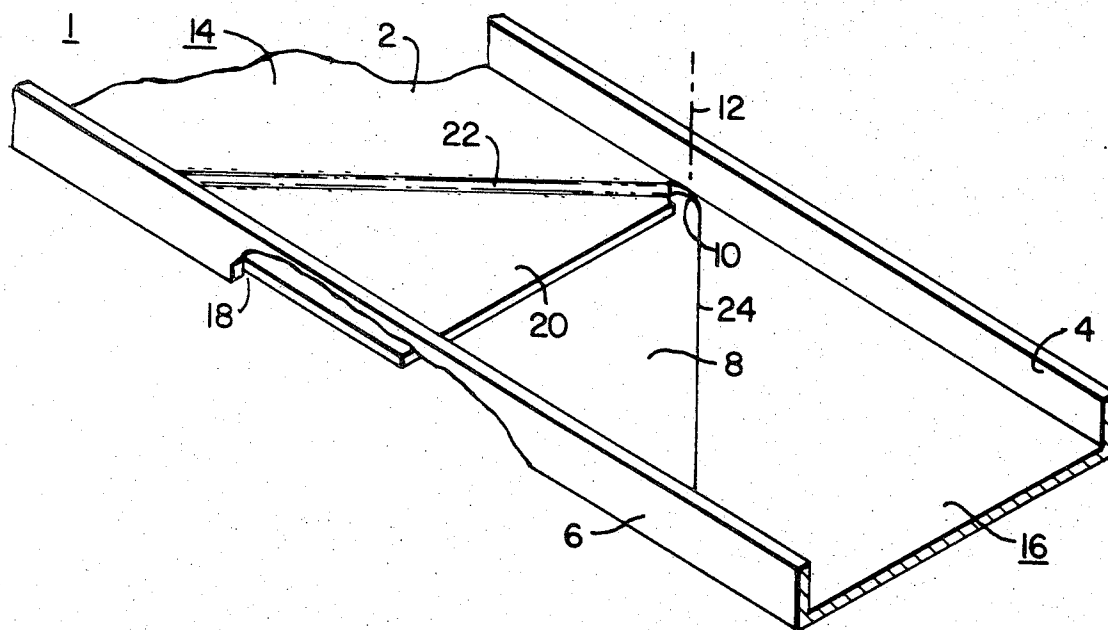
Attorney, Agent, or Firm—E. C. Arenz

[57]

ABSTRACT

A corner is fabricated from a single member having a cross-sectional shape including opposite flanges and an intervening web such as a sheet metal channel by cutting and manipulating the member so as to eliminate fastening devices.

1 Claim, 4 Drawing Figures



PATENTED FEB 18 1975

3,867,107

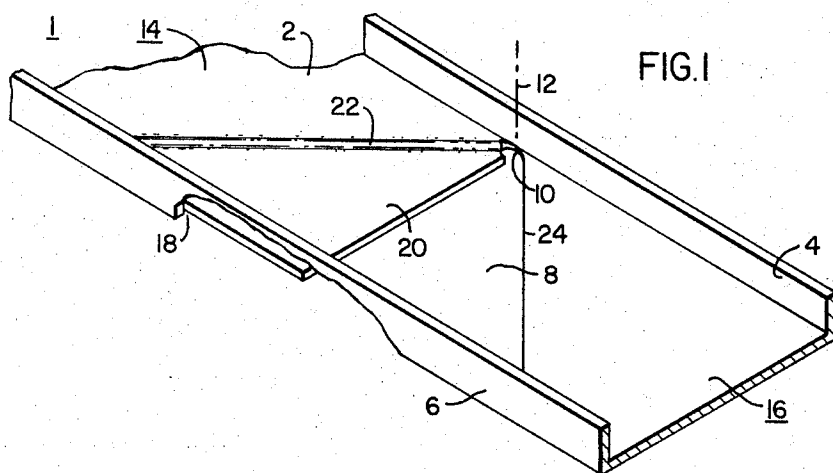


FIG. 1

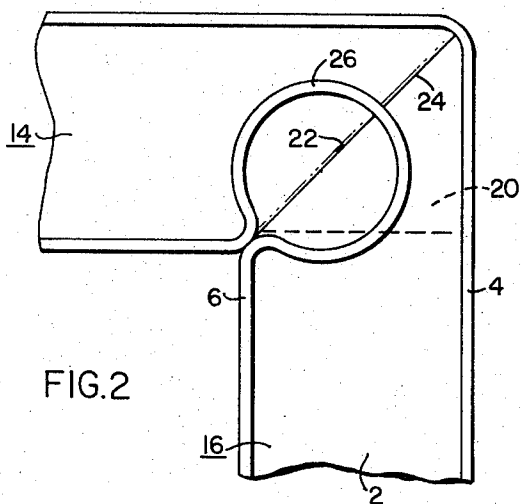


FIG. 2

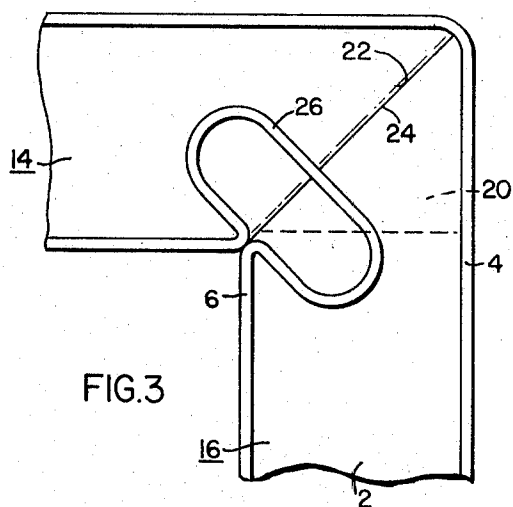


FIG. 3

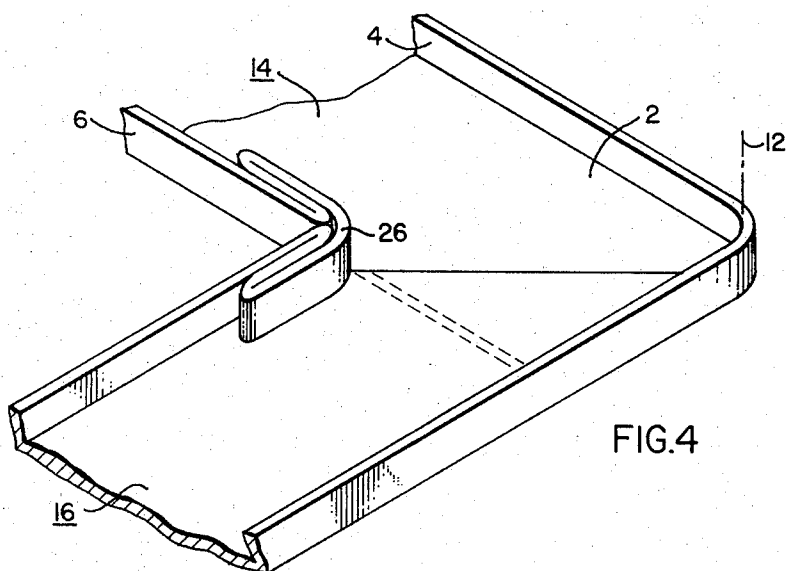


FIG. 4

INTEGRAL CORNER FABRICATION

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention pertains to the art of folded metallic corner constructions such as may be used, for example, as a part of the supporting leg structure at the base of a dishwasher.

2. Description of Prior Art

None of the prior art of which applicant is aware is considered pertinent to the invention. However, patents which are illustrative of prior art corner constructions are as follows: U.S. Pat. Nos. 3,129,841; 3,305,998.

SUMMARY OF THE INVENTION

In accordance with the invention, a corner is formed in a single member having a cross-sectional shape including opposite flanges and an intervening web, such as a sheet metal channel, by cutting out a portion of the web from a point adjacent to the flange which will form the outer side of the corner to an extended slot adjacent the opposite flange. This slot separates the opposite flange from the web so that when the member is manipulated to form the corner, a separated portion of the opposite flange is displaced toward the outer side flange and then crimped back upon itself and flattened against the inner face of the opposite flange to permanently hold the corner.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a fragmentary length of channel from which the corner will be formed;

FIG. 2 is a top view of the channel following initial manipulation;

FIG. 3 is a top view of the corner following additional manipulation;

FIG. 4 is a perspective view of the corner in its final form.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In FIG. 1, the channel-shaped member 1 from which the corner is to be formed includes a web 2, a flange 4 which will form the outer side of the corner and an opposite flange 6 which will form the inner side of the corner. A generally triangular shaped portion of the web is removed to provide a cutout 8 having one corner 10 thereof closely adjacent to an axis 12 (shown in dash lines) lying in the plane of the outer flange 4 and about which the opposite legs 14 and 16 of the corner will be turned in constructing the corner. At the side of the triangular cutout 8 opposite corner 10, the cutout is open to a slot 18 which extends as shown in FIG. 1 to the left separate flange 6 from the web 2 for a length determined in accordance with the particular angle the corner is to have.

Adjacent to the cutout 8, another generally triangular-shaped part 20 of the web is displaced down out of the plane of the web to a position parallel to the plane of web but offset sufficiently to allow clearance of this

part 20 with the web when the corner is manipulated to its final configuration. The line along which the triangular shaped part 20 remains connected to the web is identified by numeral 22.

As the channel is manipulated to form the corner, the outer flange 4 is bent around axis 12 and the offset part 20 is lapped with web 2 as illustrated in FIG. 2. The length of the opposite flange 6 which had been separated from web 2 is shown in its position displaced toward the outer flange. This separated length thus forms a continuous loop 26 which in FIG. 3 has been displaced back toward its final position.

FIG. 4 illustrates the final corner configuration in which the loop 26 is crimped back against itself and flattened against the inner face of the opposite flange 6. Manipulation of the loop in this way permanently clamps and strengthens the corner.

The triangular offset section 20 is not necessary to a corner according to the invention in all applications. The corner can also be formed if the cutout 8 is enlarged to include the part 20. In this case, when the channel is bent to the final corner configuration line 22 will abut edge 24 with no lap.

The corner illustrated in FIG. 4 is only one of many possible applications of the invention. FIG. 4 shows a right angle corner formed in a channel shaped member. Corners of various included angles could also be constructed according to the invention. In addition, the invention is applicable to various cross-sectional shapes having an intervening web between two opposite flanges, such as a Z-shaped member or an I-shaped member. However, if an I-shaped member is used, a narrow slot must be cut in the loop forming flange in the plane of the web, for a distance equal to the length of flange which will be looped so that it will clear the web as the corner is formed.

What we claim is:

1. A corner formed by manipulating a single member having a cross-sectional shape including opposite flanges and an intervening web, said member having a cutout portion of its web with one boundary of the cutout portion located adjacent the flange forming the outer side of the corner after bending, and the opposite boundary of the cutout portion providing an extended length of separation between said web and the flange forming the inner side of the corner after bending, said member in the completed manipulated form of said corner having the portion of said inner flange free of said web displaced toward the outer flange and crimped back upon itself and flattened against the inner face of said inner flange to secure said corner as formed; and,

said web having a section thereof contiguous with one side of said cutout portion and offset from the general plane of said web sufficiently to accommodate overlapping of said web contiguous to the opposite side of said cutout portion to form a double layer of material thereat when said corner is formed.

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