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CORNER FILLET FOR PATTERN MAKERS

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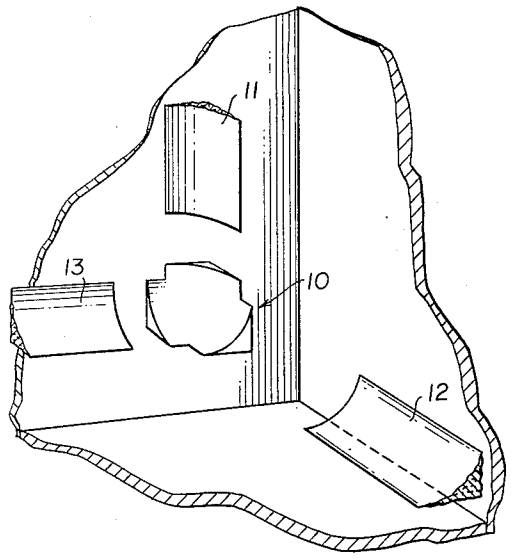


Fig. 1

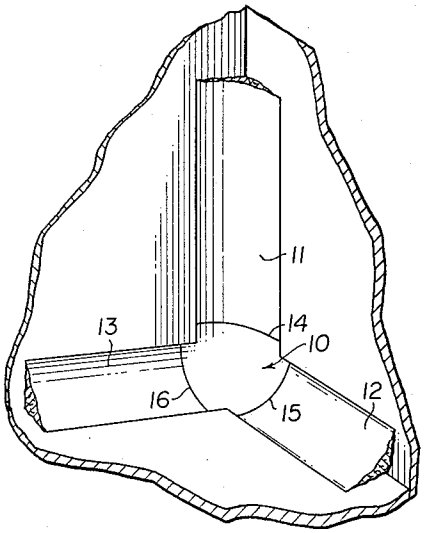


Fig. 2

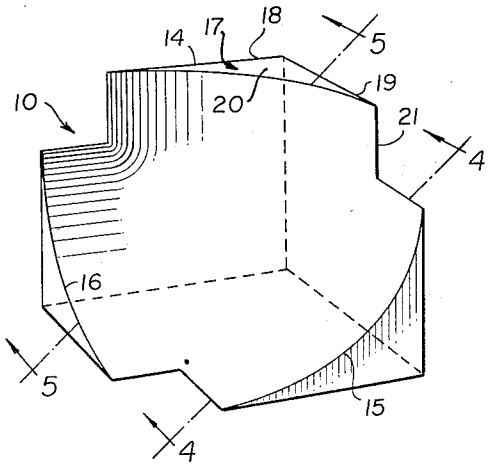


Fig. 3

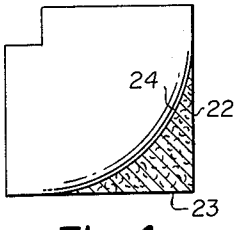


Fig. 4

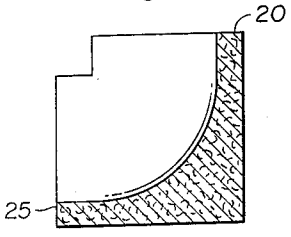


Fig. 5

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CORNER FILLET FOR PATTERN MAKERS

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1 Claim. (Cl. 22—158)

This invention, relating as indicated to a corner fillet for pattern makers, is particularly directed to the structure of the corner fillet used in connection with wood pattern making, where it is desired to make a fillet perhaps as small as one-sixteenth inch up to one inch or more. These fillets can be made in certain instances out of leather though other pliable semi-solid materials, possibly plastic materials, may be employed.

In connection with the filleting of corners, it has been the practice in the past to use a preshaped concave fillet material which is beveled or skived to form three separate individual sections that go together and form a spherical corner fillet. One section is cut off as an end section to perpendicular walls, and there is a concave or coved section. A further section is hand beveled and another section is rounded to form the spherical fillet. Other methods of making fillets have also been employed.

This invention is particularly directed to a technique of making a separate corner fillet that greatly speeds up the process in pattern making. This fillet comprises three mutually perpendicular, flat surfaces having a concave portion therebetween. The end sections of the corner fillet are identical and are mutually perpendicular to one another and have a perpendicular back side and a concave section therebetween.

In connection with pattern making and the making of fillets for wood patterns, it has frequently been necessary to make fillets of varying sizes, and this is a time consuming operation particularly where there are a great number of braces or ribs. It would facilitate the making of these corners if a preformed fillet unit of the particular size of the fillet required would have a substantially perpendicular end section which could then be filled in between the perpendicular sides to the next corner. This would greatly facilitate the installation or fitting of fillets which now must be cut by hand and is a slow and tedious process.

It is to be understood in connection with this invention that in using the words "fillet material" and "corner fillet," for example, "corner fillet for pattern makers," I mean a fillet that is particularly associated with wood pattern making and its purpose relating to the flow and shrinkage of metals in foundry practcie.

An object of this invention is to provide a new and improved corner fillet in pattern making.

A further object of this invention is to develop a corner fillet having a concave section in the fillet and having end sections which are mutually perpendicular, each corner section forming a right triangle and having a concave side to complete the triangle.

Another object of this invention is to provide a new method of filleting for pattern making.

To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claim; the following description setting forth in detail one approved method of carrying out the invention, such disclosed method, however, constituting but one of the

various ways in which the principles of the invention may be used.

In the drawings:

Fig. 1 is a fragmentary exploded view of the sections of the new corner fillet system;

Fig. 2 is a completed view of the corner fillet;

Fig. 3 is an enlarged view of the corner fillet itself;

Fig. 4 is a cross-sectional view along the line 4—4 of Fig. 3, showing the end section of the fillet; and

Fig. 5 is a cross-sectional view along the line 5—5 of Fig. 3, showing a section through the corner fillet.

In connection with the drawings, **10** shows the corner fillet itself, and **11** shows the fillet element going along between the two vertical walls. **12** shows the corner fillet having a right cross-section going along the right wall, and **13** shows the corner going to the left forming the complete corner.

Of course, it will be understood in connection with filleting that these may be of any size, but basically these are the components of this filleting system. They may be used innumerable times depending upon the number of corners in making a pattern.

In Fig. 2 the same components are shown put together, and the corner fillet **10** forms a junction with the upper fillet section **11** as shown at **14**. Similarly, the other sections form junctions which are substantially perpendicular to one another, said junctions being shown at **15** and **16**.

In connection with the structure of the corner fillet itself, the upper section or portion, designated arbitrarily **17**, has a rear side **18** facing one wall and another rear side **19** perpendicular thereto. The curved concave inner edge of the upper portion **17** of the fillet is illustrated by means of the line identified by the numeral **14**, and the upper surface **20** is perpendicular to sides **18** and **19**. These three sides **18**, **19** and **20** are substantially perpendicular to the other junctions **15** and **16** and, as well, perpendicular to the three walls of the corner. It will be seen in this view that the junction **14** may be positioned outwardly from the unit and may have an arm or extension as shown at **21** of any length. It could, of course, be that the arm **21** would be of no length at all, in which event the three sections would merge onto the main unit. The opposite sections are identical and need not be described more completely here.

The cross-sectional view along the line 4—4 shows the sides in this view at **22**, the bottom wall **23** of the corner, and the concave side at **24**. Of course, it will be seen that a cross-sectional view taken substantially parallel to 4—4 as in Fig. 5 would cut through two corners, and this will have a wider end section shown at **20** at the top and **25** at the left. It will have a gradual curvature or concavity therebetween.

The particular advantage of this corner filleting technique is that a pattern maker may take these materials of leather, plastic or any pliable, semi-solid material and with the application of a corner fillet, which is a preformed unit made by cutting the sections of the filleting material such as **11**, **12** and **13** in varying lengths depending upon the wall length, easily form a great number of corner fillets and wall fillets by this process.

The particular characteristic, however, is that the sections of the corner fillet projecting along the three axes of the corner, in the general direction of the junction between the walls, will be substantially perpendicular to one another, and further none of the corners will merge completely to the corner, i.e., they will be identical so that they can be rotated completely.

Although the present invention has been described in connection with a few preferred embodiments thereof, variations and modifications may be resorted to by those skilled in the art without departing from the principles

of the invention. All of these variations and modifications are considered to be within the true spirit and scope of the present invention as disclosed in the foregoing description and defined by the appended claim.

I claim:

In a pattern having at least three mutually perpendicular walls intersecting to form a corner, the improvement comprising a one-piece fillet in said corner, said fillet including a central body portion formed by three smooth mutually perpendicular intersecting surfaces, each said three surfaces throughout the entire area thereof being in abutment with a corresponding pattern wall, a single smoothly curved concave surface gradually merging with said three surfaces and intersecting the same at three points equally spaced from each other, three legs affixed to said central body portion, each leg being generally triangular in cross section and being formed on two sides by extended portions of two adjacent of said mutually perpendicular intersecting surfaces, each said side being in full area abutment with a corresponding pattern wall, the third side of each leg being formed by a smoothly curved concave surface which gradually merges with both said sides to form feather edges therewith, the

concave surface of each leg gradually merging also with the concave surface of said central body portion to form a smooth transition area therebetween, said smoothly curved concave surface of each leg spanning the distance between two of said points of intersection of said concave body portion surface with said intersecting body portion surfaces, each said leg terminating at its free end with a flat surface perpendicular to the extended portions which make up two of its sides, the space between said mutually perpendicular intersecting surfaces and said body portion concave surface and between said intersecting mutually perpendicular surfaces of each said leg and its concave surface being substantially entirely filled by the material of said fillet.

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