May 29, 1923. 1,456,845

F. A. FULLER

FRAME MAKING

Filed July 16, 1921

Fig. 1.

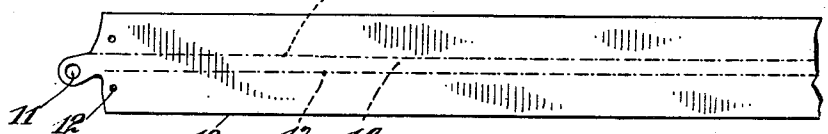


Fig. 2.



Fig. 3.

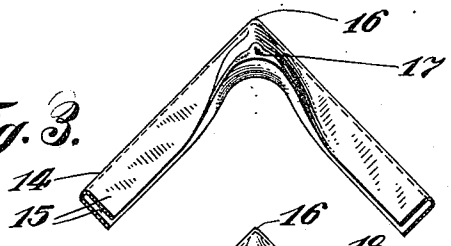


Fig. 4.

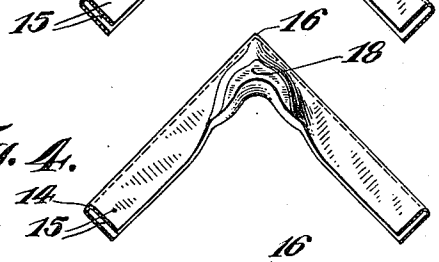


Fig. 5.

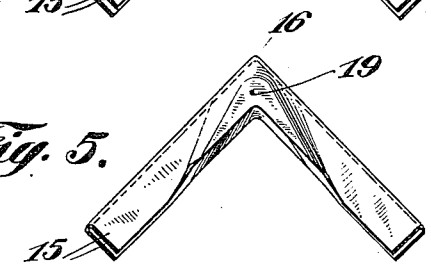
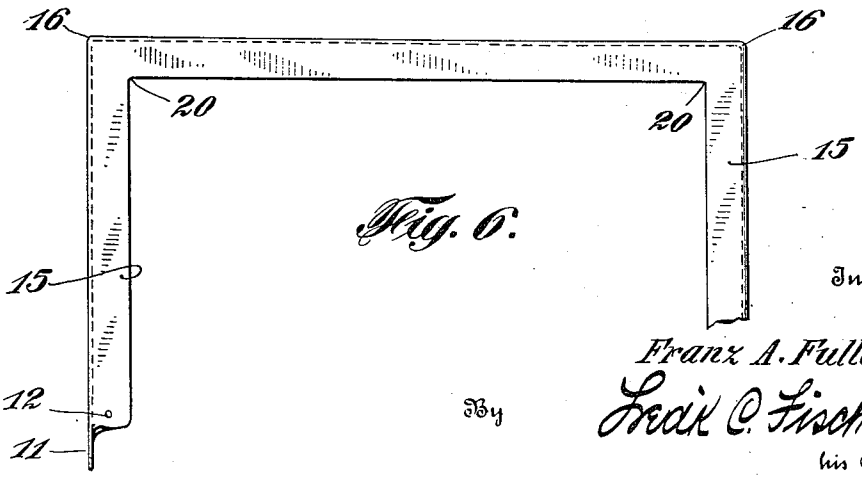


Fig. 6.



Inventor

Franz A. Fuller

By Frank C. Fischer.

his Attorney

Patented May 29, 1923. 1,456,845

UNITED STATES PATENT OFFICE.

FRANZ A. FULLER, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE J. E. MERGOTT CO., OF NEWARK, NEW JERSEY, A CORPORATION OF DELAWARE.

FRAME MAKING.

Application filed July 16, 1921. Serial No. 485,320.

To all whom it may concern:

Be it known that I, FRANZ A. FULLER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Frame Making, of which the following is a specification.

This invention has for one of its objects to provide a process and means for making the corners of a metal frame.

Another object is to produce frames having square, sharply angled corners, smooth and true, without seams or joints and which in addition to being of unusual strength, are of pleasing appearance.

While the present disclosure refers more particularly to hingedly connected elements constituting the frames of hand bags, purses and like flexible bodied articles having a rigid closing means, it is also equally applicable to metal frames for a wide range of other purposes as will be readily understood.

Such frames are usually made by removing a triangular piece of stock from the sides of the channelled bar, then bending to produce the angle of the corner and brazing the abutting edges forming a joint of questionable security, which almost invariably shows on the finished surface, and obviously lacks the strength of an integral, unbroken structure such as is attained by the process later described, the several steps of which are indicated in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a fragmentary plan view of a blank used in making a conventional type of bag frame.

Figure 2 is a side view of the same after being formed into the usual channel shape.

Figure 3 is a perspective view showing one of the corners after the first operation.

Figure 4 is a similar view of the corner subsequent to the next operation.

Figure 5 is another perspective view showing the appearance of the corner after the final press operation.

Figure 6 is a side view illustrating the corners of a frame after the last or finishing operation.

In the drawing, the numeral 10 designates in general the blank, the said blank being a strip of relatively thin metal capable of being bent, drawn or otherwise worked without fracture, the blank has parallel side edges and may be formed with an eye 11 at each end, adjacent to which are openings 12 for the reception of securing means.

This blank is bent from end to end lengthwise along the broken lines 13 to produce a U shaped cross section or channel, having a narrow backing or rib 14 and two equal sides 15.

The points where the corners are to be made having been ascertained, the channelled blank is placed between dies, which upon being actuated produce the shape shown in Fig. 3, these dies forming the angle of the corner 16, and at the same time drawing the metal, where it is expanded into opposite flat sides 17.

The sceond operation is between similar dies which accentuate the sharpness of the angle 16 and decrease the distance between the surfaces 17, enlarging them as at 18, by drawing the metal in a manner well understood by those familiar with the art.

Further drawing operations, in number depending upon the width of the channel sides 15, are indicated in Figure 5, in which the corner 16 is preserved and the flat surfaces extended and broadened, as at 19, the distance between them being diminished by causing the molecules of the metal to flow in the operation of drawing in suitable dies.

Finally the corners are passed between hard, smooth faced rollers, a smooth flat plate suited to the space between the side walls of the channel being previously interposed, and the corners reduced in thickness to agree with the remainder of the channel, thus producing an integral, unbroken frame structure, possessing unusual strength and having a desirable appearance.

Due to the manner of forming the corners, first by a series of combined drawing and bending operations and roller finishing, the surfaces are absolutely flat and smooth, devoid of wrinkles, seams or other irregularities, and after trimming away any excess of metal at the inner corners 20, a frame is produced exhibiting the highest standard of excellence.

Although the foregoing is descriptive of the process of construction, it will be ap-

parent that changes may be made without the exercise of invention or conflicting with the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The process of forming channeled sheet metal frames consisting in forming a flat sheet metal blank, channelling the central portion of said blank longitudinally, bending the channelled member at an angle and simultaneously drawing the same, and thereafter rolling the corners to form a completed member with sharp corners.

2. The process of forming a channelled sheet metal frame, consisting in preparing a flat sheet metal blank, forming said blank into a channel having a back and two parallel sides, bending said channel at predetermined points to produce angular corners, drawing the channel simultaneously with bending, repeating the drawing operation, and finally rolling the corners until level with the sides of the channel.

3. The process of forming a channelled sheet metal frame, consisting in preparing a flat sheet metal blank, forming said blank into a channel having a back and two equal parallel sides, bending the channel thus formed with the back outermost to produce the angle desired, simultaneously drawing the metal raised by bending, reducing the raised portion of the sides by repeated drawings, rolling the drawn portion until level and uniform with the sides and shearing the excess of metal from the inner corners.

This specification signed and witnessed this 8th day of July, 1921.

FRANZ A. FULLER.

Witnesses:
A. B. UNDERHILL,
F. NOLL.