Sept. 22, 1936. B. O. TEMPLETON 2,055,185

METHOD OF FORMING CONTAINERS

Filed Oct. 20, 1934 2 Sheets-Sheet 1

FIG. 1

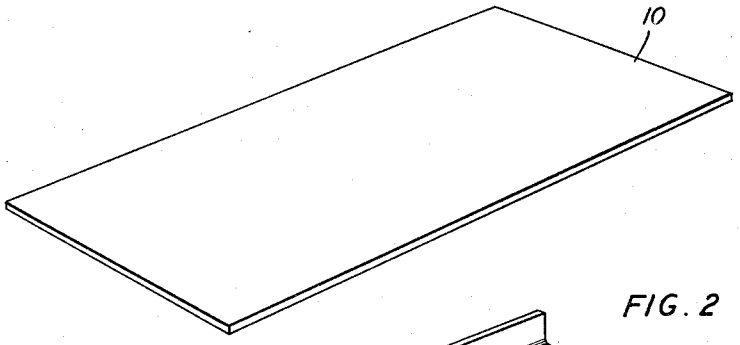

FIG. 2

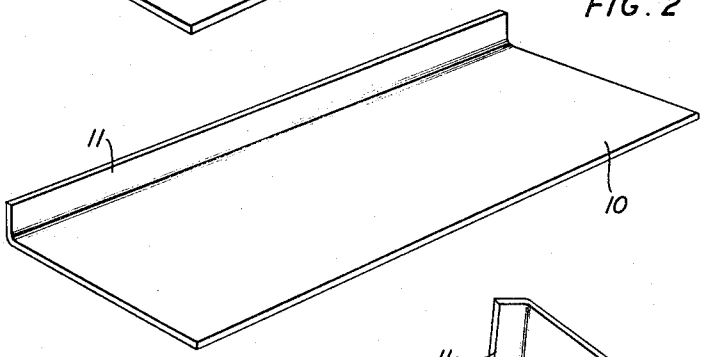

FIG. 3

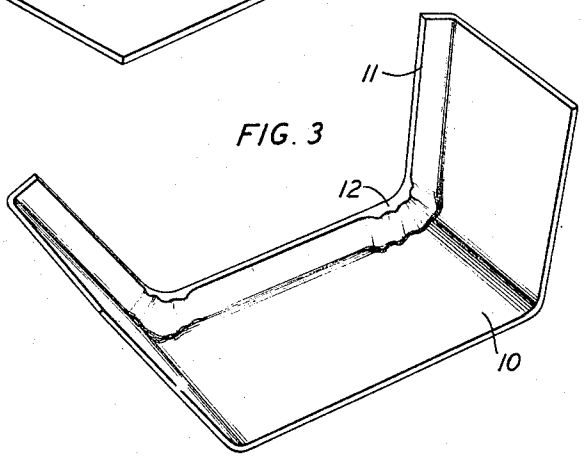

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FIG. 4

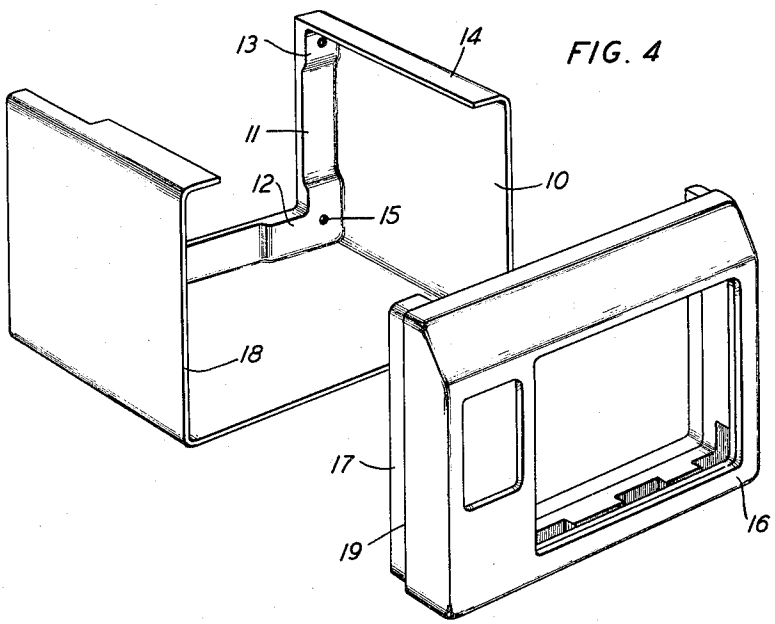
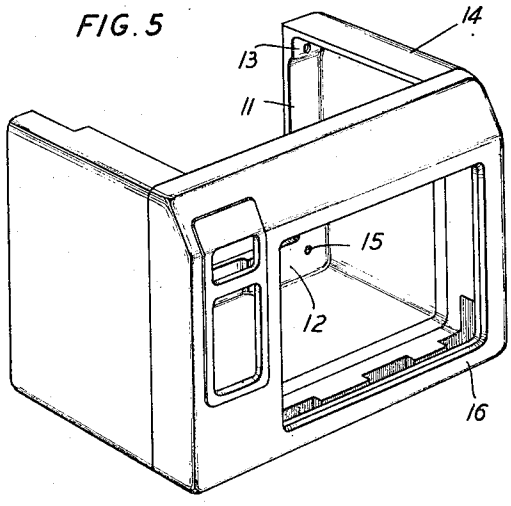


FIG. 5



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METHOD OF FORMING CONTAINERS

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3 Claims. (Cl. 29—148.2)

This invention relates to containers and particularly to methods of forming them.

One of the major problems encountered in connection with the construction of coin collectors for telephone use is that of providing a housing to contain the device, and particularly that part of the device in which coins are finally deposited, of sufficient mechanical strength to prevent an unauthorized opening of the device by mechanically prying apart or breaking the portions of the housing. It is, of course, possible to make portions of any desired thickness by making them of cast metal, but this method is objectionable in that in order to get the desired thickness at particular portions, it is necessary to make the whole device too heavy for easy portability and also it is difficult to get the resistance to drills and other instruments, which is inherent in some of the sheet steels. It has also been proposed to make these housings of sheet metal and thus obtain the advantage of a strength and resistance to tampering which is inherent in the sheet steels, but in previous attempts to make housings in this manner the completed housing was of substantially the same thickness throughout, and in order to get increased strength at vital points, such as corners, it has been necessary to add inserts thereat, usually by welding.

A typical sheet metal box formed in this general manner is shown in U. S. Patent No. 1,161,396 issued to G. A. Long on November 23, 1915. It will be seen that a flange is turned up on the edge of a blank and that triangular portions are cut out of the flange so that when it is bent up in the form shown, for example, in Fig. 11, the edges abut and can be welded. It is a purpose of the present invention to utilize the metal which is normally cut out and discarded, in making a structure such as shown in the Long patent, to actually form portions of increased thickness at the corners and to thus avoid the necessity of welding pieces in for that purpose.

In accordance with the present invention, this is accomplished by turning up a flange on a sheet metal blank, bending it into U-shape and at the same time submitting it to a drop forge operation whereby the metal which would normally appear as a fold, or would be cut out at the corners, is forged or shaped into a reinforce at the corner portion. This same procedure is followed in forming the rest of the housing, and wherever a corner occurs, the metal, while being bent, is simultaneously upset and molded to provide a point of increased thickness to reinforce the device.

In the drawings which accompany this specification and form a part thereof:

Fig. 1 shows a blank piece of sheet steel or other malleable metal from which a container is formed;

Fig. 2 shows the blank after it has undergone the first forming operation;

Fig. 3 shows the blank being bent into U-shape;

Fig. 4 shows the blank completely formed; and

Fig. 5 shows the formed blank united with a front section to complete a lower housing for a coin collector of a telephone pay station.

The blank of Fig. 1 may be a rectangular piece of malleable steel 10 of sufficient length and width to form the rear section of the housing of a coin collector. For the first operation the blank is placed between the dies of a press to form the rear flange 11. This operation may be conducted with the material cold. The second operation comprises bending up the end sections to form the sides of the housing. Prior to this operation the metal is heated, particularly at the prospective bends, and when sufficiently hot, the metal is placed between the dies of a drop forge. The dies are shaped to work the excess metal at the inside of the bend of the flange toward the outer corner to form a thickened portion thereat. None of the metal is cut out or otherwise separated from the flange and hence this method of forming the thickened corners is highly efficient. A corner in the process of formation is shown at 12, Fig. 3. The sides may be bent first and the corners shaped later, or the two operations may be combined into one.

A finished corner is shown in Fig. 4. Similar corners 13 are formed at the top by bending the ends 14 of the walls inward to close partly the top of the housing. When the corners are completely formed, they are drilled as at 15 to receive the bolts or screws by which the housing is supported. A front section 16 may likewise be formed of steel or other malleable metal by the drop forge process and provided with a re-

cessed flange 17 to fit on the inside of the rear section, so that the forward edge 18 of the rear section abuts shoulder 19 of the front section and can be welded thereto.

The completed lower housing is shown in Fig. 5. The only joint in the housing is the one between the two sections, and that, if properly welded, is closed so as to present no cracks on the outside into which a flat instrument can be inserted to pry the sections apart. There are likewise no cracks in the corners such as are found in the sheet metal type of housing in which the flange is notched prior to bending and a reinforcing piece of metal is spot welded across the abutting edges of the notch. The housing is, therefore, much stronger than the sheet metal type and harder to break into.

It is understood that the method of forming reinforced corners in flange material is not limited in its application to the housing shown, and that the scope of the invention, therefore, should not be determined by the above illustrative example, but by the appended claims.

What is claimed is:

1. The steps in the method of forming a housing for a coin collector which consists in bending a flange on a blank of sheet metal and bending a portion of the flanged blank at right angles to the rest of the portion and simultaneously working the metal in the flange at the point of bending to form therein a thickened reinforcing portion.

2. The steps in the method of forming a housing for a coin collector which consist in bending a flange in its own plane and forcing the excess metal at the inside of the bend toward the center of the flange and shaping it into a boss.

3. The steps in the method of forming a burglar-proof container which consists in bending a flange on a blank of malleable metal, heating the blank to render it readily workable, bending the blank into a sharp angle and working the excess metal at the bend in the flange into a boss by means of dies.

BRYCE O. TEMPLETON.