

C. E. GERBERICH.

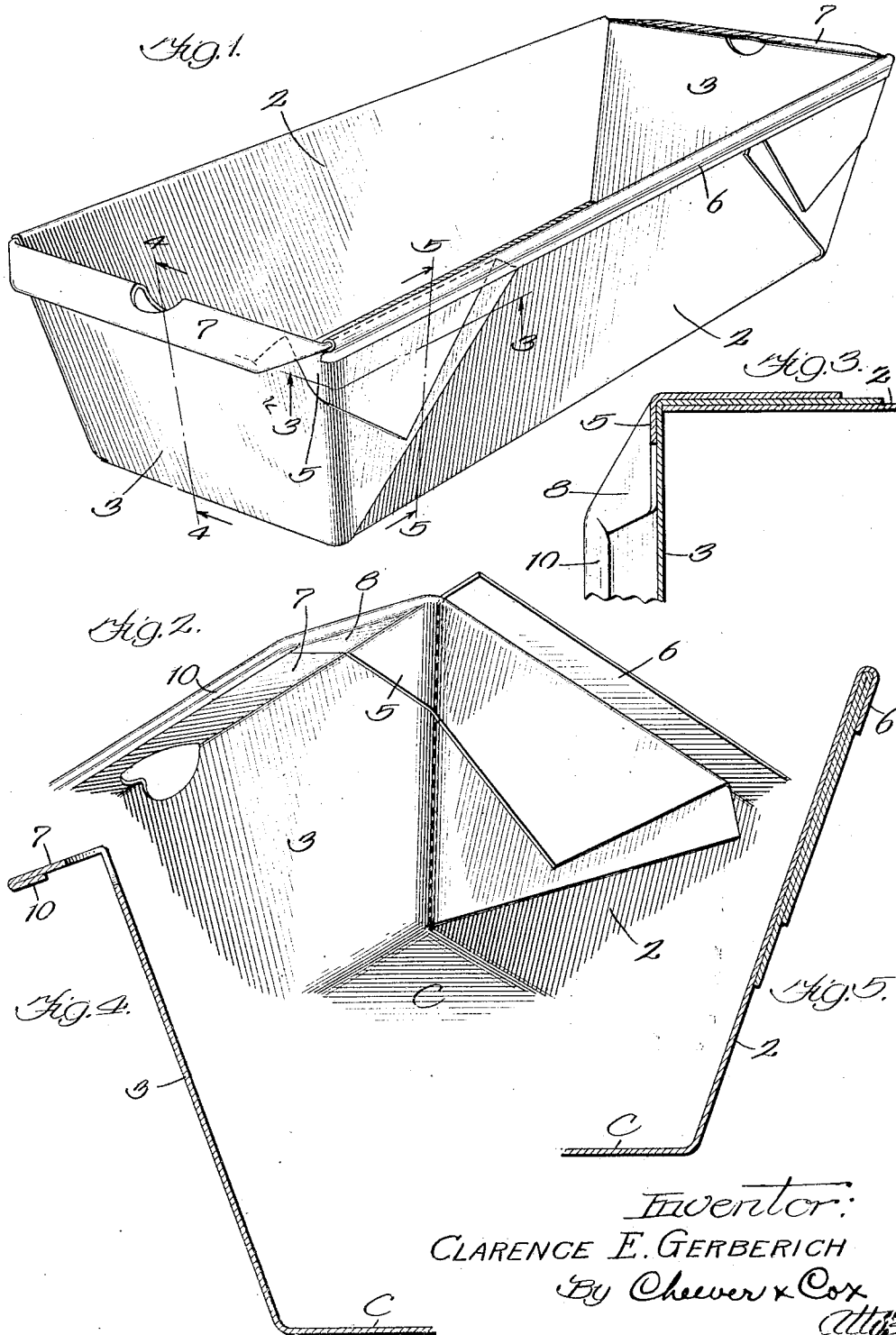
TRAY.

APPLICATION FILED OCT. 11, 1919.

Patented Mar. 8, 1921.

2 SHEETS—SHEET 1.

1,370,741.



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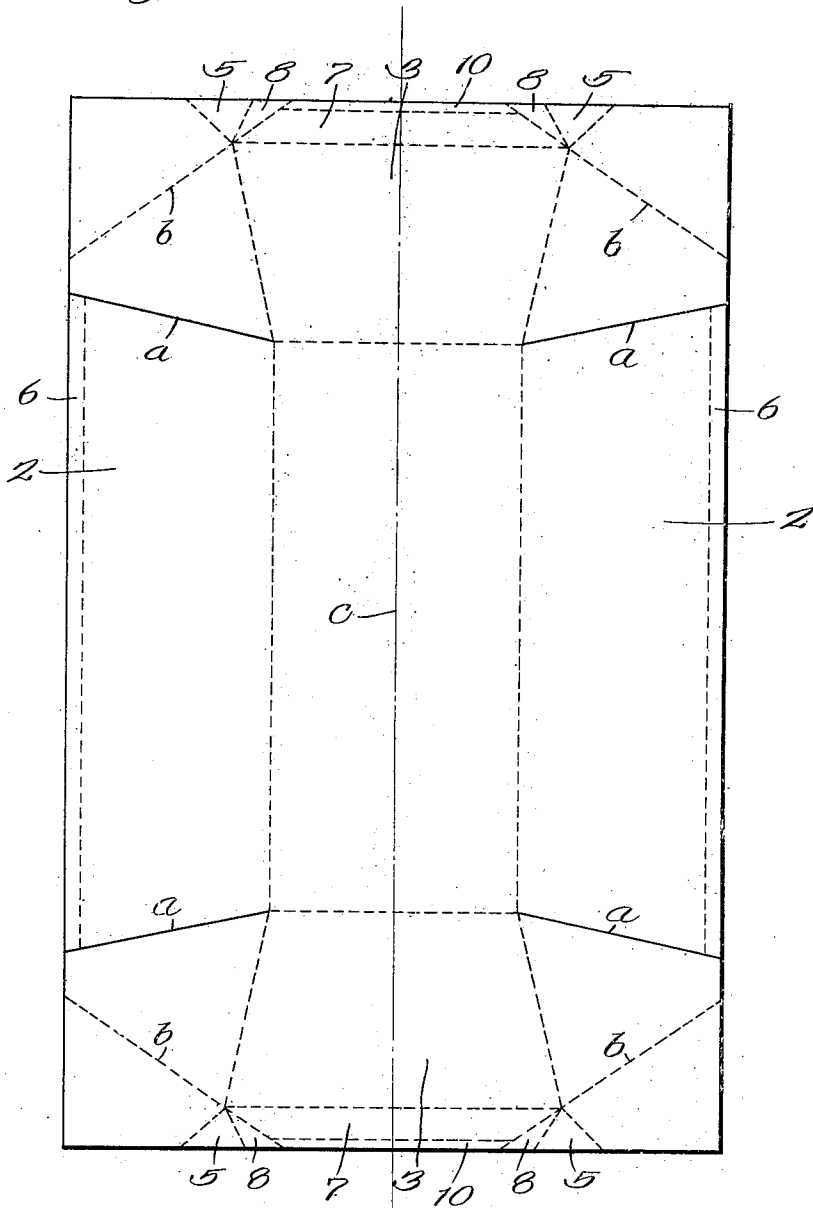
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2 SHEETS—SHEET 2.

Fig. 6.



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UNITED STATES PATENT OFFICE.

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TRAY.

1,370,741.

Specification of Letters Patent.

Patented Mar. 8, 1921.

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To all whom it may concern:

Be it known that I, CLARENCE E. GERBERICH, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a certain new and useful Improvement in Trays, of which the following is a specification.

My invention relates to trays, boxes and similar open top receptacles especially those formed of sheet metal and intended for use under industrial conditions where the devices will be subjected to considerable strain and rough usage. The object of my invention is to construct a tray in such manner that there will be no waste material or scrap and that each and every portion of the blank shall contribute in a highly efficient manner to the strength and durability of the article especially at the corners.

I accomplish my objects by the construction illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of the complete tray or pan.

Fig. 2 is a perspective view taken from beneath the tray, looking at one corner thereof and showing the lap at the top of the side previous to folding.

Fig. 3 is a sectional view on the line 3—3, Fig. 1.

Fig. 4 is a sectional view on the line 4—4, Fig. 1.

Fig. 5 is a sectional view on the line 5—5, Fig. 1, and

Fig. 6 is a face view of the blank.

Like numerals denote like parts throughout the several views.

The principal parts of the tray are the bottom 1, sides 2, 2 and ends 3, 3. The bottom is integral with the sides and with the ends, but the sides are severed from the ends by cuts indicated by the solid lines *a, a, a, a*, Fig. 6. These cuts run from the corners of the bottom section outward toward the edges of the side sections. They slant slightly toward the corners of the blank in order to give the finished tray a slight taper, although this is not essential, and the tray may have vertical sides without departing from the spirit of the invention. By referring to Fig. 6 it will be evident that when the blank is thus cut the end pieces will have extensions at each of their ends, said exten-

sions affording stock which may be folded in the particular manner which I will now describe.

While the precise order in which the folds are made may not be essential, it is possible and practical to proceed by first folding the corners of the blank along the dotted lines *b, b*. This makes a double thickness of metal which, as will later appear, comes both at the sides and at the ends of the tray and gives a corner bend of double thickness. Next the side pieces and end pieces are bent to upstanding position, after which the extensions of the end pieces are folded around the side pieces as clearly illustrated in Figs. 1 and 2. By bringing the lines *b, b* in far enough toward the median line *c* of the tray, the double thickness of metal will not all come at the sides of the tray, but part of it will bend around the corner and come at the ends of the tray, as illustrated at 5, Figs. 1 and 2. After the parts have thus been folded and preferably fastened by spot welding or riveting the upstanding margins 6 of the side pieces (see Fig. 2) will be folded outward and downward from the position shown in Fig. 2 to the position shown in Figs. 1 and 5. This interlocks the parts as well as presenting a finished appearance and stiffening the sides of the tray.

Handles are formed by bending outward, to an approximately horizontal position, the margins 7 of the end pieces. As the handles preferably extend from one side of the tray to the other there will be a portion 8 at each end which is of double thickness, due to the first back-folding along the lines *b, b*. The resulting advantage is that the handles are more rigid and raw corners at their ends are avoided. It is desirable also to form a half inch lap 10 at the outer edge of the handles for stiffening them and presenting a rounded edge.

Reference to Fig. 1 will show that the metal is used most advantageously and produces a tray having great strength and durability. Not only do the end pieces extend around to the sides of the tray thus making a continuous piece at the tray corners, but for a considerable portion of the vertical dimension of the tray, at the corner, the material is of double thickness. In fact, this double thickness comes at the upper portion

of the tray where the strain or leverage will naturally be the greatest. Hence the corners are heavily reinforced and the material is located where it will do the most good.

5 It will also be noted that the extensions which overlap the sides of the receptacle are of substantial length and pass closely beneath the marginal flange 6, thus affording a leverage for resisting outward swing of
10 the ends of the receptacle.

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

1. A sheet metal tray formed from a rectangular blank having single cuts running
15 from each corner of the bottom section outward to the top edge of the side piece, the cuts being taken at a slight angle to permit the sides of the tray to slant slightly outward, the end pieces consequently having extensions at their ends terminating in the
20 sides of the blank, the outer corners of the end pieces of the blank being folded back to lap against the outer surface of the end
25 piece, and in the finished tray, the extensions being folded around the corners to the sides of the tray, whereby outward pressure against the sides of the tray is resisted.

2. A structure as specified in claim 1 in
30 which the double thickness due to the back-folding at the corners of the blank not only comes at the sides of the tray but also to some extent at the ends whereby the corners of the tray have continuous metal of double
35 thickness rounding the corners for a portion of their height.

3. A sheet metal tray formed from a rectangular blank having single cuts running
40 from each corner of the bottom section outward to the top edge of the side piece, the cuts being taken at a slight angle to permit the sides of the tray to slant slightly outward, the end pieces consequently having

extensions at their ends terminating in the
sides of the blank, the outer corners of the
45 end pieces of the blank being folded back to lap against the outer surface of the end piece, and in the finished tray, the extensions being folded around the corners to the sides of
50 the tray, and covering a portion of the end of the tray, flanges projecting outward from the top of the end pieces to provide handles, said handles being integral with the end
pieces, and the double thickness of metal, due to the back folding of the corner of the
55 blank extending under a portion of each end of each handle.

4. A sheet metal tray or tote box having sides and ends which are integral with the
bottom, the sides having marginal flanges 6
60 and the ends having extensions of substantial depth which are of double thickness for such length that the double thickness comes both at the ends and at the sides, the said extensions passing for a substantial distance
65 along the sides of the box and in close proximity to the said marginal flange, whereby a leverage is provided for resisting outward swing of the box ends.

5. A one piece sheet metal tray including
70 a bottom, sides, and ends, extensions on ends folded back upon themselves on a line at an angle to any marginal edge of said tray to provide portions of double thickness extending
75 throughout a substantial part of the depth of said extensions, said extensions being folded in overlapping relation to the sides whereby the corners and portions of
80 both the sides and ends adjacent the corners are of double thickness, and means securing said sides and ends against relative outward movement.

In witness whereof I have hereunto subscribed my name.

CLARENCE E. GERBERICH.