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1,440,561

M. SINGEWALD.  
METHOD FOR MANUFACTURING BOXES OF SHEET METAL.  
FILED MAR. 23, 1922.

Fig. 1.

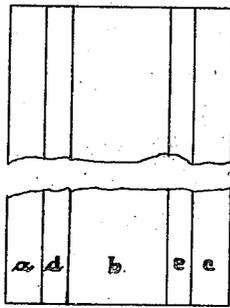


Fig. 5.

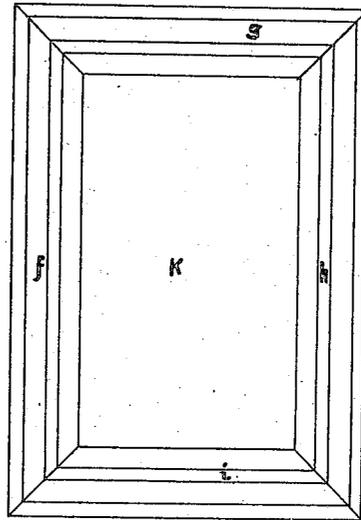
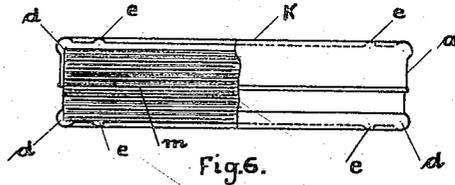
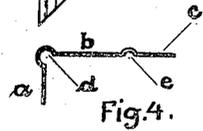
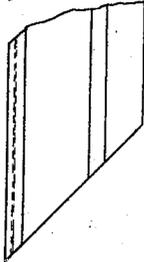
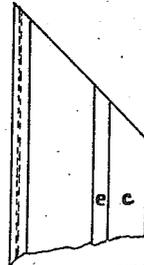


Fig. 3.



Max Singewald  
Inventor

In Presence of and Attestation  
[Signature]

# UNITED STATES PATENT OFFICE.

MAX SINGEWALD, OF ZUCKELHAUSEN, NEAR LEIPZIG, GERMANY.

METHOD FOR MANUFACTURING BOXES OF SHEET METAL.

Application filed March 23, 1922. Serial No. 546,086.

*To all whom it may concern:*

Be it known that I, MAX SINGEWALD, a citizen of the German Republic, residing at Zuckelhausen, near Leipzig, Germany, have invented certain new and useful Improvements in Methods for Manufacturing Boxes of Sheet Metal, of which the following is a specification.

At the manufacturing of boxes of sheet metal much waste is caused by the fact that the sheet metal is supplied in standard plates of determined size. This waste can be avoided if the box, or parts of the same, is made in the following manner:

A plate of sheet metal or waste sheet metal is cut into comparatively narrow strips so that there is no waste. Each of these strips is provided with at least two grooves.

In order that this invention may be clearly understood, I shall proceed to describe the same with reference to the accompanying drawing, wherein:—

Fig. 1 shows the strip of sheet metal in plan view.

Fig. 2 is a cross section of Fig. 1.

Fig. 3 shows in elevation the strip of sheet metal at the second stage of manufacture.

Fig. 4 is a cross section of Fig. 3.

Fig. 5 shows a frame composed of such strips of sheet metal.

Fig. 6 shows at the right hand side in elevation and at the left hand side in section a box of sheet metal with contents.

Referring to Figs. 1 and 2 the strip of sheet metal comprises three flat parts *a*, *b*, *c*, and two grooves *d*, *e*, separating these flat parts. The grooved sheet metal strips are bent along one of the grooves, for instance along groove *d*, in such a manner that the arm *a* is bent off at right angles to the arms *b*, *c* (Figs. 3 and 4). A sheet metal strip of this type possesses increased resistance owing to the grooves. The grooved and bent strips are then cut at a convenient angle,

as can be seen from Fig. 3 and joined with other strips, cut at the same angle, to form a frame. The several sheet metal strips *f*, *g*, *h*, *i* (Fig. 5) are preferably connected by welding. A plate *k* of sheet metal is fixed in this frame (preferably by welding). The article which is thus produced forms a lid or a bottom for a box, the bent off arm *a* serving as rim. The lid or bottom part of the box thus constructed ensures a great resistance of the box.

Sheet metal boxes of this type can be used for instance as protecting boxes for the transport of piles of sheet metal plates. Piles of for instance 112 tin plates of 530 by 760 mm., have a weight of 60 to 100 kilograms and they have been packed hitherto in wooden boxes. As at the unloading the boxes cannot be put down very softly but are thrown down by the carmen the wooden boxes split and splinter so that they cannot be used a second time. Fig. 6 shows a box of sheet metal designed for the transport of tin plates which is capable to withstand very considerable strain during the transport so that it can be used many times.

I claim:—

An improved method for manufacturing boxes of sheet metal consisting in cutting narrow strips of sheet metal, in producing at least two longitudinal grooves in said strips, in bending off at right angles each strip along one of the grooves, in cutting the ends of said strips at a desired angle, in joining four strips together by welding in order to form a frame and in covering said frame by a plate of sheet metal fixed by welding.

In testimony whereof I affix my signature in presence of two witnesses.

MAX SINGEWALD.

Witnesses:

RUDOLPH FRICKE,  
MARGARET MENZEL.