March 3, 1953 H. E. DICKERMAN 2,630,175

PROCESS OF MAKING SECURING MEANS

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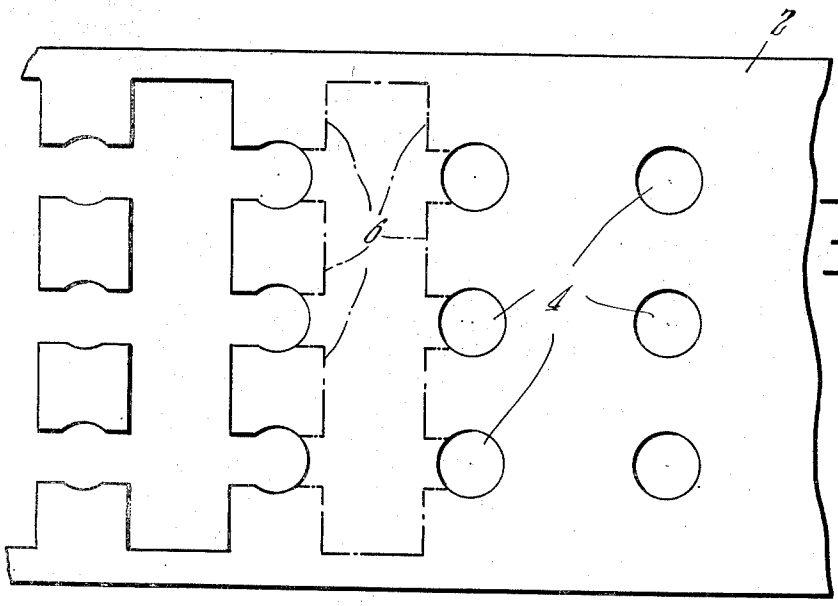


Fig. 1.

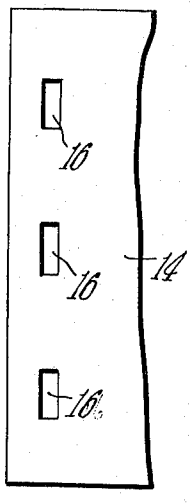


Fig. 5.

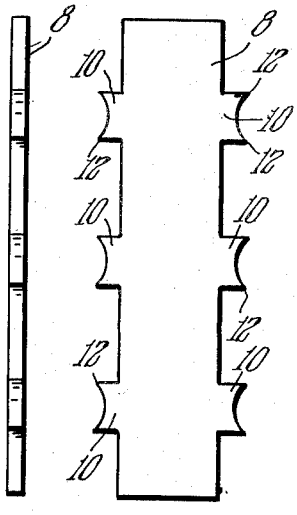


Fig. 3.

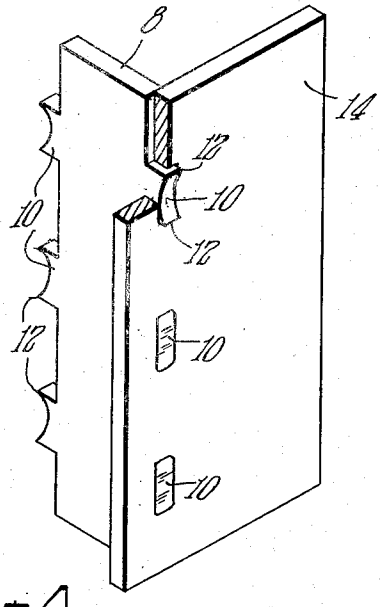


Fig. 4.

Fig. 2.

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PROCESS OF MAKING SECURING MEANS

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Application December 24, 1949, Serial No. 134,993

1 Claim. (Cl. 164—18)

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My invention relates to improvements in securing means and the method of producing the same.

The principal objects of my invention are directed to the provision of means for securing objects together and the method of producing the same.

The novel features of the invention are adapted for many and various uses where it is desired to secure together such objects as wall members.

As one example, the novel features of the invention are particularly adapted for securing the walls of cartridge clips or magazines together. Clips or magazines are usually formed from relatively thin sheet metal wall sections which are secured together but which tend to loosen and are objectionable.

According to this invention, a wall having the securing means is produced in a novel manner to the end that, when wall sections are secured together thereby they provide a strong rigid structure which is durable and not likely to become loosened.

According to the prior art, riveting tabs have been provided on sections which are inserted in elongated openings of other sections and then riveted. Since the tabs cannot when riveted protrude beyond the plane of the latter section, the tabs are necessarily relatively short and fail to secure the parts together satisfactorily. This is for the reason the opposite outer corners of the tabs are rounded so as to not properly fill up the slots when riveted. The rounded corners result from the inability of obtaining the sharp corners in the tab forming die parts and the wear thereof in forming the tabs.

According to special features of the invention, the tabs are formed by first providing a hole in sheet metal and subsequently forming a section from the sheet which has a tab projecting into the hole. The tab has a transverse width somewhat less than the diameter of the hole so that the tab is provided with opposite sharp corners or points. The tab, then, with the sharp pointed corners, as distinguished from rounded corners, is more securely riveted to another part having apertures in which the tabs are riveted.

With the foregoing and various other novel features and advantages and other objects of my invention as will become more apparent as the description proceeds, the invention consists in certain novel features of construction and in the combination and arrangement of parts as will be hereinafter more particularly pointed out in the claim hereunto annexed and more fully described

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and referred to in connection with the accompanying drawings wherein:

Fig. 1 is a plan view of a portion of a strip of metal to explain the invention;

Fig. 2 is a plan view of a wall section punched or stamped from the strip of metal;

Fig. 3 is an edge view of the section shown in Fig. 2;

Fig. 4 is a perspective view of a jointure formed by the novel features of the invention; and

Fig. 5 is a partial plan view of a wall section.

Referring now to the drawings more in detail, the invention will be fully described.

A strip of relatively thin metal is shown at 2 in Fig. 1 from which a wall section is to be formed according to the invention.

As a first step in punching or blanking operations by means of a punch press or the like, the strip 2 is provided with a row of transversely spaced holes 4, as shown.

Successive rows of holes, spaced a desired predetermined distance apart, are provided by advancing the strip 2 to the punching mechanism, so as to provide a continuous method.

Subsequently the strip is positioned relative to blanking dies to locate a row of holes in a predetermined manner relative to a wall section to be formed and indicated by the dot-dash lines 6, the section so formed being shown at 8 in Figs. 2 and 3.

The arrangement of the mechanism and its operation will be such as to produce successive sections 8 having a plurality of riveting tabs 10 on opposite longitudinal edges thereof.

Obviously the section 8 may be of any dimension and may be provided with as many tabs such as 10 as may be desired on either one or both of its edges. The form of the section 8 shown is for illustrative purposes only, and the section 8 may be a part integral with other parts.

According to the invention, the opposite edges of the tabs are straight and are clean cut. Their outer ends are concaved as shown so as to provide sharp points 12 which is highly desirable for riveting. Preferably the width of the tabs 10 will be somewhat less than the diameter of the holes 4 to provide the sharp points 12.

Were a section having tabs formed by a single operation, it would be difficult if not impossible to provide the sharp points desired. Instead the points would be rounded to some extent and thus make a satisfactory riveting operation practically impossible.

By first providing the holes such as 4 and then forming the sections as described, the points of

the tabs are substantially needle-point-sharp, as is desired.

The diameter of the holes 4 may be of such relation to the transverse width of the riveting tabs as may be desired, the object being to provide tabs having clean opposite edges and sharp points.

Sections formed after the manner described are assembled with and secured to other sections which are provided with slots adapted to receive the riveting tabs.

Such a section is shown at 14 in Fig. 5 in which a plurality of tab receiving slots 16 are provided.

The tabs 10 of section 8 are inserted in the slots 16 of the section 14 and are riveted by any suitable mechanism, as indicated in Fig. 4.

The slots 16 will be proportioned with reference to the tabs so that there will be no appreciable play therebetween.

The tabs will be of such length that the sharp points thereof will protrude slightly beyond the slotted member 14 sufficiently for a strong and rigid riveted connection.

The points being sharp rather than slightly rounded as is ordinarily the case, the riveting operation causes the ends of the tabs to rigidly engage the ends of the slots while, of course, the other parts of the tabs engage adjacent parts of the slots, thus securing the members 8 and 14 together.

By first providing the holes and by subsequently forming the riveting tabs, the sharp points are assured and thereby the riveted together members are more securely and rigidly associated than has been heretofore possible with similar securing means.

While not shown, it may in some cases be desirable to provide the tabs with relatively converging edges or sides and the same may be accomplished according to the invention and at the same time provide the desired and necessary sharp points for more secure riveting.

While for illustrative purposes the holes are formed prior to the tabs it will in some cases be desired to first form the tabs and then form the holes to provide tabs having sharp points.

The invention may be embodied in other specific forms without departing from the essential characteristics thereof. Hence, the present embodiments are therefore to be considered in all respects merely as being illustrative and not as being restrictive, the scope of the invention being indicated by the appended claim rather than by the foregoing description, and all modifications and variations as fall within the meaning and purview and range of equivalency of the appended claim are therefore intended to be embraced therein.

What it is desired to claim and secure by Letters Patent of the United States is:

The method of forming from sheet metal wall members having spaced tabs extending outwardly from opposite sides and provided with concaved ends terminating in sharp riveting corners at outer opposite sides thereof, piercing sheet metal with horizontally spaced vertical rows of relatively spaced round holes to provide concave outer end portions for riveting tabs to be formed at opposite sides of a wall member, punching said sheet metal between adjacent vertical rows of holes to form an elongated wall member of relatively less transverse width than the distance between adjacent sides of the holes of said rows and having tabs extending from opposite longitudinal sides into said holes, said tabs having substantially parallel upper and lower edges and being no greater in transverse width than the diameter of said holes whereby said edges intersect said concave outer end portions and provide sharp riveting points at upper and lower outer corners of the tabs.

HUBERT E. DICKERMAN.

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