

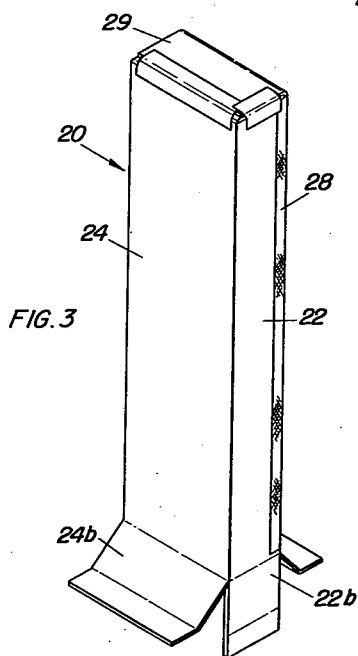
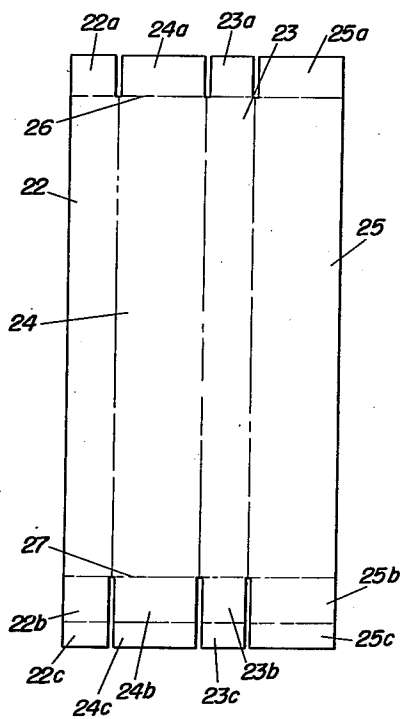
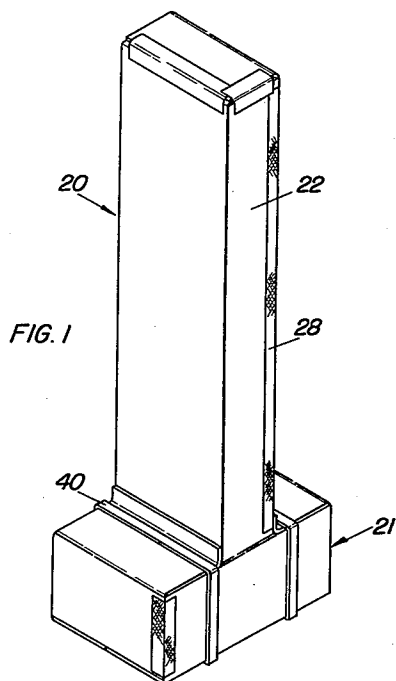
July 15, 1952

C. S. LEHMAN
CARTON FOR HANDLED TOOLS

2,603,350

Filed May 29, 1951

4 Sheets-Sheet 1



INVENTOR.
Carl S. Lehman

BY
Carl S. Lehman
ATTORNEYS.

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4 Sheets-Sheet 2

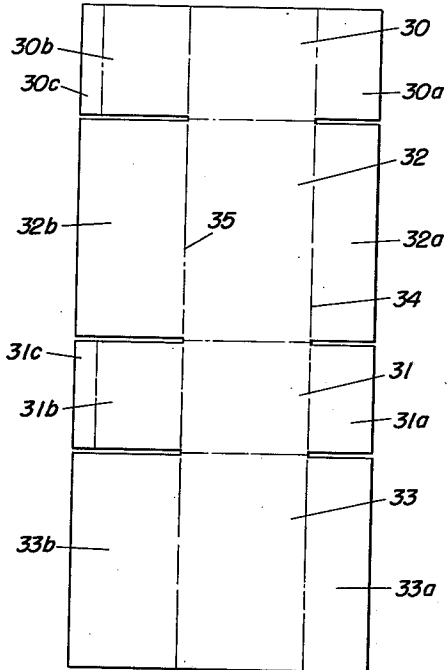


FIG. 4

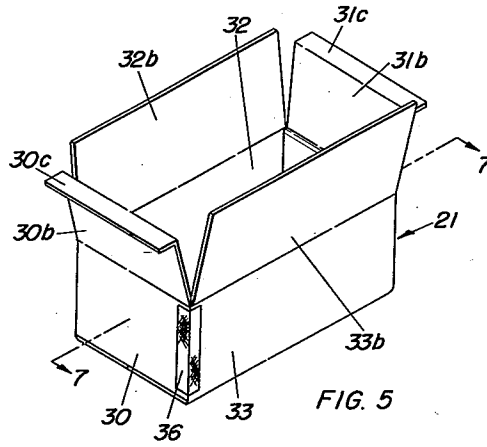


FIG. 5

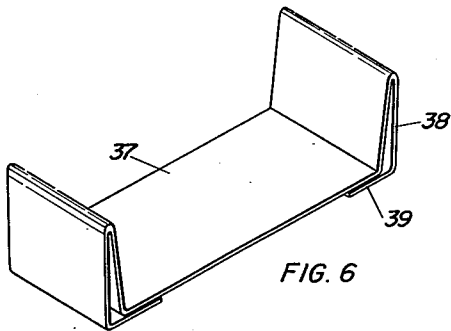


FIG. 6

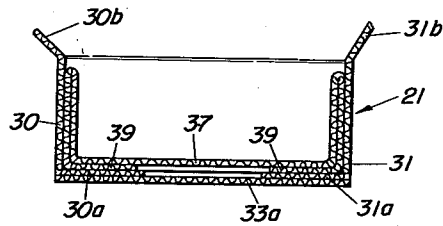


FIG. 7

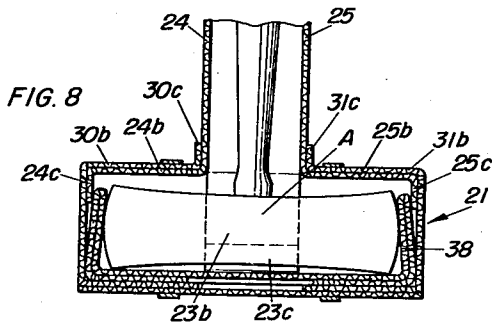


FIG. 8

INVENTOR.

Carl S. Lehman

BY *Corbett, McHenry & Miller*
ATTORNEYS.

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4 Sheets-Sheet 3

FIG. 9

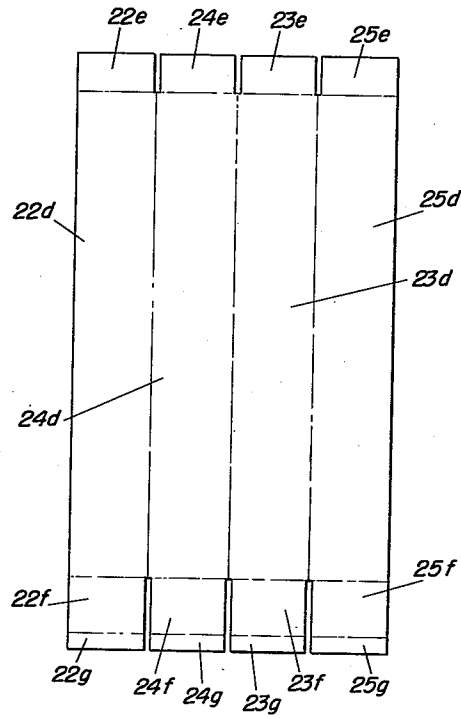
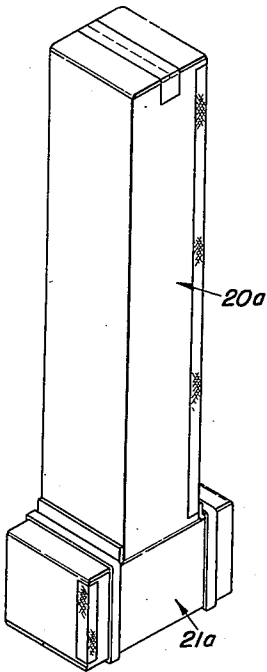


FIG. 10

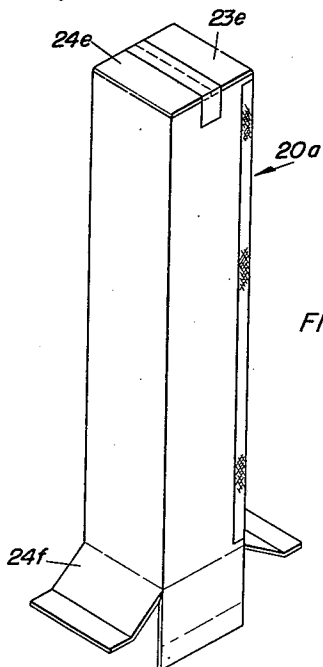


FIG. 11

INVENTOR.
Carl S. Lehman

BY
Carbutt, Moberg & Miller
ATTORNEYS.

UNITED STATES PATENT OFFICE

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CARTON FOR HANDLED TOOLS

Carl S. Lehman, Baltimore, Ohio, assignor to The
Fairfield Paper and Container Company, Balti-
more, Ohio, a corporation of Ohio

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5 Claims. (Cl. 206—65)

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My invention relates to a carton for handled tools. It has to do, more particularly, with a carton formed of corrugated board, paperboard or similar material, which is suitable for packaging tools of the type which include a long handle and a working head substantially at right angles to the handle.

Recently, instead of shipping a bunch of handles and a number of tool heads separately, it has become the practice to ship the completely assembled tool, that is, the handle with the head thereon, in a carton, the carton usually being designed to hold several of the tools. Although this practice has been found much more satisfactory since the dealer and user receives the completely assembled tools, there have been some deficiencies in the cartons which have been provided in the prior art for packaging the tools.

It is the main object of my invention to overcome the deficiencies in prior art cartons which have been used for packaging tools of the type indicated. This is accomplished by having the carton so designed that there will be no danger of the tool head breaking or cutting the portion of the carton which encloses it, even though the head is extremely sharp, for example, an axe head. Also, my carton is so designed that it can be assembled easily when the tools are being enclosed therein. Furthermore, it is so designed that all of the walls of the head-receiving portion of the carton are extremely rugged and will not sag or bend inwardly.

Various other objects and advantages will be apparent hereinafter.

In describing my carton, I will refer to it as being useful for packaging axes but it is to be understood that it may be used for packaging other tools which include a handle with a head substantially at right angles thereto.

The preferred embodiment of my invention is illustrated in the accompanying drawings wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a perspective view of a complete carton, according to my invention, which is especially designed for packaging axes of the double bit type.

Figure 2 is a plan view of the blank which is used for forming the upper or handle-receiving section of the carton.

Figure 3 is a perspective view showing the handle-receiving section of the carton set-up but having its lower end open.

Figure 4 is a plan view of the blank used in forming the lower or head-receiving section of the carton.

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Figure 5 is a perspective view showing the head-receiving section set-up with its upper side open.

Figure 6 is a perspective view showing a liner which is used in the carton section of Figure 5.

Figure 7 is a vertical sectional view taken on line 7—7 of Figure 5 showing the liner in position within the carton section.

Figure 8 is a vertical sectional view showing how the lower end of the handle-receiving section fits into the upper side of the head-receiving section and illustrating double bit axes packaged in the complete carton.

Figure 9 is a perspective view of a carton similar to that shown in Figure 1 but being designed to package single bit axes.

Figure 10 is a plan view of the blank used for forming the handle-receiving section of the carton of Figure 9.

Figure 11 is a perspective view of the upper section of the carton set-up but with its lower end open.

Figure 12 is a plan view of the blank used for forming the head-receiving section of this carton.

Figure 13 is a perspective view of the head-receiving section of this carton set-up.

Figure 14 is a perspective view of a liner used in the head-receiving section of this carton.

Figure 15 is a vertical sectional view taken along line 15—15 of Figure 13 showing the liner in position in the head-receiving section of this carton.

Figure 16 is a vertical sectional view showing the handle-receiving section of this carton fitted into the head-receiving section with a plurality of single bit axes positioned therein.

With reference to the drawings, in Figure 1, I have illustrated my carton as including an up-standing handle-receiving section 20 and a lower head-receiving section 21. As will later appear, the lower end of the section 20 telescopes within the lower section 21. Also, as will later appear, by a suitable overlapping of flaps of the upper section and the lower section, these two sections are retained together.

The blank for the upper section is shown in Figure 2. It is suitably scored and slit to form the carton section 20 which is of rectangular cross-section and is of considerable height, depending upon the length of the tool handles. The blank includes the narrow side walls 22 and 23 and the wider side walls 24 and 25. The width of walls 22 and 23 will depend on the thickness of the handles and that of the walls 24 and 25 will depend on the number of handles to be positioned in section 20. On the upper end of the

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blank, the simple flaps 22a, 23a, 24a and 25a are formed and are hinged to the respective walls 22, 23, 24 and 25 along a hinge line 26. Similarly, on the lower end of the blank, the flaps 22b, 23b, 24b and 25b are formed and are hinged to the respective walls 22, 23, 24 and 25 along a hinge line 27. Each of these flaps 22b, 23b, 24b and 25b is scored intermediate its length to form the outer tab portions 22c, 23c, 24c and 25c.

In setting up the handle-receiving section 20, as shown in Figure 3, the blank is folded into elongated rectangular form and adhesive strip 28 is applied to the meeting edges of the wall 22 and the wall 25. The flaps 22a and 23a at the upper end are folded inwardly and their inner ends almost meet. Then the flaps 24a and 25a are folded inwardly into overlapping relationship with each other and with the flaps 22a and 23a. Thus, the upper end of the section 20 is now closed. Adhesive strips 29 may be applied to keep it closed. The lower end of the section 20 remains open, as shown in Figure 3.

The head-receiving section 21 is formed from the blank shown in Figure 4. This blank is properly scored and slit to form the carton section 21 which is of rectangular cross-section, having a length considerably greater than the narrower cross-sectional dimension of the carton section 20 and having a width practically identical with the wider cross-sectional dimension of the carton section 20. It will be noted that this section 21 is also very shallow. The dimensions of this section will depend upon the shape and dimensions of the tool heads to be positioned therein. This blank includes the end walls 30 and 31 and the side walls 32 and 33. On the edge which will be the lower edge of section 21, the simple flaps 30a, 31a, 32a and 33a are formed on the respective walls 30, 31, 32 and 33 which are hinged thereto along the hinge line 34. On the opposite edge of the blank, the flaps 30b, 31b, 32b and 33b are formed on the respective walls 30, 31, 32 and 33 and are hinged thereto along the line 35. Each of the flaps 30b and 31b is provided with a score line adjacent its outer end to form the respective tabs 30c and 31c.

When the section 21 is set-up, it is folded into rectangular form, as shown in Figure 5, and is retained in such form by an adhesive strip 36 applied to one corner at the meeting edges of the walls 30 and 33. The bottom flaps 30a and 31a are then folded upwardly and inwardly and then the flaps 32a and 33a are folded upwardly and inwardly, these overlapping flaps being glued or stitched together to form a solid bottom. The two opposed long flaps 32b and 33b are then folded inwardly and downwardly into overlapping relationship to the respective side walls 32 and 33 their free edges just contacting the bottom. Thus, the long side walls will be of double thickness.

To provide further wall thicknesses on the bottom of section 21 and on the end walls thereof, a liner of the type shown in Figure 6 is used. This liner consists of a long strip properly scored and folded to form a bottom wall 37, upstanding double end flaps 38, and inwardly extending flanges 39 which extend over the bottom 37. When this liner is positioned in the section 21, as shown in Figure 7, an additional bottom 37 is provided and is spaced from the main bottom flaps 32a and 33a by means of the inwardly extending flanges 39 which are superimposed on the bottom flaps 30a and 31a. Thus, the bottom at its ends will have four

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thicknesses of material. The ends of the section 21 will have three thicknesses. The end flaps 30b and 31b of the section 21 will not yet be folded inwardly, as shown in Figure 7.

To assemble the two sections 20 and 21 with the tools therein, the upper section 20 is telescoped within the lower section 21, as shown in Figure 8. Assuming that a plurality of double bit axes A are to be packaged, as shown in Figure 8, the heads thereof are first positioned in side-by-side relationship in the lower section 21, it being understood that the liner is first positioned therein. The cutting edges of the axes will contact with the innermost flaps 38 of the liner at each end, it being noted that the three thicknesses of end wall are provided to prevent the cutting edges from cutting through the ends of the carton section 21. The sharp end points of the heads will rest on the bottom wall 37 of the liner, the four thicknesses of material resisting the penetrating action of these points. With the flaps 30b and 31b of section 21 still open, the upper section 20 is slipped downwardly over the handles. The flaps 22b and 23b are guided within the lower section 21 in contact with the vertically disposed flaps 32b and 33b. The tabs 24c and 25c of the respective flaps 24b and 25b are locking tabs and the flaps extend outwardly sufficiently to permit these tabs to be tucked between the upstanding flaps 38 of the liner and the respective end walls 30 and 31 of section 21, as shown in Figure 8, and will contact with the top edges of the tool heads. Then the end flaps 30b and 31b on the lower section 21 are folded inwardly over the respective flaps 24b and 25b of the upper section 20. It will be noted that this will provide two layers of material above the edges of the tool heads. The tabs 30c and 31c on the inner edges of the flaps 30b and 31b of lower section 21 will be turned upwardly and will bear against the faces of the side walls 24 and 25 of the handle-receiving section 20. These flaps 30c and 31c will provide transverse reinforcement across the top walls of section 21 formed by flaps 30b and 31b to prevent sagging thereof.

To keep the two carton sections in assembled relationship with the tools therein, wires or bands 40 are provided around the ends of the lower section 21 adjacent the upstanding tabs 30c and 31c which contact the upstanding walls 24 and 25 of the upper section 20. This will keep the flaps 30b and 31b down in position, as shown in Figure 8, in overlapping relationship to the flaps 24b and 25b so as to cause the tabs 24c and 25c to remain in locking position. Thus, the two carton sections 20 and 21 will be effectively held together and in enclosing relationship to the axes therein. Adjacent any of the sharp edges or corners of the axe heads, several wall thicknesses are provided as explained above.

In Figures 9 to 16, inclusive, I have illustrated a carton which is very similar to that disclosed in Figures 1 to 8, inclusive, but which is designed to contain axes of the single bit type rather than the double bit type.

As shown in Figure 9, the complete carton is practically identical with that shown in Figure 1. It consists of the upper handle-receiving section 20a and the lower head-receiving section 21a. However, the upper section 20a, in this instance, is practically square in cross-section and the lower section 21a has a cross-section which is

shorter than that of the corresponding section of Figure 1.

The blank shown in Figure 10 is used in forming the section 20a and it will be noted that the walls 22d, 23d, 24d and 25d are of uniform width. The upper flaps 22e, 23e, 24e and 25e are uniform. The lower flaps 22f, 23f, 24f and 25f are uniform and are provided with the outer tabs 22g, 23g, 24g and 25g. This upper section is set-up in the same manner as the section 20, as shown in Figure 11, except that the opposed top flaps merely meet instead of being disposed in overlapping relationship to each other.

The lower section 21a is made exactly as before with the exception that the blank of Figure 12 is so formed as to make the side walls 32d and 33d shorter. The end walls 30d and 31d are of the same width as before. The flaps 30e, 31e, 32e and 33e are provided at the bottom and the flaps 30f, 31f, 32f and 33f are provided at the top. The flaps 30f and 31f are provided with the outer tabs 30g and 31g. The section 21a is set up in exactly the same manner as section 21 to have double side walls.

The liner of Figure 14 is the same as that shown in Figure 6 except that the bottom 37a is shorter. It is provided with the upstanding double end flap portions 38a, as before, and the inwardly directed flanges 39a. As shown in Figure 15, the liner will be placed in the section 21a and will function exactly as in the first described carton.

In packing the single bit axes AA in the carton, as shown in Figure 16, the same procedure is followed as with the first carton except that the cutting edges of the head are alternated. Because of the shape of these heads, the section 21a may be shorter. However, because the handles will be offset relative to each other, due to alternating the heads, as shown in Figure 16, the upper section 20a must be made wider in a direction corresponding to that of the length of the section 21a. Here again the opposed sharp edges of the axes are protected by the triple thickness of end wall, as shown in Figure 16. The bottom includes the liner bottom 37a spaced from the flaps 32e and 32f and at its ends it includes the liner flanges 39a and the flaps 30e and 31e. The top wall of lower section 21a will include the outwardly extending flaps 30f and 31f of the upper section 20a which extend under the inwardly extending flaps 24f and 25f of the lower section 21a. Tabs 24g and 25g serve as locking tabs, as before, and extend down between liner flaps 38a and end walls 30e and 31e of section 21a. Tabs 30g and 31g serve as reinforcing means as before. Thus, this carton structure will function exactly as the previously described carton.

It will be apparent from the above description that I have provided a carton which is so designed that complete protection will be provided for the heads and the handles. Furthermore, it will be apparent that my carton is extremely rugged especially in the lower section where needed most since the heads of the tools are disposed therein. The two carton sections may be quickly and easily assembled in enclosing relationship to the tools.

Having thus described my invention, what I claim is:

1. A carton for packaging handled tools having

a handle and a head substantially at right angles thereto comprising a handle-receiving box section and a head-receiving box section, one end of the handle-receiving section being telescoped within the head-receiving section and being substantially at right angles thereto, said handle-receiving section having flaps extending outwardly over the inner edges of the tool heads, said head-receiving section having flaps which extend inwardly over the flaps of the handle-receiving section, said last-named flaps having upstanding reinforcing tabs at their inner edges which contact with the adjacent walls of said handle-receiving section, said head-receiving section also having flaps which are at right angles to said inwardly extending flaps and which fold downwardly over the corresponding walls of such section to provide walls of double thickness, said handle-receiving section also having additional flaps which are disposed at right angles to said outwardly extending flaps thereon, said additional flaps being adapted to extend downwardly over the downwardly folded flaps of said head-receiving section, said head-receiving section being provided with a liner, said liner comprising a bottom wall, upstanding flaps of double thickness adapted to be disposed in contact with the adjacent walls of said section, and inwardly extending flanges which extend from said flaps below said bottom wall.

2. A carton according to claim 1 wherein the outwardly extending flaps on said handle-receiving section have tabs on their outer ends, said flaps extending outwardly to such an extent that said tabs can be turned downwardly and be slipped between the upstanding flaps of said liner and the adjacent walls of said head-receiving section.

3. A carton according to claim 2 wherein the handle-receiving section is of substantially rectangular cross-section and the head-receiving section is of substantially rectangular cross-section but of larger area, one cross-sectional dimension of the handle-receiving section being slightly less than the corresponding cross-sectional dimension of the head-receiving section so that it can telescope therein.

4. A carton according to claim 3 wherein the upper end of said handle-receiving section is completely closed.

5. A carton according to claim 4 wherein fastening bands are passed around the ends of the head-receiving section to hold said overlapping inwardly extending flaps on said head-receiving section and outwardly extending flaps on said handle-receiving section in superimposed relationship.

CARL S. LEHMAN.

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