

DIVIDER PANEL FOR STACKED CANS

This invention relates to divider pads for use between two or more levels of cans stacked one row above the other. Such cans can contain a variety of materials or articles such as beverages or food. Multipacks of cans are quite common in which two levels of cans are provided with a divider pad between the levels so as to prevent can to can contact. A paperboard carton then encloses all the cans.

According to the present invention there is provided a paperboard divider arrangement comprising a number of divider pads defining seat areas, each of which in use is disposed between an upper can and a lower can stacked one on top of the other, said divider pads being joined together end to end.

Preferably each divider pad is separated from the next by lines of weakening such as perforations.

In one embodiment the arrangement comprises an independent strip comprising a number of divider pads for accommodating a predetermined number of cans along its length. Conveniently the predetermined number is divisible by 2, 3 and 4.

In another arrangement a number of said pads are attached to each other end to end so as to be foldable in a concertina fashion and in another said number of divider pads are provided on a roll.

A preferred feature is that the divider pads provide seats for accommodating two or more rows of cans.

Embodiments of the present invention will now be described in more detail. The description makes reference to the accompanying drawings in which:

Figure 1 is a plan view of a paperboard divider arrangement in accordance with the present invention,

Figure 2 is a plan view of a second embodiment

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of paperboard divider arrangement in accordance with the present invention, and

Figure 3 is a plan view of a third embodiment of paperboard divider arrangement in accordance with the present invention.

In figure 1 there is shown a divider pad arrangement in the form of a strip 10 for disposition between two layers of cans (not shown). The strip 10 provides twenty four seats 11, each of which is in use positioned between an upper can and a lower can. The seats 11 substantially prevent metal to metal contact in the region of the adjoining can tops and bases. The operation of the actual form of the seats 11 is not relevant to the present invention and so is not discussed further. It will be appreciated that other forms of seat can be incorporated which in the most basic form could be constituted by simple holes in the strip. The seats are not necessarily restricted to circular section cans.

When divider pads are used they are stacked individually in a magazine adjacent the packaging machine. They are taken individually and placed in position on a first layer of cans before the upper layer of cans is placed on top. The twin layer arrangement of cans then proceeds and is wrapped in a carton to form a complete package. The packaging machines run at great speed and the divider pads have to be positioned accurately on to the lower layer of cans. If it is desired to change the size of the multipack from two layers of 2 X 3 cans to two layers of 2 X 4 cans then the stack of divider pads has to be replaced with those of a different size, the magazine has to be adjusted to fit the larger divider pads and adjustments have to be made to the machine itself so that the larger pads are taken from the magazine and

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placed accurately. These steps are of course time consuming.

5 In figure 1, the strip 10 comprises four divider pads 12 each having 2 X 3 seats 11. The pads 12 are joined end to end by lines of weakening 13, such as perforations. In figure 2 the strip 10 comprises three divider pads 12 each having 2 X 4 seats 11. Again the pads 12 are joined end to end by lines of weakening 13. In figure 3 the strip 10 comprises six divider pads each having 2 X 2 seats 11. Again the pads 12 are joined end to end by lines of weakening 13.

15 With the strips 10 shown in figures 1 to 3 it is not necessary to change the magazine size when changing multipack size nor is it necessary to adjust the machine itself with regard to placing the pads because all the strips 10 are the same length. All that is required is to place the different configuration of strip in the magazine.

20 The pads are normally placed on the lower cans in an unpitched area of the packaging machine (which may subsequently be unpitched or pitched) where the cans are already in two straight rows. By using the strip 10 which is twelve cans long regardless of the size of multipack being made, the mechanism for taking and placing the divider pads can be made to operate at a fixed lower speed on a fixed size of divider pad strip 10. It will be appreciated that the lines of weakening will need to be broken but this will occur automatically in a pitched carton application mechanism and would be a simple procedure in an unpitched machine. Indeed, it has been found that the nesting of the upper can in the top of the lower can may result in sufficient movement of the pad adjacent the lines of weakening in order to separate the pads.

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In known arrangements, the placing mechanism has to operate much faster in order to cope with a similar throughput of cans. Clearly this is disadvantageous and reliability can be a problem with a fast operating, various speed mechanism.

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It will be appreciated that, the strip 10 could be readily adapted for multipacks of other sizes having different numbers of rows. For example single row divider pads, triple row divider pads etc. are possible. Although the present arrangements are based on a strip 10 which is twelve cans long others will be possible. Twelve is, however, convenient due to its divisibility by a range of numbers, i.e. 2, 3, 4, 6.

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The invention also could be applied to continuous forms of divider pads joined by lines of weakening, such as on a roll or stacked in concertina fashion. Again the placing equipment can run slower and at a constant speed compared to existing arrangements.

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1. A paperboard divider arrangement comprising a number of divider pads defining seat areas, each of which in use is disposed between an upper can and a lower can stacked one on top of the other, said divider pads being joined together end to end.
2. A divider arrangement as claimed in claim 1 wherein each divider pad is separated from the next by lines of weakening such as perforations.
3. A divider arrangement as claimed in claim 1 or claim 2 wherein the arrangement comprises an independent strip comprising a number of divider pads for accommodating a predetermined number of cans along its length.
4. A divider arrangement as claimed in claim 3 wherein the predetermined number is divisible by 2, 3 and 4.
5. A divider arrangement as claimed in claim 1 or claim 2 wherein a number of said pads are attached to each other end to end so as to be foldable in a concertina fashion.
6. A divider arrangement as claimed in claim 1 or claim 2 wherein said number of divider pads are provided on a roll.
7. A divider arrangement as claimed in any one of claims 1 to 6 wherein the divider pads provide seats for accommodating two or more rows of cans.

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