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SEPARATOR FOR CARTRIDGE CARTONS

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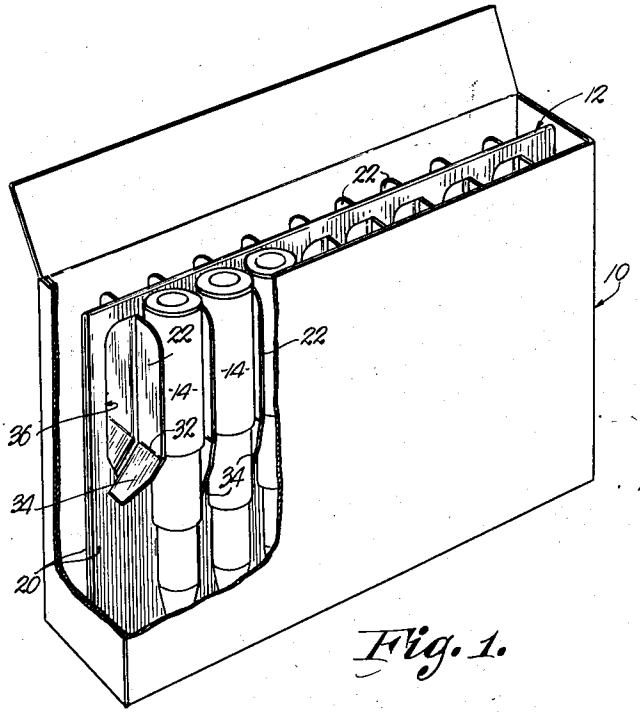


Fig. 1.

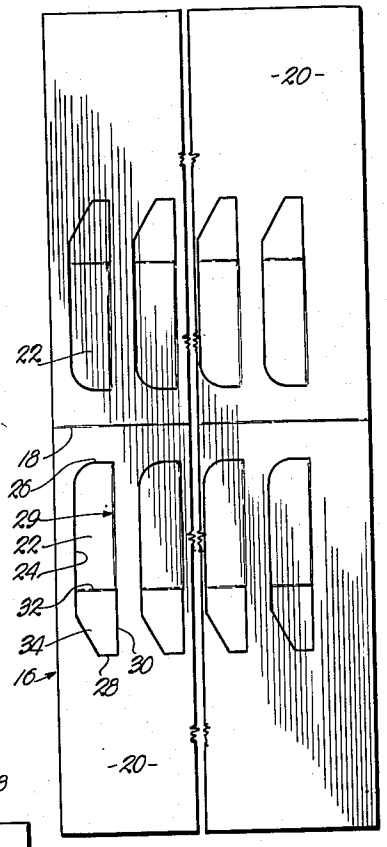


Fig. 2.

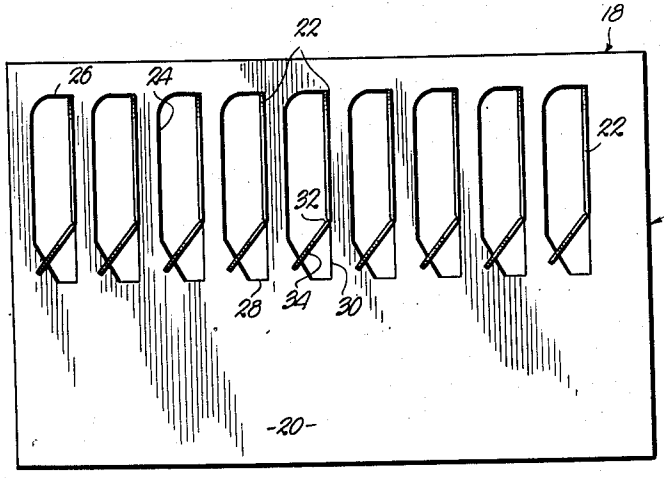


Fig. 3.

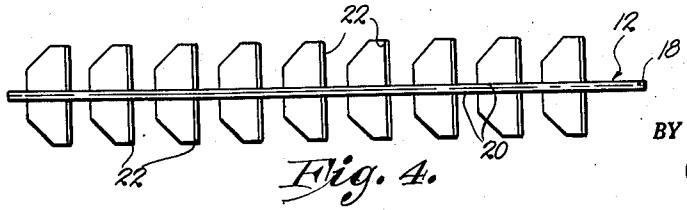


Fig. 4.

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SEPARATOR FOR CARTRIDGE CARTONS

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1 Claim. (Cl. 217—28)

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This invention relates to packing cartons for cartridges and particularly the separator for the cartridges contained within the enclosure or box portion of the carton, and the primary aim is to provide a separator for cartridge cartons that will be more effective than those heretofore employed in holding the cartridges in place and separated from each other within the carton, adequate to sustain the parts of the separator in place prior to and during the introduction of the cartridges during the packaging operation, and self-adjusting in response to force exerted on parts of the separator as the cartridges are moved into the carton.

Other important aims of this invention are to provide a separator for cartridge cartons that is simple in form and construction, relatively inexpensive to produce, and capable of being made ready for placement within the carton by machines that are capable of high speed production and which do not embody unusually complicated parts likely to become maladjusted or out of order during the production of the separator.

An even further object of this invention is to provide a separator for cartridge cartons that will maintain its "set up" condition during transportation from point of manufacture to point of use, and that has positive yet yieldable elements for maintaining the plurality of cartridge separating tabs in position to receive the cartridges therebetween, which yieldable elements form a part of the said separating tabs after they have served their purpose as just above set down and after the cartridges are packaged.

Details of construction respecting the manner of forming the tabs and retaining ears thereon constitute important objects of the invention and the same will become apparent during the course of the following specification, referring to the accompanying drawing, wherein:

Figure 1 is a perspective view of a cartridge carton equipped with a separator made in accordance with my invention;

Fig. 2 is a fragmentary, stretch-out view of the blank from which the separator is produced;

Fig. 3 is a side elevational view of the separator, showing the same entirely removed from association with the box portion of the carton; and

Fig. 4 is a normally top plan view of the separator.

The box portion of the carton assembly shown in Fig. 1 and broadly designated by the numeral 10 is conventional and standard in type and includes an open top through which the separator 12 and cartridges 14 are moved when the separator is introduced into the box portion 10 and when cartridges 14 are thereafter packaged between the hereinafter defined elements of separator 12.

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The separator is composd of an initially flat body of foldable material 16 bent back upon itself along a line of fold 18 to present a pair of superimposed sheets 20. Each sheet 20 is provided with a plurality of parallel, laterally extending, elongated tabs 22 cut from the material of each sheet 20 along one of their longitudinal edges 24 and both ends 26 and 28, respectively, thereof. The opposite longitudinal edge of each tab 22 is formed by a line of fold 29 and a line of cut 30 in continuation of the straight line of fold 29, which line of cut 30 extends inwardly from the ends 28 of the tabs 22. Tabs 22 of the sheets 20 are in opposed relation, as shown in Figs. 1 and 4, and extend laterally outwardly from their respective sheets 20 toward the walls of box portion 10 to substantially bridge the distance between sheets 20 and the opposing wall of box 10, whereby to create stalls throughout the length of separator 12 and along each side thereof to receive cartridges 14 in a manner illustrated in Fig. 1. The tabs 22 are identical in form and each is created from the sheets 20 by cutting and scoring as above specified.

When the blank shown in Fig. 2 is cut along lines 24, 26, 28 and 30 and scored along line 29, it is also provided with a line of score 32 extending transversely across the tab 22 from the point of juncture between line of score 29 and line of cut 30. This line of score 32 is extended across the tab 22 at right angles to the straight line formed by line of score 29 and line of cut 30 to line of cut 24, to set off an ear 34 defined by line of cut 30, that portion of line of cut 24 between line of score 32 and end line of cut 28, and the line of cut 28.

A portion of the line of cut 24 forming one longitudinal edge of the tab 22 is inclined inwardly from a point spaced from line of cut 28 forming the normally lower end of the tab 22, and this angled portion of line of cut 24 creates a narrower section on ear 34 and thereby a narrower part in the opening 36 which is developed in the sheet 20 when tab 22 is folded outwardly along line of fold 29 and line of cut 30. Thus, the ear 34, when folded outwardly and downwardly at an angle from the major plane of tab 22, will bridge the narrower part of opening 36 and frictionally engage the marginal edge of sheet 20 at the edge created by opening 36 when tab 22 is turned outwardly to

the position shown in Figs. 1, 3 and 4. The frictional engagement between ear **34** and the aforesaid portion of sheet **20** will maintain the ear **34** in place to hold its related tab **22** in a position perpendicular to sheet **20**, but when a cartridge **14** is moved into the stall between adjacent tabs **22**, the ear of one of the tabs which is engaged by the cartridge **14** will be moved to the position shown in Fig. 1, where it lies in substantially the same plane as its supporting tab **22** and to cooperate therewith in presenting a part of the partition between adjacent cartridges **14**.

The rigidity of ear **34** when the separator is being transported, introduced into box portion **10**, or otherwise handled before the introduction of cartridges **14**, is sufficient to maintain the tabs **22** in place, thus to insure no maladjustment that would prevent quick packaging of the cartridges at the point of production. The ears **34** and tabs **22** of each ear and tab structure are unitary, and the double function of ears **34**, i. e. that of holding the tabs **22** in place before the cartridges **14** are positioned and that of forming a part of a partition between the cartridges after the latter are positioned, is highly advantageous in a structure of this character.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

A separator for cartridge cartons comprising a flat sheet of foldable material; a plurality of parallel, laterally extending, elongated tabs cut from the said sheet of material, each tab being formed by a line of cut at one longitudinal edge and a line of cut at both ends thereof, respectively, and a relatively short line of fold and an aligned short line of cut at the opposite longitudinal edge, said short line of cut extending inwardly from the normally lowermost end of the tab to a point of juncture with said short line of fold, the line of cut forming the said lowermost longitudinal end being inclined inwardly from a point opposite the inner end of the said relatively short line of cut to the other end of said short line of cut at the said lowermost end of the tab whereby the width of the tab adjacent the lower end progressively decreases as the lower end is approached; and a line of score extending transversely across the tab from the point of juncture between the said short cut and said relatively short line of fold aligned therewith to set off an ear portion on the tab, said ear portion being inclined downwardly and outwardly from the line of score and in engagement with the marginal edge of said inwardly inclined cut, when the tab is moved to its laterally extended position, whereby to bridge the opening in the sheet and to hold the tab against returning toward its initial position.

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