United States Patent

Garshelis

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[54] **METHOD OF PACKAGING A PLURALITY OF DISPOSABLE APRONS AND PACKAGE RESULTING THEREFROM**

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[52] **U.S. Cl.** **206/57**

[51] **Int. Cl.** **B65d 85/00**

[58] **Field of Search** ..... 206/57 R, 57 A; 53/14, 21, 53/26

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[57] **ABSTRACT**

A method of packaging a plurality of disposable aprons and the package of aprons resulting therefrom. A stacked plurality of longitudinally folded disposable apron blanks, in which the aprons have been substantially formed have perforated removable portions formed therein. The stack of longitudinally folded apron blanks is fastened to a substantially rigid backing member as by staples through the perforated removable portions so as to be singularly removable. The package includes an enclosure portion which may have overall dimensions substantially equal to those of the folded fastened stack, and a removable portion disposed within the enclosure. The removable portion includes the folded fastened stack. The staples may be located adjacent the longitudinal uppermost and lowermost edges of the perforated portion. The backing member forms a partition between adjacent portions of at least one fold in the stack.

13 Claims, 8 Drawing Figures

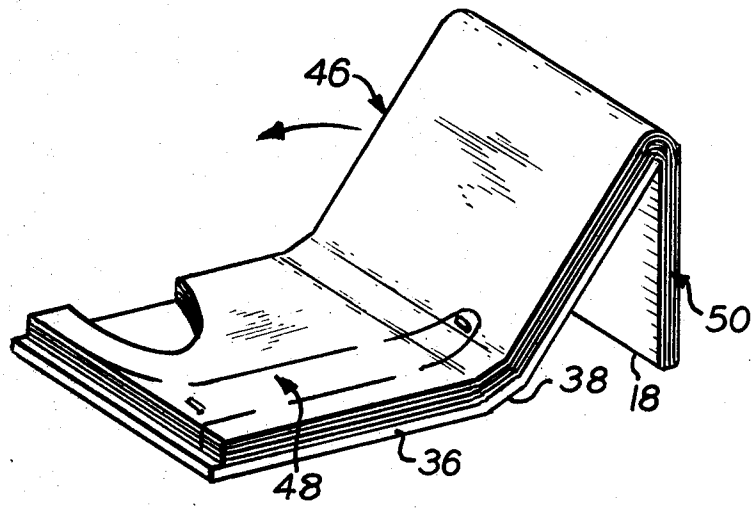


FIG. 1.

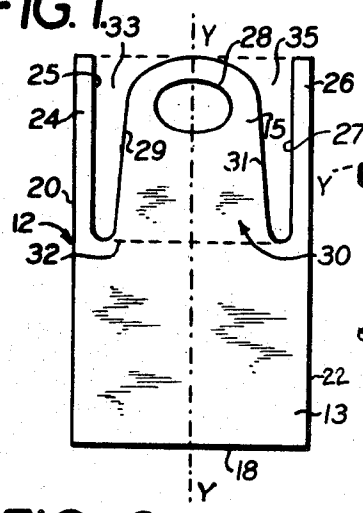


FIG. 2.

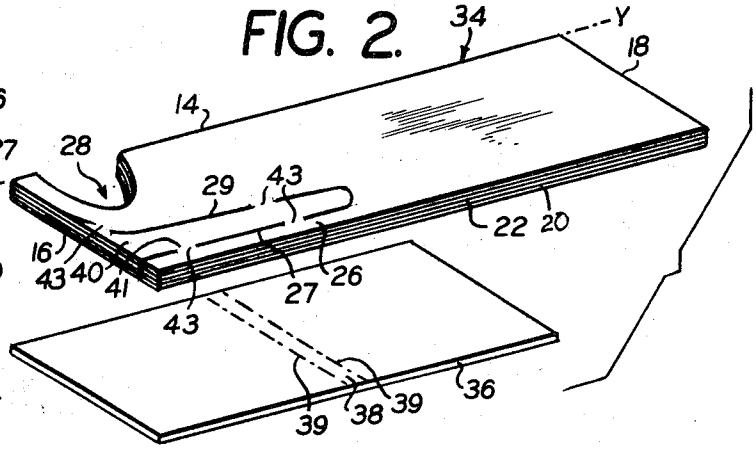


FIG. 3.

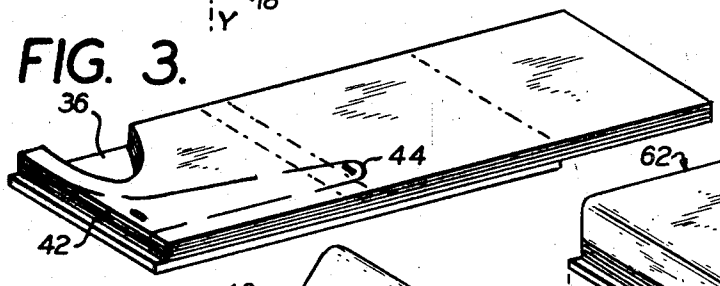


FIG. 5.

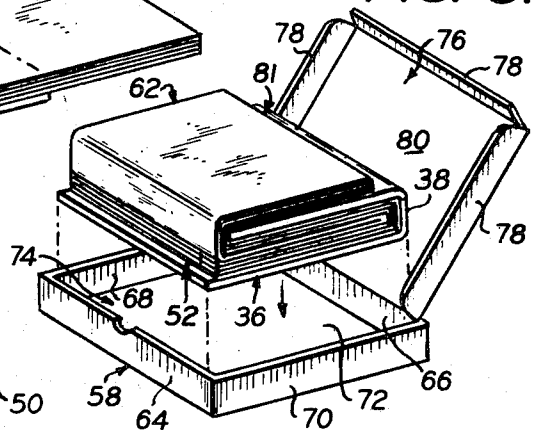


FIG. 4.

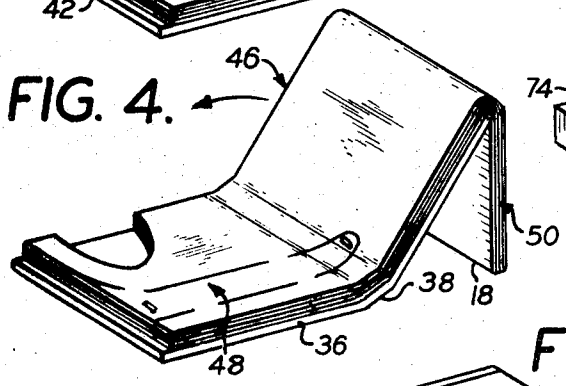


FIG. 6.

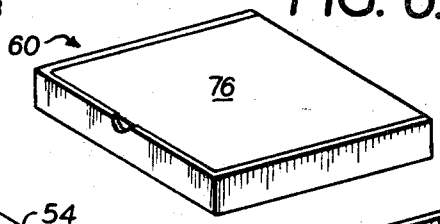


FIG. 7.

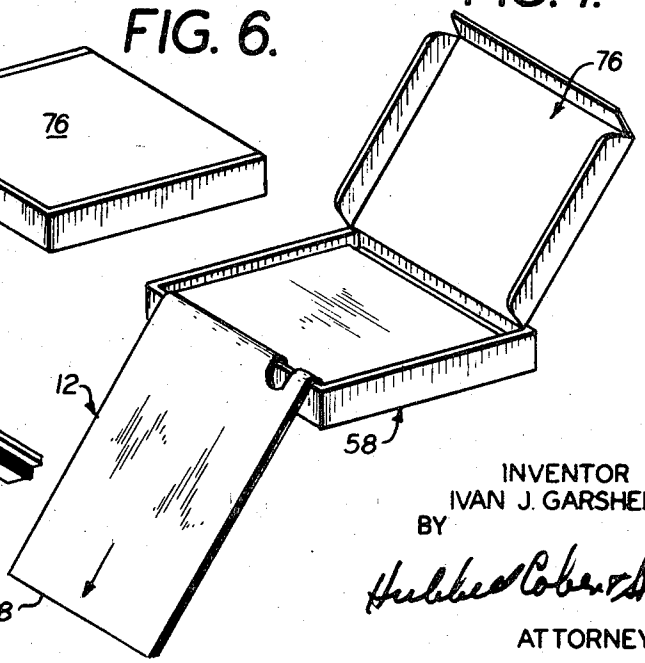
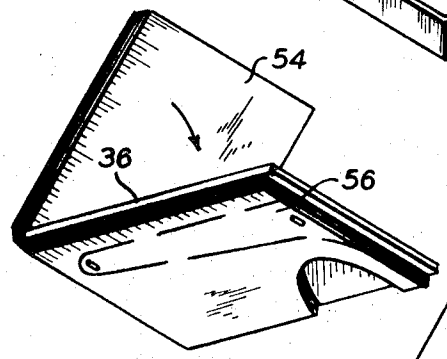


FIG. 8.



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METHOD OF PACKAGING A PLURALITY OF DISPOSABLE APRONS AND PACKAGE RESULTING THEREFROM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to packaging disposable aprons and more particularly to a method of packaging a plurality of disposable aprons and the package resulting therefrom.

2. Description of the Prior Art

Prior art methods of packaging disposable aprons and packages resulting therefrom are directed to packaging the aprons one at a time. Each apron is completely formed and separately placed in an individual container therefor. The completed apron is usually placed in the enclosure therefor by folding it in some manner in order to reduce the size of the package. Since these aprons are of the disposable type, they generally have a relatively limited duration of use, and are usually discarded at the end of a relatively short period of time. This requires frequent change of these aprons in a laboratory, or industrial environment where a large number of these aprons are utilized. The inconvenience which may result from having to individually open a multiplicity of packages to obtain the required number of aprons, may be appreciable. Furthermore, the cost to the user of aprons packaged in this manner is relatively high due to inefficiencies resulting therefrom. The inefficiencies are mainly those due to substantial duplication of method as well as additional expense in providing packages for each of the disposable aprons.

Attempts to package a plurality of disposable aprons in a single container wherein each of the aprons is individually folded and placed one on top of the other has met with only limited success, due once again to the duplication of effort in folding these aprons, and the care which must be exercised in order to maintain a neat, uniform stack when the aprons are being taken therefrom over a prolonged period.

SUMMARY

A method of packaging a plurality of disposable aprons includes the steps of forming a stack of longitudinally folded disposable apron blanks, each being a substantially fully formed apron and including a perforated removable portion formed therein, such as at one end thereof, then simultaneously connecting all the apron blanks in the stack to a substantially rigid backing member by passing connecting means through the removable portion and into the backing member. Such method includes the further stop of folding the fastened stacked plurality transversely of the longitudinal axis thereof about the backing member and then disposing the folded assemblage with the free ends of the apron blanks exposed for grasping for manual removal one at a time.

A package for a plurality of disposable aprons is constructed to include a stack of longitudinally folded disposable apron blanks, each having a substantially fully formed apron and a perforated removable portion formed therein such as at one end thereof. All the apron blanks in the stack are connected to each other and to a substantially rigid backing member by connecting means passing through the removable portions and into the backing member. The package further includes an enclosure portion and a removable portion disposed within the enclosure. The removable portion includes the longitudinally folded stack folded transversely of the longitudinal axis thereof with the free ends of the apron blanks in the folded assemblage exposed for grasping for manual removal one at a time.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a plan view of a disposable apron of a type being packaged in accordance with the method of the present invention;

FIGS. **2** through **6** illustrate various steps in performing the method of the present invention and the package resulting therefrom in accordance with one embodiment of the present invention;

FIG. **7** illustrates the manner of using the package of the present invention; and

FIG. **8** illustrates another embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail, and particularly to FIG. **1** thereof, an apron **12** of the type to be packaged in accordance with the method of the present invention is shown. Such an apron is provided with a substantially rectangular or square main body portion **13** and an upper body or chest portion **15**, the latter of which is somewhat tapered and curved at the top. Provided in close spaced relation to the top of portion **15** is a head hole **28**. Extending upwardly along the side edges **20** and **22** of apron **12** are ribbon-like ties **24** and **26**, which, as may be seen in FIG. **1**, have their inner edges **25** and **27**, respectively, spaced from the confronting edges of upper body portion **15**, which confronting edges are identified by the reference numerals **29** and **31**, respectively. Thus, in the form shown in FIG. **1** there are two cut-outs **33** and **35** provided in the apron **12** adjacent the ribbon-like ties **24** and **26**, respectively. The apron **12** is made preferably of plastic sheeting, most preferably polyethylene, although other plastic sheeting may be used as may other materials.

Referring now to FIG. **2**, the upper half of the FIG. **2** view illustrates a stack **34** of apron blanks **14**, each of which includes a substantially finished apron **12** as previously described, plus a pair of tearable or removable pieces **40** which fill in the spaces **33** and **35** in the finished apron **12**. As shown in FIG. **2**, and as is preferred, each apron blank **14** is folded in two along the longitudinal axis Y—Y of the apron. Since the apron is desirably symmetrical about the Y—Y axis, the two removable parts **40** are superposed on top of one another in the folded condition. As shown the parts **40** are separated from the surrounding portions of the apron **12**, that is the lines **29** and **31**, and the lines **25** and **27** by a partially cut or perforated line **41** which as shown herein is substantially completely cut through excepting for three or four uncut short portions **43**. Of course the line could be perforated by utilizing a large series of closely spaced holes in lieu of the fully severed portions as shown in FIG. **2**.

Preferably, although not necessarily, the apron blank **14** is die-cut from a continuous strip of folded material whereby to eliminate the need for folding the apron

blank 14 after die-cutting thereof. Thus the die for effecting the cutting from a continuous strip, is approximately one-half the width of a die necessary to cut an unfolded apron 12 or apron blank 14 to thereby effect substantial saving in tooling costs.

Most advantageously, a number of apron blanks 14 are die cut simultaneously from a plurality of superposed strips of folded material which may be cut together by a single operation of the die. For example, a simultaneous die cutting of five apron blanks has been commercially achieved. Naturally more or fewer blanks may be cut simultaneously. If more than one blank is cut simultaneously then, as the simultaneous cut blanks are released from the die cutting machine they are stacked simultaneously to form stack 34.

With continued reference to FIG. 2, a substantially rigid backing member 36 is provided to which the stack 34 of apron blanks 14 is secured by simultaneously connecting all of the apron blanks in the stack 34 by passing connecting elements through the removable portions 40 and into the backing member 36. The connection may be accomplished by staples, as shown, or by any other suitable fastening means or connecting means. The backing member 36 may have a foldable portion 38 as shown, defined by two closely spaced transverse fold lines 39, for purposes to be described in greater detail hereinafter. Preferably the backing member 36 transversely extends substantially the width of the folded stack and longitudinally extends a desired proportionate amount of the length of the folded stack 34. The backing member may be formed of any suitable material. The presently preferred material is corrugated cardboard.

As can be seen in FIG. 3, the stack 34 is fastened to backing member 36 near the uppermost edge 42 and the lowermost edge 44 of the removable portions 40 of apron blanks 14. Although this manner of connection is preferred so as to insure complete removal of the removable portion when selection of a single disposable apron 12 from the package is desired, this connection may be accomplished in any other convenient manner.

The fastened stack 34 is then transversely folded along fold lines 39 so as to reduce its square area for ease in storage and packaging, in a manner to be hereinafter described. Preferably, the fastened stack 34 is transversely folded in thirds, (see FIG. 4) as a convenient package results, although it may be folded in halves as shown in FIG. 8, or any other desired proportionate amount. When the fastened stack 34 is transversely folded in thirds, the substantially rigid backing member 36 extends approximately two-thirds the length of the transversely unfolded stack 34 measured from the fastened end, with the foldable portion 38 being located at approximately one-third the length of the transversely unfolded stack 34. In order to aid in eliminating what is commonly termed "slumping" in the fastened stack when it is transversely folded in thirds, the lowermost edge of the removable portion 40 is fastened to the foldable backing member below the foldable portion 38. The middle third 46 of the fastened stack 34 is folded back upon the upper third 48 of the stack in a counter-clockwise direction, while the lower third 50 of the stack, which is the end at which the free ends of the apron blanks are exposed for grasping for manual removal one at a time, is folded in a clockwise direction back toward the underside of the middle third 46 of the stack 34. By folding the foldable backing member 36 in this manner, a U-shaped envelope 52 for substantially the upper two-thirds of the stack 34 is formed. This U-shaped form resulting from the use of two transverse fold lines 39 permits the backing member to accommodate the double thickness of the stack of apron blanks 14 without deformation or breakage of the backing member. Furthermore, the lower third 50 of the stack 34 has its underside abutting the underside of the lowermost half of the backing member 36 which thereby acts as a separator between the bottom two-thirds of the transversely folded stack 34.

The transversely folded stack as connected on and folded about backing member 36 forms the removable portion 62 of the finished package. The removable portion 62 must now be disposed within the enclosure 58. The enclosure portion 58 includes four walls 64, 66, 68 and 70 upwardly extending from a planar base portion 72 to form a receptacle 74 therein for the removable portion 62. The four walls comprise a front 64, rear 66 and side walls 68 and 70 for the enclosure 58. Rear wall 66 is shown as having hinged thereon a cover or lid 76 for the package 60 although any desired type of cover may be utilized. As shown in FIGS. 5 and 6, the cover 76 is insertable within the receptacle 74 and has tab portions generally extending from a planar base portion 80 so as to support the hinged cover 76 at the height of the upwardly extending walls 64, 66, 68 and 70. In order to provide a compact package, the enclosure portion is preferably proportioned to receive the removable portion with only small clearance. The folded assemblage is disposed within the enclosure 58 with the free ends of the apron blanks exposed for grasping for manual removal one at a time. Thereafter lid 76 is with the tab portions thereof within walls 64, 66, 68 and 70.

Referring now to FIG. 7, when it is desired to manually remove the aprons 12 one at a time from the package, cover 76 is opened and the user grasps the topmost free end of the apron blanks and exerts a slight tugging force thereon. Due to the low friction of the apron material, the topmost apron will slide off of the remainder of the stack until only the removable portion 40 impedes its movement due to its securement to the remainder of the stack and to backing member 36. Continued slight tugging will break the connecting portions 43 between removable portions 40 and apron 12 to free the apron and permit its complete removal from the package without disturbing the remainder of the stack.

By performing the method of the present invention and utilizing the package resulting therefrom a plurality of disposable aprons may be packaged simultaneously in a single package from which they may be removed one at a time, thereby minimizing the expense and duplication of effort required in packaging these aprons one at a time.

As shown in FIG. 8, the fastened stack 34 may be transversely folded in half, in which instance foldable backing member 36 is not necessary. On folding the stack in half, a backing member 36 extending substantially only half the length of the fastened stack 34 may be utilized. The bottom half 54 of the stack, which is

the half having the free ends of the aprons, may be transversely folded in a counter-clockwise direction so as to abut the underside of the backing member **36**. In this manner, the backing member **36** acts as a separator between the upper half **56** and lower half **54** of the transversely folded stack. The transversely folded stack resulting from the method of the present invention is removably insertable into container (FIG. 5) **58** so as to yield a compact package (FIG. 6) for the plurality of aprons.

It is to be understood that the above described embodiments of the invention are merely illustrative of the principles thereof and that numerous modifications and embodiments of the invention may be derived within the spirit and scope thereof.

What is claimed is:

1. A method of packaging a plurality of disposable aprons of the type having a head hole and a pair of ties, said method comprising the steps of:

forming a plurality of apron blanks each including one of said aprons and a readily removable elongated blank portion extending longitudinally away from one transverse edge of said blank;

superposing said blanks to form a stack with said readily removable portions in register with one another;

laying said superposed blanks over a substantially rigid backing member;

fastening said superposed blanks to said backing member by disposing a connecting means through said registered removable portions and through said backing member at the end of said removable portions adjacent said transverse edge; and

folding said fastened stacked blanks transversely of the longitudinal axis thereof.

2. A method in accordance with claim **1**, wherein said fastening step further comprises disposing a second fastener through said registered removable portions and said backing member adjacent the other ends of said removable portions.

3. A method in accordance with claim **1**, wherein the fastening step includes fastening said plurality to a substantially rigid backing member transversely extending substantially the width of said folded stacked plurality and longitudinally extending a desired proportionate amount along the longitudinal axis of said folded stack.

4. A method in accordance with claim **1** further comprising the step of inserting said folded fastened stacked plurality in a container.

5. A method in accordance with claim **1** wherein:

the fastening step further includes fastening said stack to a substantially rigid backing member having a longitudinal extent approximately two thirds the length of the longitudinal axis of the stack, said backing member being foldable along a fold line extending transversely across said rigid backing member at a point approximately one third the length of the longitudinal axis; and

the folding step includes folding said fastened stack in thirds as measured along the longitudinal axis thereof.

6. A method in accordance with claim **1** wherein the folding step further includes longitudinally folding the middle third of the fastened stack back upon the third adjacent one end in one direction so as to abut said two-thirds of the uppermost apron blank in the stacked plurality and longitudinally folding the remaining third of the fastened stack in the opposite direction so as to abut the remaining third of the bottommost apron blank in the stack against the underside of the foldable backing member.

7. A method in accordance with claim **1** wherein:

the fastening step further includes fastening said plurality to a substantially rigid backing member longitudinally extending approximately one half the length of the longitudinal axis of the stack; and

the folding step includes folding said fastened stack in half along the transverse axis thereof.

8. A package for a plurality of disposable aprons comprising:

a transversely folded stacked plurality of longitudinally folded apron blanks;

each of said apron blanks comprising a substantially fully formed apron and a readily removable elongated portion extending longitudinally away from a transverse edge of said stacked blanks, said readily removable portions being in superposed relation with one another; and

a substantially rigid backing member for said stacked plurality of apron blanks; and

fastening means for fastening said stacked plurality to said backing member through said superposed removable portions adjacent said one transverse edge thereof.

9. The package of claim **8**, wherein said transversely folded stack is folded about said substantially rigid backing member to form a substantially uniform folded stack of reduced square area.

10. A package in accordance with claim **9**, wherein said substantially rigid backing member transversely extends substantially the width of said folded stacked plurality and longitudinally extends a desired proportionate amount along the longitudinal axis of said folded stack.

11. A package in accordance with claim **10**, wherein said fastening means includes a first fastener located adjacent the longitudinally uppermost edge of said perforated removable portion and a second fastener located adjacent the longitudinally lowermost edge of said perforated removable portion.

12. A package in accordance with claim **11**, wherein said stack is folded substantially in thirds; and said backing member is transversely folded and longitudinally extends approximately two thirds of the folded stack forming an envelope for two thirds of the folded stack, said envelope being open on three sides, one of said open sides being at the end at which the uppermost fastener is located, said envelope further having a closed side which forms a partition between adjacent portions of a fold of said stack.

13. A package in accordance with claim **11**, wherein said stack is folded substantially in half; and said backing member forms a partition between the adjacent portions of the two halves of said fastened folded stack.

* * * * *