

- [54] POINT OF SALES PACKAGING AND DISPLAY SYSTEM
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- [73] Assignee: Filter Dynamics International, Inc., Cleveland, Ohio
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- [52] U.S. Cl. 206/459; 206/44 R; 206/45.31; 206/491; D7/224
- [51] Int. Cl.² B65D 73/00
- [58] Field of Search 206/459, 44 R, 45.31, DIG. 29, 206/491; D7/224

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 Assistant Examiner—Joseph M. Moy
 Attorney, Agent, or Firm—Alter and Weiss

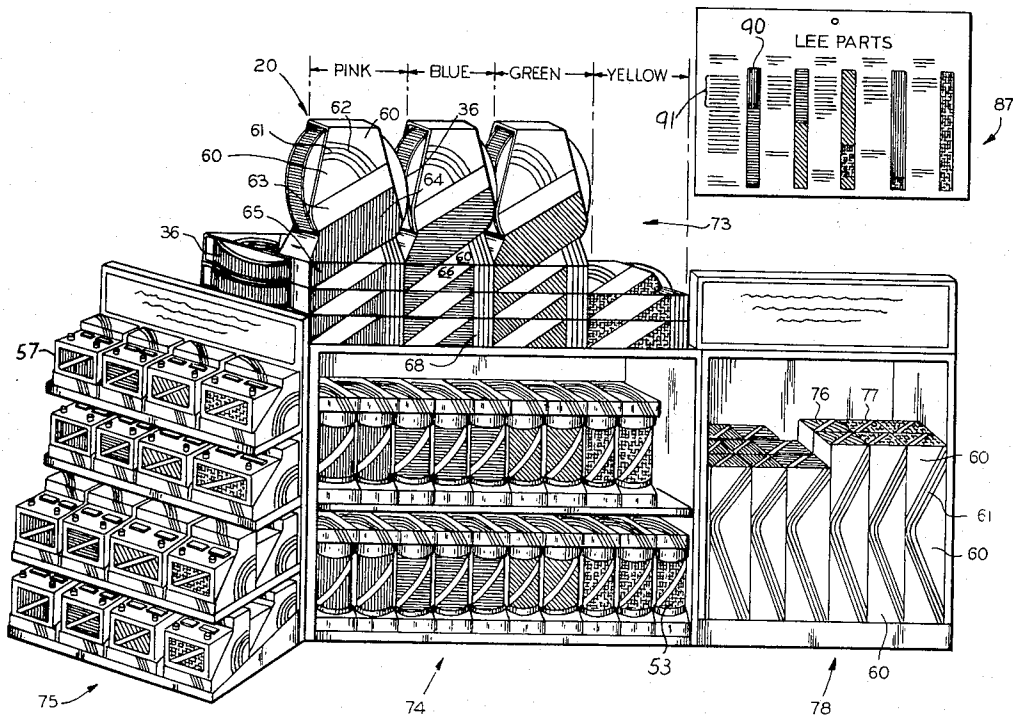
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[57] **ABSTRACT**
 This invention relates to a point of sales system for packaging and displaying products, especially — although not exclusively — related to automobile maintenance parts. The invention also provides methods for enabling self-service sales of automobile parts in discount houses, department stores, and the like. Among other things, the system provides for direct visual inspection of the products with both color-coded and numerical identification of parts for any given make or model of automobile.

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9 Claims, 7 Drawing Figures



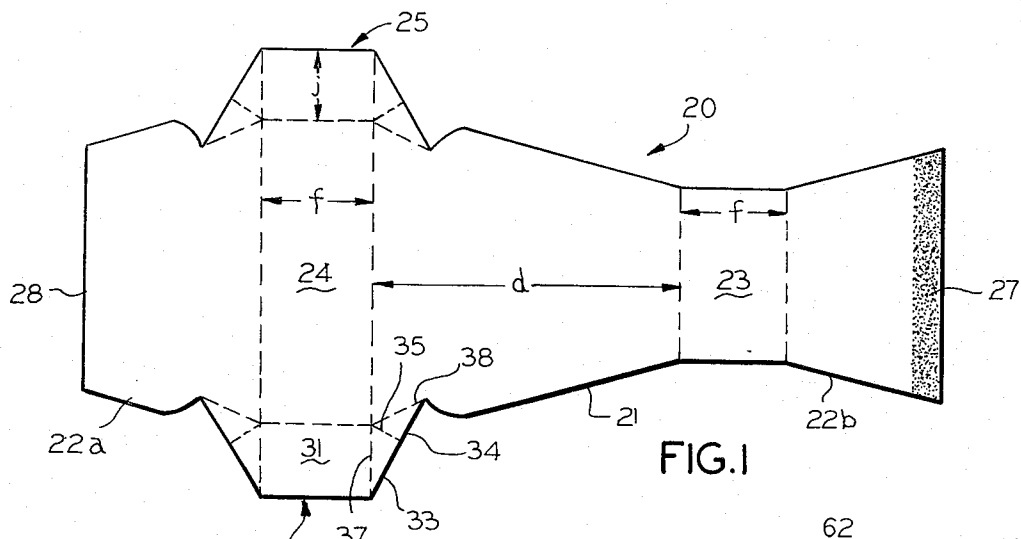


FIG. 1

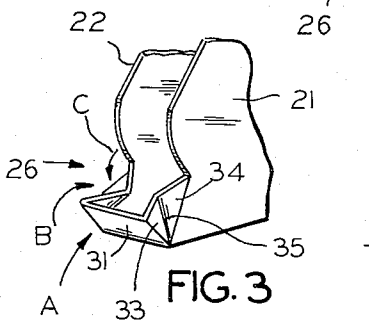


FIG. 3

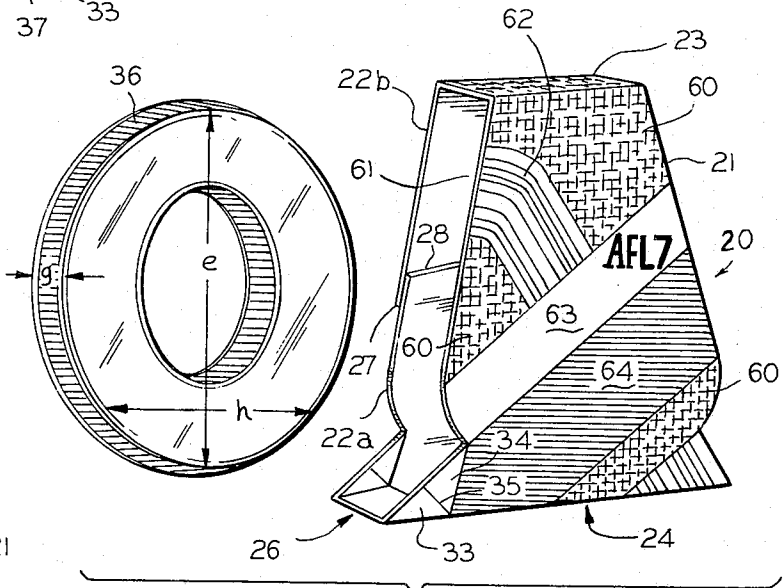


FIG. 2

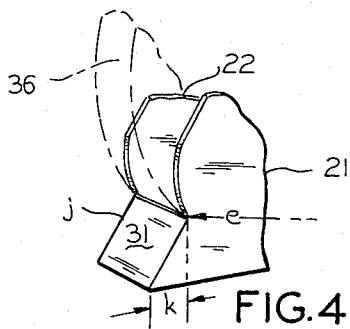


FIG. 4

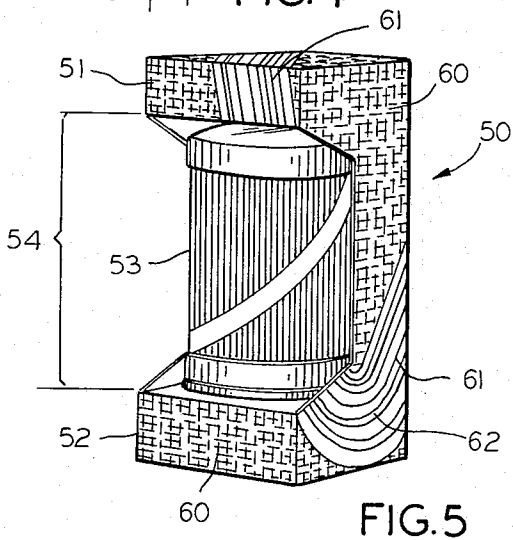


FIG. 5

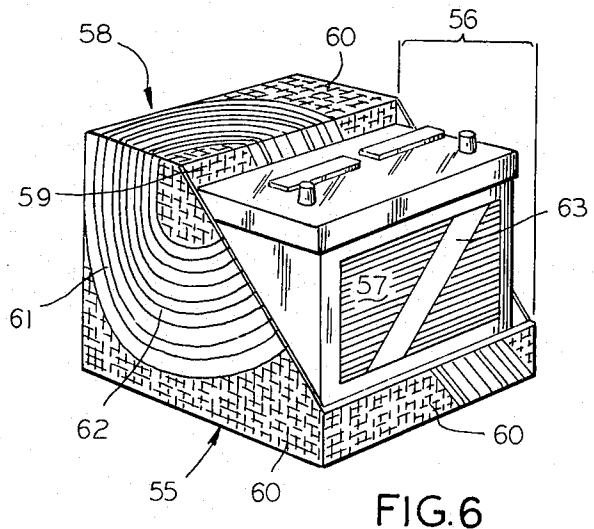


FIG. 6

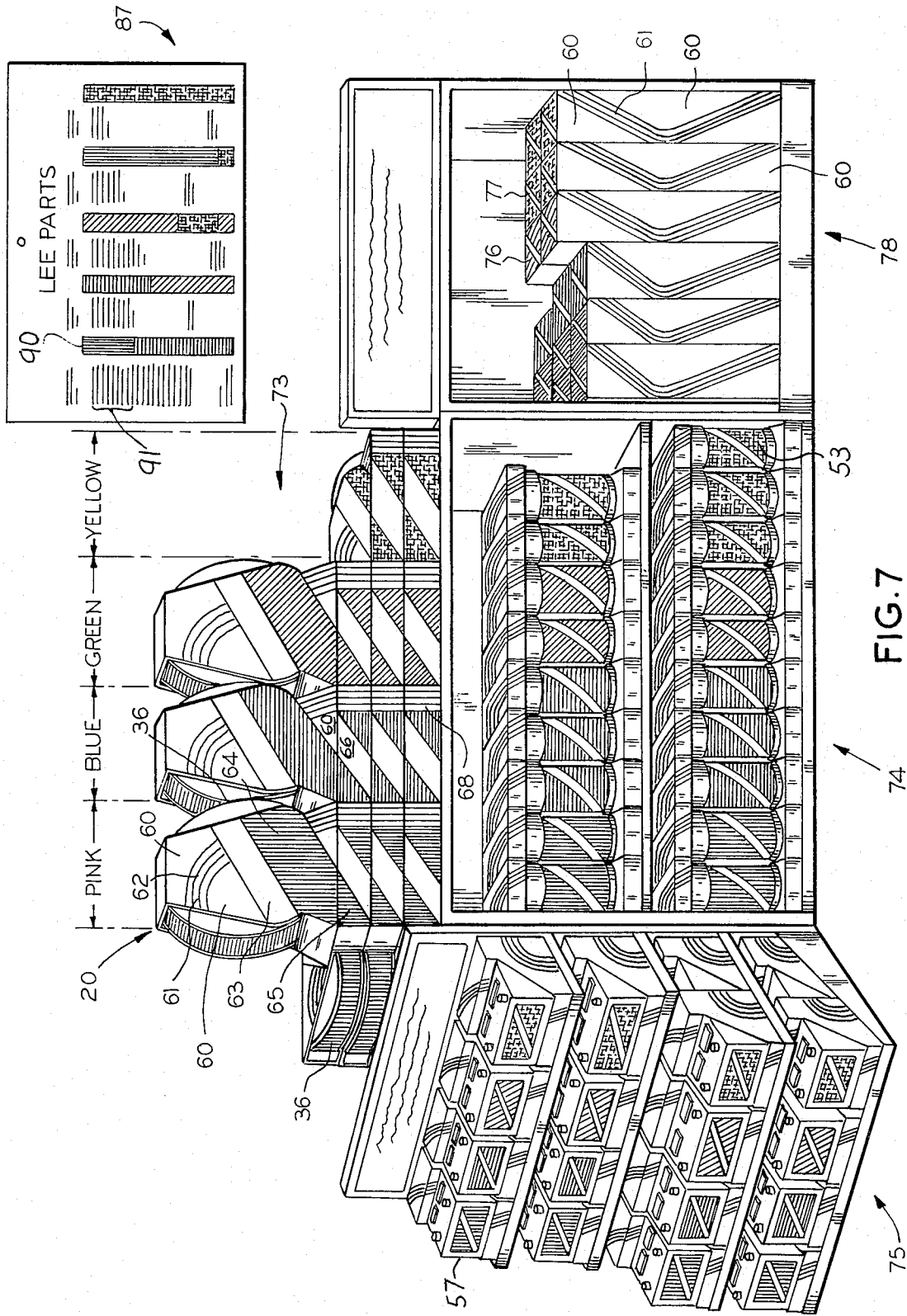


FIG. 7

POINT OF SALES PACKAGING AND DISPLAY SYSTEM

This invention relates to point of sale packaging and, more particularly, to cartons which are custom designed for self service display, and to a system for identifying parts for enabling a selection of a desired one from among a great variety of different parts having small differences between them.

Almost all makes and models of automobiles have corresponding parts which are closely similar for most purposes. Yet these parts are sufficiently different to make it difficult or impossible to use parts from one make on another make of automobile. For example, the air filters for two different makes of automobiles may appear to be identical to the eye of a casual buyer. However, the air filter for one may be smaller in diameter but greater in thickness than the filter for another make. As a result, the casual buyer has to choose between a bewildering variety of air filters. As a general-
 ity, the same situation prevails for almost all auto parts.

Another problem is that these and similar parts come in small boxes with specialized names which the novice does not recognize. Very often, the casual do-it-yourself buyer does not even know the different names of the many parts which he would like to buy. Hence, if he wants to perform even the most simple form of maintenance, he does not know which box to open. Thus, he has his choice of blindly opening boxes or of giving up.

Using air filters by way of example, auto manufacturers design particular filters to fit their engineering needs, the under hood space allowed by body design, or the like. Insofar as the original equipment manufacturer is concerned, each new air filter type or design is identified by a long part number which fits into a computer controlled inventory numbering plan. That long number is too cumbersome for the replacement parts supplier or casual buyer to use.

Therefore, when an auto with a new air filter design is first offered to the public, one of the replacement parts supplier is the first to offer an air filter of the new design. That first supplier assigns a type number to the filter which fits its peculiar numbering needs. Thereafter, almost all other replacement suppliers adopt the same type number for their filter. Otherwise the casual buyer would not realize that he can buy the same type filter from alternate sources. Hence, it is seen that, in the replacement market, the type numbers are randomly assigned depending upon the whims of chance as to who is the first into the replacement market and what is the convenient type number for such first supplier to assign on the day of the new filter type entry into the market place.

When one reflects on the many replacement parts in an automobile and the diverse methods of assigning type numbers, the chaotic nature of type numbering becomes apparent.

Yet another point of sale packaging problem revolves around the overall impact or gestalt of an auto parts display. Usually, there are bins, shelves, and a clutter of small parts. The clutter becomes even worse after a busy day when the customers have moved and mixed things on the shelves. The resulting confusion discourages the casual buyer before he even approaches the problem of finding what he wants to buy. As a result, he does not even consider buying these kinds of parts in a non-automotive store. Thus, it is a fortunate manu-

facturer who even has the opportunity to have his boxes ripped open, as undesirable as that may be. This is unfortunate since the entire business of auto parts sales is thereby removed from discount centers to inherently high cost merchandising channels where the customer must pay for the specialized knowledge of a stock clerk.

At least the replacement and maintenance portion of the auto parts business is well adapted to the mass marketing techniques of a discount house or department store, if only the need for that specialized stock clerk knowledge could be eliminated. When one reflects on the skill level required to select an air filter, for example, it becomes immediately apparent that the specialized knowledge is merely a matter of familiarity. Therefore, the customer should be able to do it for himself.

Still another problem relates to the overall attractiveness, attention-getting, and sales appeal of a display in a large store. It would be desirable to have a large billboard space in the discount or department store except that it would have an extremely high cost. Also, there is a high cost of keeping such a display clean, up-to-date, etc.

Beyond the mere problem of point of sale display appearance, there are managerial problems connected with the display of goods of the described type. Very often stock boys are either disinterested or uninformed about the finer points of product display. On the other hand, manufacturers and distributors often conduct studies and surveys to find how best to display their goods in order to maximize sales appeal. Thus, the manufacturers would like to have a quick and easy process for conveying their specialized display knowledge to the stock boys without requiring much effort on their part.

As a result of these and similar problems, discount and other mass marketing stores do not do the amount of auto parts business that could be expected.

Accordingly, an object of the invention is to provide new and improved systems for attracting attention at a point of sales by means of packaging and display. Here an object is to provide means for and methods of packaging which protect the goods while they are being displayed to the general view of the customer. Another object is to so display the above-described type of goods to a customer, while effectively making the style and type selection for him. In this connection, an object is to accomplish the foregoing objects at a minimum cost and maintenance.

Yet another object of the invention is to provide a plurality of packages for different types, sizes, and kinds of parts, which may be assembled into a unified attractive attention-getting point of sales gestalt. Here, an object is to provide for a maximum amount of flexibility in the manner of assembling the packaging without destroying the gestalt.

Still another object is to provide a process for imparting point of sale display information to people who stock shelves, bins or tables. In this connection, an object of the invention is to provide a process for finding "lost" products which are out of their proper position in a display.

In keeping with an aspect of the invention, each box in a packaging system has a pattern printed thereon which matches the pattern of any side of adjacent boxes so that many boxes may be stacked together to blend into an attractive large overall display giving an

effect somewhat similar to the effect of a billboard. Still, the differences between the boxes are sufficient to enable an almost instant selection of the parts being offered without adversely disturbing the gestalt. Preferably, the background colors of the boxes instantly guide the buyer to the particular parts that he wants to buy, and the boxes are made to display the contents thereof at a glance.

The nature of a preferred embodiment of the invention will become more apparent from a study of the attached drawing wherein:

FIG. 1 is a plan view showing a blank of an exemplary carton employing the invention concept and used to enclose an automobile air filter;

FIG. 2 is a perspective view of a carton made from the blank of FIG. 1 with an air filter about to be placed therein;

FIG. 3 is a perspective view of a fragment of the carton of FIG. 2 showing a locking tab as it is being folded into position;

FIG. 4 is a perspective view of the carton fragment after the tab is locked into position;

FIG. 5 is a perspective view of a carton for a cylindrical object, such as an oil filter, a can of motor oil, or the like;

FIG. 6 is a perspective view of a carton for a rectangular object, and parts, such as a battery, for example; and

FIG. 7 shows a number of different types of the inventive cartons stacked upon each other and placed next to each other to present an overall gestalt.

The principles of the invention may be incorporated into cartons for packaging many different types of products. Here shown, by way of example, the preferred packaging system is shown in conjunction with automobile parts, such as air filters, oil filters, and batteries. However, other items may also employ the inventive system.

An air filter carton blank 20 includes front and back panels 21, 22, top and bottom panels 23, 24, and locking tabs 25, 26. Any one of the panels (here, back panel 22) may be formed in two parts which are glued together to form a tubular carton. For example, the upper half 22*b* of the back panel has a glue flap 27 which fits against the end 28 of the lower half 22*a* of the back panel. Hence, the full assembled carton is a tubular member having a rectangular cross section.

The dimensions of the air filter and carton are such that the filter fits snugly into the carton and is protected by it. On the other hand, the carton has reduced width dimensions so that the air filter is both visible and protected when so packaged.

The filter may be locked into position inside the carton by the tabs 25, 26. In greater detail, the carton has front and back panels 21, 22, each having a truncated triangular shape. The bases of the truncated triangles are integrally joined together by the rectangular bottom panel 24. The tops of the truncated triangles are joined together by the rectangular top panel 23. The altitude *d* of each of the truncated triangles is substantially equal to the diameter *e* of the air filter cylinder 36. The width *f* of the top and bottom panels, 23, 24 are substantially equal to the thickness *g* of the air filter cylinder 36. The length of the bottom panel 24 is greater than a chord of an arc *h* of the air filter cross section by an extended amount on each end. The extended amount is approximately equal to one side *k* and

the hypotenuse *j* of a right angle triangle formed between the bottom panel and the intersection of the circumference of the filter, the chord, and a vertical side of the triangle when the filter is in position in the carton.

Each tab 25, 26 includes a locking member 31 and a hinged pair of integral folding guide panels 33, 34. The guide panel 33 is integral with locking member 31, which is the extension of the bottom panel. The guide panel 34 is integral with the side panel 21. Panel 33 folds with respect to locking member 31 along line 37, and panel 34 folds with respect to side panel 21 along line 38. When locking member 31 is lifted in direction A (FIG. 3), the two guide panels fold inwardly toward the interior of the box in directions B and C.

As the tab 31 is lifted in direction A, the panels 33, 34 fold inwardly along the center hinge line 35. The locking member 31 may then be pushed under the peripheral wall of air filter 36, where it is locked in place by an interference friction under the receding circular peripheral contours.

Thus, to package the air filter 36, the cardboard carton form 20 is opened to have its rectangular cross section, as shown in FIG. 2. Then, the air filter 36 is slipped into the box, and the locking tabs 25, 26 are pushed into a locking position. Hence, by a glance, the customer may quickly identify the product which he needs and inspect it without damage to the box.

FIGS. 5 and 6 show how the principle of the inventive packaging system may be expanded to fit the needs of other shaped goods. For example, the carton of FIG. 5 is a boxlike member 50 having outwardly extending upper and lower locking tabs 51, 52 which fit over and frictionally engage the top and bottom of a can or filter 53. Here the box may be folded together either with the can in place or to thereafter receive the can. A large cut out area 54 exposes the can to view. The carton 55 has two parts. A first part 56 is cut out to expose a rectangular box-like product, offered to the public — here a battery 57. The second part 58 includes a panel 59 which folds down behind the product to enclose necessary parts for the products — here the charging chemicals for the battery.

According to the invention, the boxes have a background color with coordinated recognition patterns which simultaneously blend together regardless of how the packages are stacked to form a billboard type of display, identify parts according to make, model, or type of auto, and identify the manufacturer.

In greater detail, each box includes a general background color, as indicated at 60, in order to give a pleasing continuity to a display of products regardless of how the cartons or boxes are stacked. A manufacturer's trademark 61, is printed on the panels in a form of a design which interlocks with corresponding trademarks on adjacent cartons or boxes. Here, the trademark is shown as a fanciful rainbow with a distinctive bend, as at 62. The rainbow positions are such that the cartons or boxes may be stacked side by side with any side next to any other side to give a total billboard-like gestalt, with the background color and the trademark patterns on adjacent boxes blending together.

A white, or other color band 63 is provided on at least some panels to give an area for any suitable printed message, such as the manufacturer's name, the product's name, model numbers, or the like. By way of example, the drawing shows the type number AFL7 in

FIG. 2. Conventionally, this designation would be interpreted as a type 7 air filter made by a company having a name beginning with the letter L.

The remainder 64 of the box is printed in a different color. One of the colors 60, 63, or 64 may be uniform for all products to give a general background to a display. Another of these colors is distinctive of an automobile type, the company which made the part, a trademark, line or model.

Adjacent panels of each carton have corresponding patterns which also blend into the contiguous contours of juxtaposed boxes. Thus, for example, a color-coded band 64 on one side of one box (FIG. 7) continues into a similarly color-coded band 65 on another side of the same type of box. The general background color area 60 on the side of the box continues into a similarly colored band 66 on the bottom of the box. The manufacturer's trademark 61 on the side of the box continues into and blends with a similar trademark 68 on the bottom of the box. Hence, the general design of the color and printing on the side of a box blends with the general design of the color and printing on the bottoms of juxtaposed boxes. All colors, hues, and tints are selected to be compatible with all others so that any color may be placed next to any other colors without clash. Thus, any number of boxes 20 may be placed one over the other, either upright or on their sides. The gestalt of the resulting mosaic display of cartons is that of an attractive continuous panel or billboard with a completely coordinated color scheme.

Alternative methods of presenting the color-coding involve marking the product itself and using the carton to supply the ground color of the display. Hence, by way of example, the label of can 53 is color-coded, and the top and front of battery 57 is color-coded, while the carton itself has the ground color at 60. Both the can label and the battery front include a stripe having the same general angle and appearance as the stripe 63 on the carton 20. Therefore, the appearance of the cartons and products shown in FIGS. 4 and 5 will harmonize with those of FIG. 2.

Other kinds of parts may be placed in any of the above-described or similar boxes with similar designs, patterns, color-coding, or the like, to be stacked near the described air filter boxes. By way of example, FIG. 7 shows air filters at 73, oil filters at 74, batteries at 75, and any other suitable parts at 78. The parts at 78 include a color-coded label 76 and stripe 77 which harmonize with the rest of the display.

All parts for one make, model or type of automobile have the same color code and, preferably, are stacked together. Thus, for example, a panel of purple boxes might provide parts for certain Chrysler-built cars with light shades for 6-cylinder cars and dark shades for 8-cylinder cars, a panel of orange boxes might provide parts for General Motors cars, a panel of green boxes might provide parts for Ford-built cars with light shades for 6-cylinder cars and dark shades for 8-cylinder cars, and a panel of mustard boxes might provide parts for imported cars. Still other color-coding might further subdivide these categories into the individual lines and models of cars.

Accordingly, the display process begins with the stock boy who is instructed to place all products on display in a given color order. Hence, in the embodiment of FIG. 7, he obviously has been instructed to place all pink cartons on the left and all yellow cartons on the

right. In between, he has placed all blue cartons at the left of center and all green cartons at the right of center. Within a single panel of color display, he places the cartons with the type numbers in numerical order. Thus, for example, the carton of FIG. 2 would be placed in the seventh (because it is Type 7) position in the blue section of FIG. 7.

If, during a sales day, customers should shuffle the cartons, almost certainly the stripes or colors would become misaligned. As a result, the moved carton would be visible instantly.

If the stock boy should be misinformed, he might place all parts in numerical order according to the type number, for example. Nevertheless, the stripes, patterns, and the like would retain their alignment so that misplaced cartons are still visible. While the color panels would not be the same as shown in FIG. 7, the entire display would still harmonize because the color shades are coordinated. Moreover, the type numbers bring parts for similar makes near each other. Thus, the display will tend to have a rainbow-like blend of splashes of color, and the color of misplaced cartons would still tend to be apparent.

Accordingly, to make a selection, a customer may consult a nearby chart 87 and learn that he need only concern himself with light purple boxes, for example, because he owns a 6-cylinder Chrysler-built car. Then, he looks for this color at 90 and observes the writing at 91 to learn that he needs a certain type filter. Thereafter, he always knows where to go in the display of FIG. 7 to select parts for his particular car, regardless of the kind of part he needs. Moreover, the parts themselves are readily visible as the air filter is seen at 36 or the oil filter at 53. There is no need to tear a box apart to see what is in it. The bulk of the background color 60 and the brightly colored stripes of the manufacturer's trademark 61 give the customer a general recognition of auto parts regardless of whether the display is primarily air filters, oil filters, batteries, or the like. The color-coded panels give both an artistic addition and a selective aid to the total display. In one exemplary case, it was found that the customers search and selection time was reduced by 90 percent. This time saving reduced customer frustration and made self service sales a realistic possibility.

Still other advantages and modifications will readily occur to those skilled in the art. Therefore, the appended claims are to be construed to cover all equivalents falling within the scope and spirit of the invention.

I claim:

1. A packaging system comprising a plurality of groups of cartons with different products in the different groups,
 - each of said groups of cartons being arranged into subgroups with different species of said products in said subgroups,
 - each carton having at least four sides with printing thereon,
 - said printing including at least a color coded product species identifying section,
 - said system including the subgroups of cartons being grouped together within said groups according to the color coded sections, whereby if a color coded carton is placed in another section the misplacing of that carton can immediately be determined,
 - a color coded trademark section,

said trademark section including an elongated multi-colored stripe with a distinctive shape extending across the side to at least two edges of said side, these sections being printed on at least two of said four sides in places to form a uniform pattern extending across said plurality of groups of cartons, when said cartons are placed next to each other regardless of which of said two sides are juxtaposed as said cartons are stacked,

a single color stripe extending on at least a front side of said carton or products as part of said uniform pattern, whereby the gestalt of said cartons create a billboard effect with color coded identification when said cartons are stacked together, and means in each of said cartons for exposing to view the product enclosed therein.

2. The packaging system of claim 1 and a section of background color on each of said cartons to give a common ground to the billboard effect.

3. The packaging system of claim 1 wherein there are a plurality of different types of cartons for housing different shapes or kinds of parts, each of said cartons displaying to view the part housed therein, whereby the nature of the part is immediately apparent without requiring the carton to be opened.

4. The packaging system of claim 3 wherein each type of housing has each of said sections printed

thereon in a coordinated geometry wherein any side of any housing type may be placed adjacent any side of another carton without interrupting the gestalt of the billboard effect.

5. The packaging system of claim 4 wherein at least some of said cartons comprise a generally rectangular tube having integral front, back, top and bottom panels with locking tab means forming an interference friction lock onto the contours of the product contained in said carton.

6. The packaging system of claim 5 wherein said product has a generally cylindrical shape, said friction lock against the contours of said product is formed by tabs pushed in against the outside peripheral circular cross-section, and said locking tabs fit under the circumferential contours of the product.

7. The packaging system of claim 5 wherein the product has a cylindrical shape with said friction fit being against the top and bottom of said cylindrical product.

8. The packaging system of claim 1 and a chart identifying the color-code on said cartons.

9. The packaging system of claim 1 wherein said color-coding occupies substantial portions of each carton whereby said billboard effect is one of coordinated, colored panels placed side by side across an entire display of a plurality of products.

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