Dec. 28, 1965 B. BRAUN 3,225,939

DISPLAY AND DELIVERY FOR PACKAGED GOODS

Filed Feb. 12, 1964 3 Sheets-Sheet 1

FIG. 1

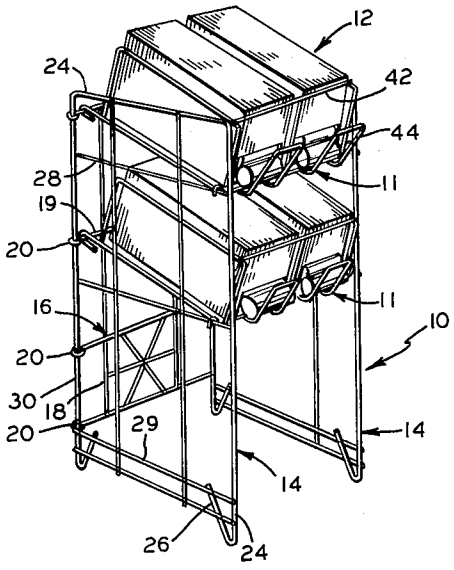


FIG. 2

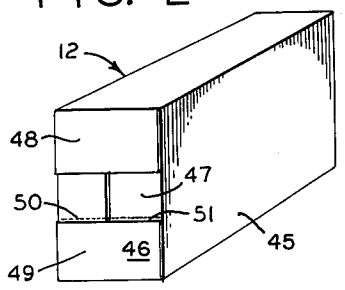


FIG. 3

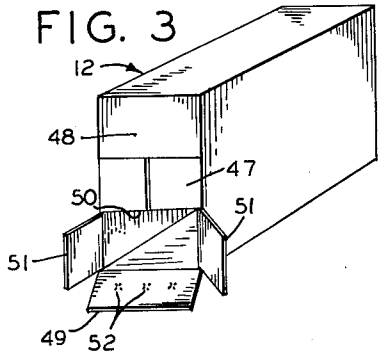
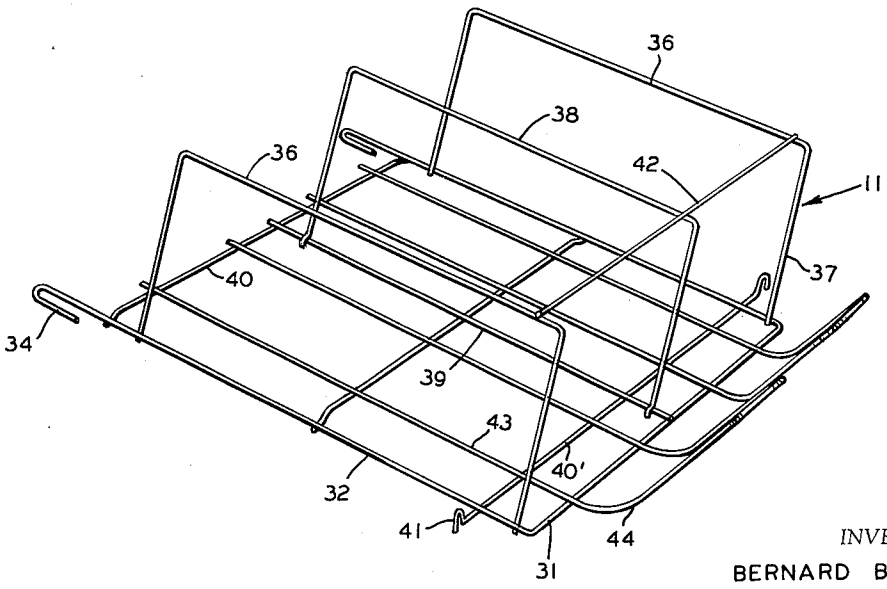


FIG. 4



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Dec. 28, 1965 B. BRAUN 3,225,939

DISPLAY AND DELIVERY FOR PACKAGED GOODS

Filed Feb. 12, 1964 3 Sheets-Sheet 2

FIG. 5

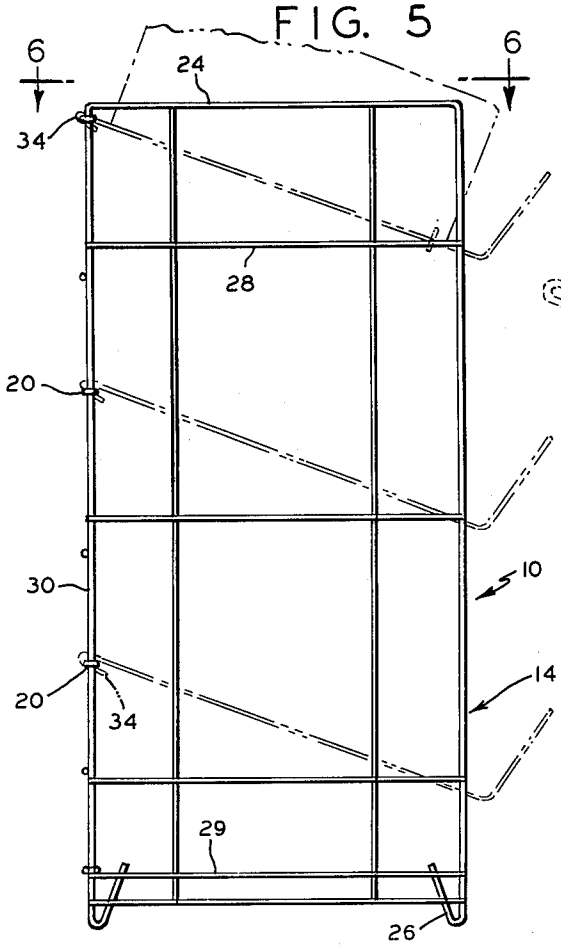


FIG. 7

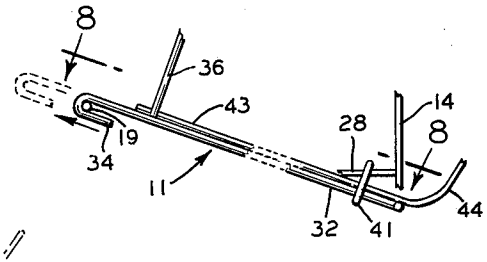


FIG. 8

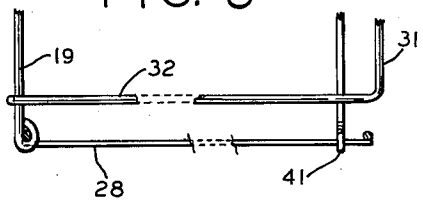
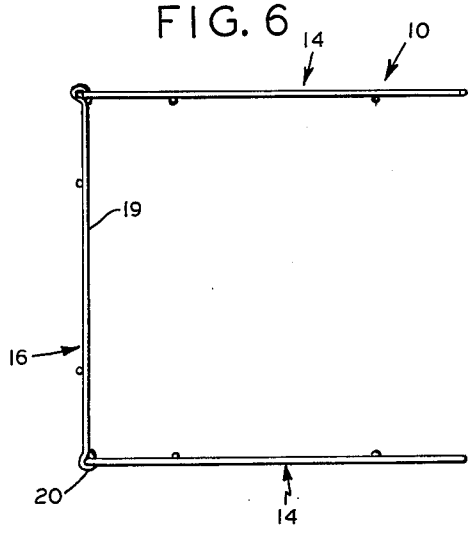


FIG. 6



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Dec. 28, 1965 B. BRAUN 3,225,939

DISPLAY AND DELIVERY FOR PACKAGED GOODS

Filed Feb. 12, 1964 3 Sheets-Sheet 3

FIG. 11

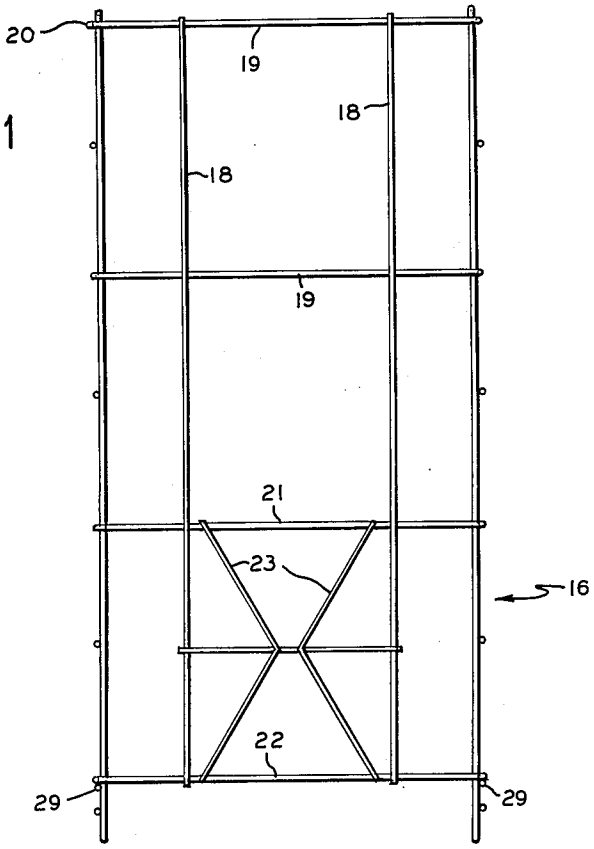


FIG. 9

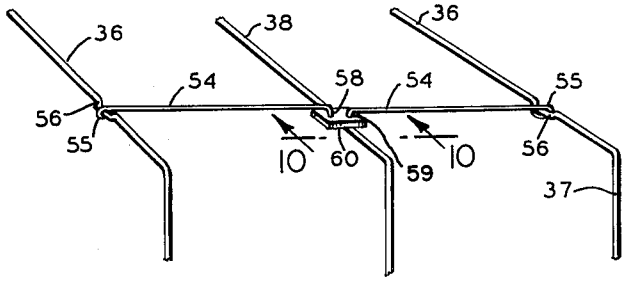
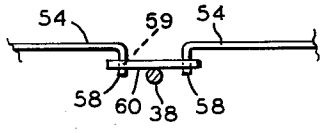


FIG. 10



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United States Patent Office 3,225,939 Patented Dec. 28, 1965

3,225,939

DISPLAY AND DELIVERY FOR PACKAGED GOODS

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Filed Feb. 12, 1964, Ser. No. 344,339
6 Claims. (Cl. 211—148)

This invention relates to a display and delivery system for canned or otherwise packaged goods and has for its principal object the provision of a novel means of packaging canned articles and displaying the same for access by the purchaser without a clerk first removing the cans from the cartons and putting them on display for the customers.

Another object of the invention is to provide the combination of a novel container or carton for the cans and a frame structure of skeletal construction with plural shelves for supporting the cartons in an inclined position so that an opening can be quickly formed in one end wall of the carton of sufficient size to permit one or two cans at a time to roll horizontally therefrom by gravity with stop means limiting the forward travel of the carton on the supporting frame and a bracket or cradle in advance of the stop means for receiving the lead can in a position where it can be readily grasped by the customer and lifted from its support, causing another can to immediately roll or slide into its place by gravity.

The provision of inclined shelves in supermarkets for receiving a goodly supply of cans which are gravity fed has a great improvement over the older practice of simply storing cans on a shelf. These trackways and supporting structure are relatively expensive and it requires manual unpacking of the boxes and placing the cans in the trackways from the rear.

In accordance with the present invention, the end wall of the carton has a perforated or otherwise weakened line which can be readily severed to provide an end wall opening of rectangular configuration and the carton then placed in one of the several shelf frames and the task is finished. The cans automatically feed themselves by gravity to the front bracket where they are easily removed. Rectangular boxes which can slide down the inclined path may also be used with the present invention.

A further object of the invention is to provide apparatus for an improved system of the display and delivery of canned goods wherein there is a great saving in floor space over the older types of rear loading frames having downward inclined tracks, wherein, space must be provided at the rear for the loading operation after the cans have been removed from the cartons in which they are shipped.

A further object of the invention is to provide a display and delivery combination for canned goods wherein the shipping cartons for the cans become the visual display device and rendering it unnecessary to remove the cans from the carton when the same is opened and permitting the carton to function as a selling vehicle when properly ornamented and provided with a selling message.

Yet another object is to provide a novel display rack or frame with separately formed shelf frames, i.e., frames that form downwardly inclined shelves for the cartons. The display racks can be shipped in collapsed condition so as to occupy little shipping space.

In the drawings:

FIG. 1 is a perspective view of the display and delivery system of the present invention;

FIG. 2 is a perspective view of the special carton in its initial closed condition;

FIG. 3 shows the carton when the leading end wall section has been opened and is ready for the delivery of cans;

FIG. 4 is a perspective view of the shelf frame;

FIG. 5 is a side elevation of the base frame;

FIG. 6 is a plan view thereof;

FIG. 7 is a broken side elevation showing the means of mounting the shelf frame;

FIG. 8 is a section taken on line 8—8 of FIG. 7;

FIG. 9 is a broken perspective view showing a modification;

FIG. 10 is a section taken on lines 10—10 of FIG. 9; and

FIG. 11 is a rear elevation of the rear frame.

The combination of the present invention essentially comprises a base frame **10**, a plurality of rectangular shelf frames **11** and a plurality of shipping cartons **12** of special construction for the cans. The base frame includes two side frames **14** of identical construction connected at the back by rear frame **16**.

This rear frame has two vertical bars **18** connected by horizontal bars **19** having hinge-forming loops **20** at their ends. The rear frame is reinforced at its lower end by horizontal bars **21** and **22** and generally vertical, diagonal braces **23**, the parts being secured together by welding.

Each side frame includes an inverted, U-shaped supporting frame **24** whose lower ends extend diagonally upwardly at **26**, forming reinforced legs. It further includes horizontal bars **28**, parts again being secured together by welding. The loops **20** receive the rear vertical leg **30** of each inverted U-shaped side frame, thus forming hinge elements. In shipping, the side frame may be swung, one to the front and one to the rear of rear frame **16** and the parts, thus collapsed, occupy very little space. By referring to FIG. 6, it will be noted that the loop **20** located at the right hand end of bar **19** is offset selightly rearwardly of loop **20** at the other end to permit the right-hand frame (when viewed from the front) to more readily fold to the rear of rear frame.

The loops **20** on the lowermost cross bar **22** of rear frame **16** rest upon the horizontal bar **29** on the side frame next to the bottom bar and this limits downward travel of the rear frame which is in effect hung on the side frames.

The shelf frame **11** is shown in detail in FIG. 4 and it includes a horizontal U-shaped base frame at the bottom having a front bar **31** and side bars **32** which terminate at their rear ends in U-shaped hooks **34** which are mounted on horizontal bars **19** of the rear frame. It further has inverted U-shaped side frames **36** welded at their lower ends to side bars **32** and provided with front bars **37**. It has a similar central frame **38** welded to a lower bar **39**.

It also has connecting bars **40** extending between side bars **32**, the front one **40'** of which has inverted U-shaped hooks **41**. The shelf frame also has an upper front bar **42** spaced slightly rearwardly of the front of the shelf frame. This bar limits forward movement of the cartons on their inclined support. Finally, the shelf frame has two brackets, each formed with two legs **43** welded to the transverse rods **40** and **40'** and joined by a forward loop **44** which extends upwardly at a point slightly in advance of cross bar **31** and forms a cradle **44**, to receive an article, round or otherwise, as it moves out of the carton.

The special carton **12** is shown in FIGS. 2 and 3. Most cartons for cans have a closed lower wall and a top wall with the usual hinged flaps glued together. This top wall would correspond to wall **45** of FIG. 2. In the carton of the present invention, however, all the walls are permanently sealed except one end wall **46** which has two vertical inner flaps **47** (when viewed as in FIG. 2) and two outer flaps **48** and **49**. Near the lower end, but above the

upper edge of outer flap **49**, these inner end walls **47** have a horizontal perforated or otherwise weakened line **50**, thus forming two lower vertical flap sections **51**. The inner face of horizontal flap **49** has a number of interrupted glue spots **52** to provide for easy opening. Before the carton is placed in the shelf frame, or afterwards if desired, the lower horizontal flap **49** is pulled downwardly to the position of FIG. 3 and the lower vertical flaps **51** separated from the upper sections **47**, along perforated line **50**. This forms an opening of rectangular shape and of a size to permit one can to pass therethrough. If desired, of course, the opening could be made high enough for two cans to come through at a time.

By forming the shelf frame in the manner shown, there are two areas in each to receive the cartons, the areas lying on each side of central frame section **38**.

The advantage in forming the shelf frames separate from the base frame resides in the foldability of the latter which reduces shipping areas. Two of the shelf frames can be nested together while shipping.

To use the display and vending apparatus, the base frame is set up in right angular relation as shown in FIG. 6 and the hooks **34** at the rear of the shelf frames engage the cross bar **19** while hooks **41** at the front engage the lower bar **28** of the side frame. The shelf frames are now loaded with the cartons by moving them in from the rear of the frames **10** and **11**.

If it is desired to load the shelf frames from the front, which is preferable since it eliminates the need for an aisle to the rear, the modified arrangement of FIG. 9 may be used. The fixed top front bar **42** of the shelf frame is replaced by two hinged bars **54** having hinge loops **55** at their outer ends for pivoted mounting in V-shaped recesses **56** in bars **36**.

The opposite ends of bars **54** have hooks **58** passing into holes **59** in a plate **60** welded on central frame member **38**. By raising a bar **54**, a single carton can be pushed rearwardly to the shelf and the hook **58** then passes into the plate opening.

While there have been described herein what are at present considered preferred embodiments of the invention, it will be obvious to those skilled in the art that many modifications and changes may be made therein without departing from the essence of the invention. It is, therefore, to be understood that the exemplary embodiments are illustrative and not restrictive of the invention, the scope of which is defined in the appended claims, and that all modifications that come within the meaning and range of equivalency of the claims are intended to be included therein.

What I claim is:

1. A frame including a plurality of downwardly inclined supports, in combination with a plurality of cartons of cans to be dispensed and carried in said supports, the cartons having an end wall opening of a size to permit one can at a time to roll from the carton while on said inclined support, a stop mounted on the frame adjacent the lower end of each support limiting forward travel of the carton on the support and a cradle extending forwardly of each support to receive a can as it rolls from the carton and to be replaced by a second can when the first one is removed by raising it upwardly from the cradle.

2. The structure recited in claim **1** wherein means are provided for moving the stop away from carton engaging position to permit front loading of the frame supports.

3. A frame formed of wire and including a plurality of downwardly inclined supports, in combination with a plurality of cartons of cans to be dispensed and carried in said supports, the cartons being normally closed but having an end wall opening of a size to permit at least one can at a time to roll from the carton while on said inclined support, a stop mounted on the frame adjacent the lower end of each support limiting forward travel of the carton on the support and a bracket extending forwardly and upwardly of each support to limit forward travel of a can as it rolls from the carton and to be replaced by a second can when the first one is removed by raising it upwardly from the bracket.

4. A frame member including opposed side frame and a plurality of downwardly inclined supports, in combination with a plurality of cartons of cans to be dispensed and carried in said supports, the cartons, each having an end wall opening of a size to permit at least one can at a time to roll from the carton while on said inclined support, a pivoted bar mounted on the side frames of the support for limiting forward travel of the carton on the support and a bracket extending forwardly and upwardly of said support to limit forward travel of a can as it rolls from the carton and to be replaced by a second can when the first one is removed by raising it upwardly from the bracket, said bar being movable out of the path of a carton to permit a carton to be moved onto the support, and means for receiving the bar in carton-engaging position.

5. A display and delivery device for canned articles comprising a rack forming a base frame, a plurality of rectangular shelf frames supported thereon and provided with downwardly inclined carton supports, a shipping carton of cans on one shelf frame and provided with an end wall opening of a size permitting a can to roll forwardly by gravity, stop means limiting forward movement of the carton on the supports and an upturned bracket in advance of said stop means to receive one can in dispensing position and to allow a second can to roll forwardly when the first has been removed by raising it upwardly from the bracket.

6. A display and delivery device for canned articles comprising a skeletal rack forming a base frame formed of wire, a plurality of rectangular shelf frames also formed of wire supported thereon, each provided with a pair of downwardly inclined carton supports, a shipping carton for cans on one shelf frame and provided with an end wall opening of a size permitting at least one can to roll forwardly by gravity, stop means limiting forward movement of the carton on the supports and an upturned bracket in advance of said stop means to receive one can in dispensing position and to allow a second can to roll forwardly when the first has been removed by raising it upwardly from the bracket.

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