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CARTON HOLDER

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Fig. 3.

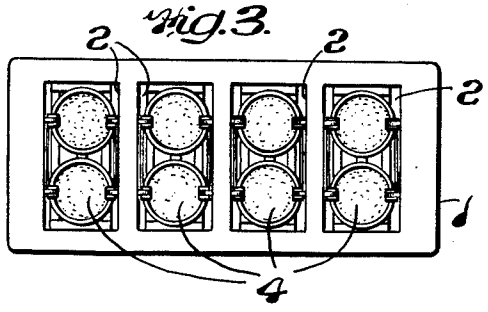
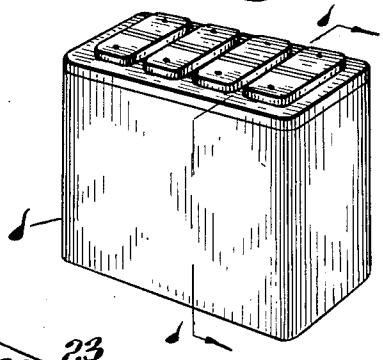


Fig. 2



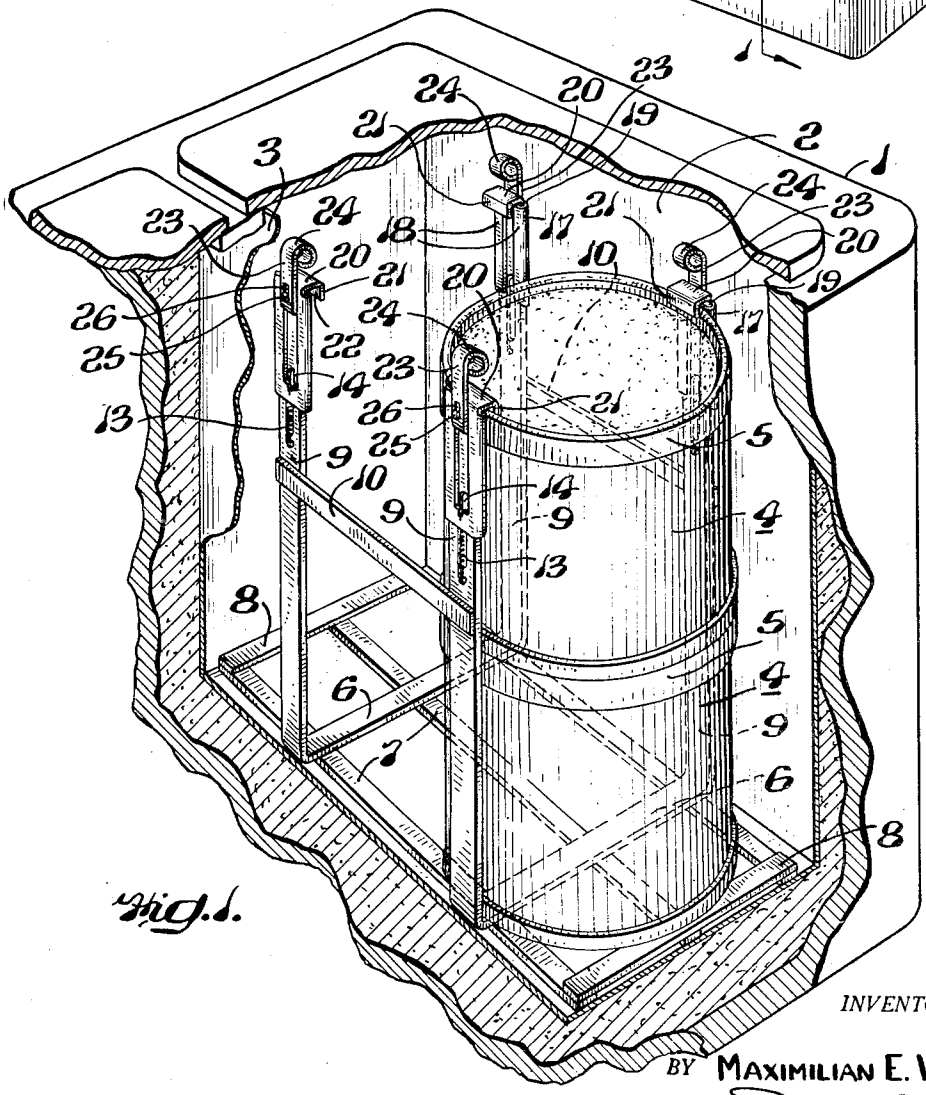


Fig. 1.

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Fig. 6.

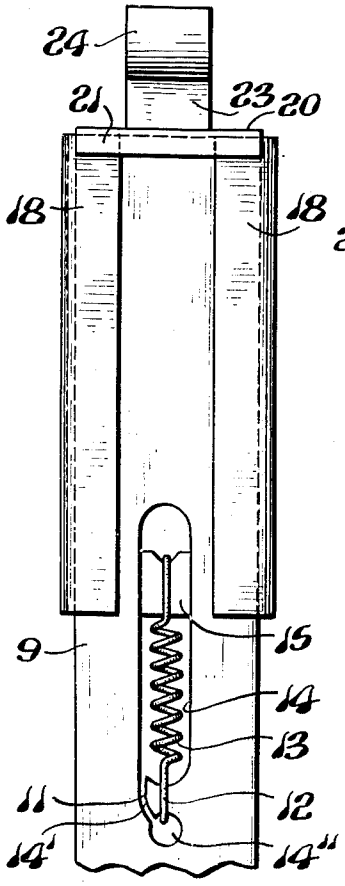


Fig. 4.

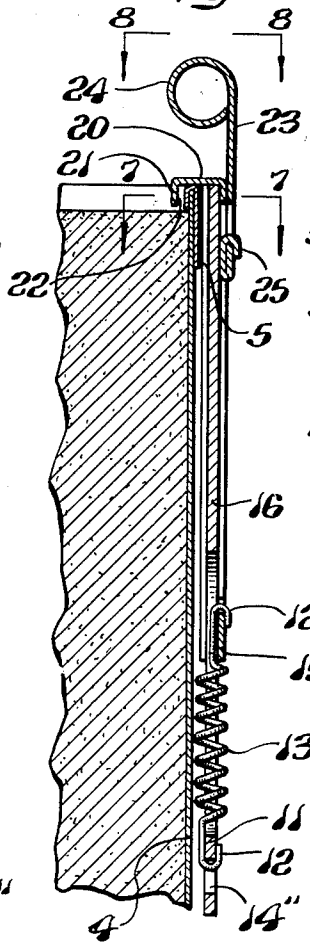


Fig. 5.

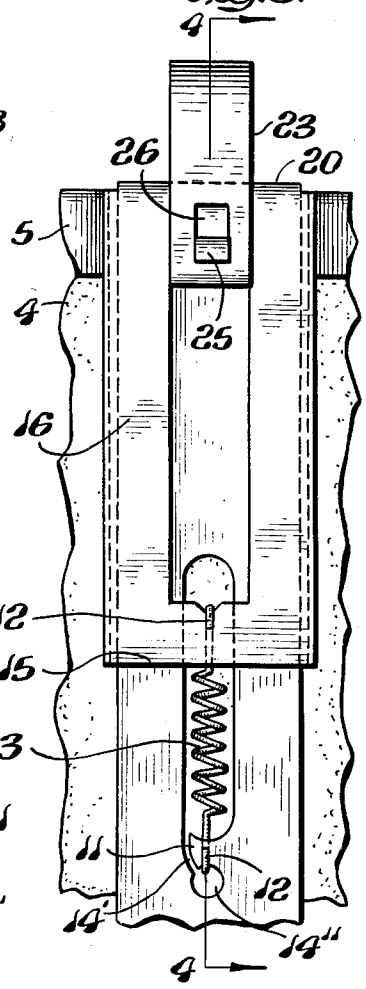


Fig. 7.

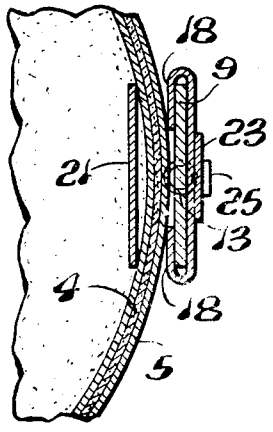
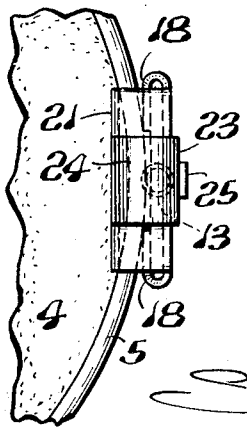


Fig. 8.



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Fig. 9.

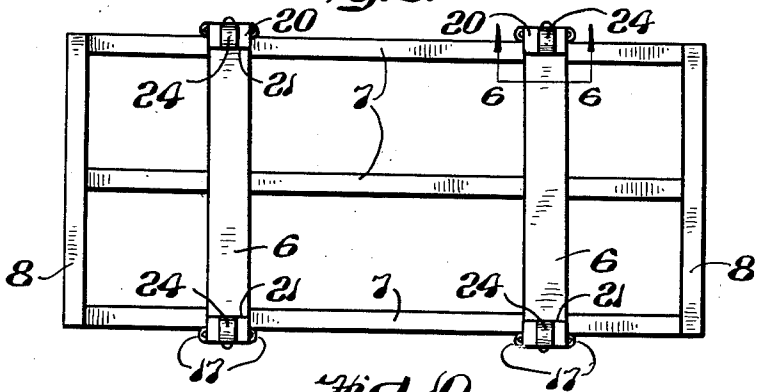


Fig. 10.

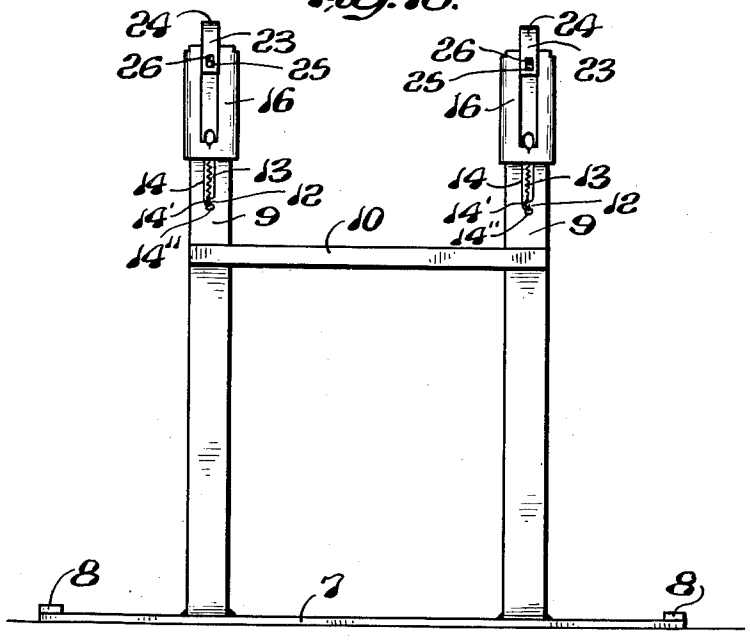


Fig. 11.

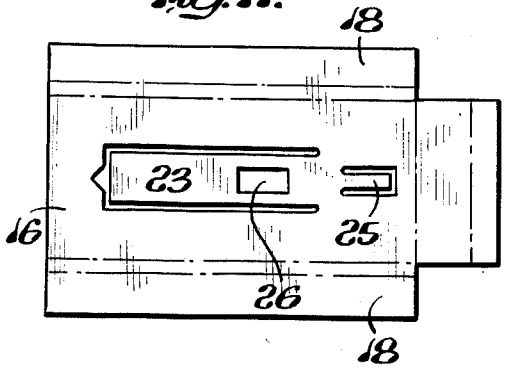
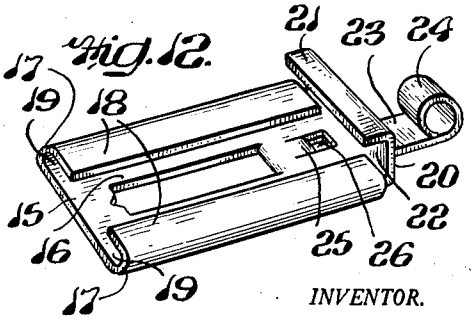


Fig. 12.



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UNITED STATES PATENT OFFICE

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CARTON HOLDER

Maximilian E. Weiss, Philadelphia, Pa.

Application September 15, 1948, Serial No. 49,416

4 Claims. (Cl. 248—154)

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My invention is an improved device for preventing the rotation of cartons, and it is particularly designed to securely hold ice cream cartons in a refrigerating cabinet while ice cream is being scooped therefrom, and a primary object of my invention is to prevent the rotation of the carton without applying sufficient force lengthwise of the carton to buckle the walls thereof.

Ice cream is commonly vended to dealers in cylindrical paper board cartons having reinforced edges, such as a flexible metallic rim, and is commonly stored in refrigerating cabinets having substantially rectangular compartments. When ice cream is scooped from the carton, the carton tends to rotate on its axis, and cannot be manually held against rotation without discomfort and likelihood of contamination of the ice cream. If it is sought to clamp the carbon to a base with sufficient force to prevent rotation, the paper board walls tend to bulge or collapse under the stress as the carton is emptied.

In accordance with my invention, the carton is held against rotation by the engagement of its reinforced rim in narrow rectangular slots of adjustable grips. Each slot is tangential to the periphery of the rim and has an inner wall which is a secant to an arc of the rim so that the side edges of the inner wall are pressed against the ends of the arc and the outer wall of the slot engages the arc intermediate the ends thereof so that a high degree of frictional resistance may be imposed to the rotation of the rim through the slot.

The adjustable grips preferably consist of slides which are normally lightly biased downward against the rim and along legs of a yoke whose bight forms a rest for the bottom of the carton or carton stack. The downward biasing of the grips retards upward movements of the carton during the scooping of ice cream therefrom, but is insufficient to bulge the cylindrical wall of the carton even when the carton is substantially empty.

The principles of my invention, and the best form in which I have contemplated applying such principles will further appear from the following description and the accompanying drawings in illustration thereof.

In the drawings, Fig. 1 is a broken sectional view taken approximately on the line 1—1 of Fig. 2 of an ice cream cabinet with my improved carton holder therein; Fig. 2 is a perspective view of the cabinet; Fig. 3 is a top plan view of the cabinet with the covers removed and showing the cabinet filled with cartons and carton holders; Fig. 4 is a fragmentary sectional view, taken on

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the line 4—4 of Fig. 5 of the upper portion of a carton and carton holder; Fig. 5 is a fragmentary side elevation of the upper part of a carton and carton holder; Fig. 6 is a fragmentary elevation of the upper part of a carton holder looking at the opposite face from that shown in Fig. 5; Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 4; Fig. 8 is a top plan view looking from the plane indicated by the line 8—8 of Fig. 4; Fig. 9 is a top plan view of the carton holder removed from the cabinet; Fig. 10 is a side elevation of the carton holder shown in Fig. 9; Fig. 11 is a plan view of a blank for forming a grip and Fig. 12 is a grip bent from the blank shown in Fig. 11. In the drawings, there is shown a conventional ice cream cabinet 1 containing rectangular refrigerated compartments 2 which may be, but need not be, separated from one another by partitions 3. The compartments 2 are ordinarily filled with cylindrical ice cream cartons 4 which may be substantially the height of the compartment but are more frequently stacked upon one another as indicated in Fig. 1. These cylindrical cartons are ordinarily made of paper board reinforced with flexible metallic rims 5 bent over the ends of the cylindrical walls of the carton.

In the preferred embodiment of my invention, resilient metal strips are bent to form yokes having their bights 6 welded to stringers of an open base 7 adapted to be seated in the bottom of a compartment 2. The ends of the base may be braced by cross pieces 8 and the upwardly extending legs 9 of the yokes may be braced by the bars 10 extending parallel to the stringers 7.

The upper end of each leg 9 is cut out to form a hook 11 for anchoring a loop 12 of a retractile spring 13 which lies in a slot 14 in the leg 9 above the hook 11 and is attached to and biases downward a slide or grip 15. The slot 14 has a narrow downward extension 14' alongside the hook 11 and terminating in an opening 14'' below the hook so that a closed loop 12 may be passed through the narrow passage 14' and into the larger opening 14'' so as to loop it around the hook 11.

The slide 15 comprises a body or face plate 16 having flanges 17 bent transversely thereto along the longitudinal edges thereof and flanges 18 are bent parallel to the body to form slideways 19 for receiving the edges of the legs 9.

A flange 20 is bent from the top of the body 16 transverse to the body and to the slideways 19 and a flange 21 is bent downward from the flange 20 parallel with the flanges 18, but spaced therefrom so as to form substantially rectangular slot 22 whose front wall is formed by the lip 21

and whose back wall is formed by the flanges 18 and leg 9.

A tongue 23 may be cut from the face plate 16 and bent upwardly parallel thereto to form a handle having a looped end 24 above and spaced from the flange 20. The tongue 23 may be secured against the plate 16 by a clip 25 cut out from the face plate 16, projected through an opening 26 in the tongue 23, and bent down against the latter to rivet the parts together.

My improved carton holder may be economically made from sheet metal by cutting and welding strips to form the base and cutting, punching, bending and welding strips to form the yokes with legs projecting upwardly from the base. The grips are stamped from sheet metal blanks as indicated in Fig. 11, and bent, as indicated in Fig. 12, to provide grips which are slidable on the legs 9 of the yokes into and out of engagement with the rims of the cartons. When a carton is to be replaced, the slides may be lifted by pulling on the loops 24 and slightly spreading the arms 9 when the lip or flange 21 has cleared the top of the carton rim. A new carton is then inserted between the legs 9 of a yoke, the slides are lifted by pulling up the loops 24, the flanges 18 are pressed against the outer periphery of the carton and the slides lowered until the head flanges 20 engage the top of the rim and the flanges 21 engage the inner surface of the rim at spaced points and at a level above the top of the ice cream. The flanges 21, and the groove or slot bounded thereby, are of such width relative to the periphery of the rim as to prevent the rim from sliding through the slot 22. To augment the holding action, the slot may be made so narrow as to require a slight deformation of the arc of the rim to effect its insertion in the slot. For ice cream cartons of usual types, it is generally desirable that the width of the flange 21 should subtend approximately ten degrees of arc of the rim.

Having described my invention, I claim:

1. The combination with a cylindrical ice cream carton having a flexible, paper-board cylindrical wall tending to buckle under rotation-preventing force applied downwardly to the upper edge thereof and a reenforcing rim complementary to and surrounding the upper edge portion of said wall and rendering arcs thereof more resistant to flattening than is the remainder of said wall, of an anti-rotational holder having a grip containing a slot in which complementary portions of said rim and edge are insertable only when slightly flattened, said slot having an outer wall substantially tangential to an arc of the unflattened rim and an inner wall which is a secant to said arc, said inner wall having vertical edges engaging said rim adjacent to the ends of said arc and said outer wall pressing against said rim at an intermediate part of said arc, and means for applying to said grip a downward force insufficient to buckle said cylindrical wall.

2. A combination as set forth in claim 1 in which the holder includes a yoke having a bight underlying the carton and legs on opposite sides of the carton and a grip as described is vertically movable on each of said legs.

3. An anti-rotational carton holder including a yoke having a bottom bight and parallel legs projecting upward for receiving a carton between them above said bight, a grip movable vertically on each of said legs, each of said grips including a plate parallel to a leg to which it is complementary, said plate having a flange bent transversely thereto above the top of said last named leg, said flange having a lip bent therefrom substantially parallel with said plate, and said plate having flanges bent therefrom around the vertical edges of said last named leg, said lip and last named flanges forming opposite walls of a slot for receiving the edge of a carton.

4. An anti-rotational carton holder as set forth in claim 3 in which a tongue cut from the face plate between the flanges bent around a leg is bent upwardly to form a handle above the slot.

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