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S. N. HOPE ET AL

2,174,661

CASTERED HARNESS

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FIG. 1

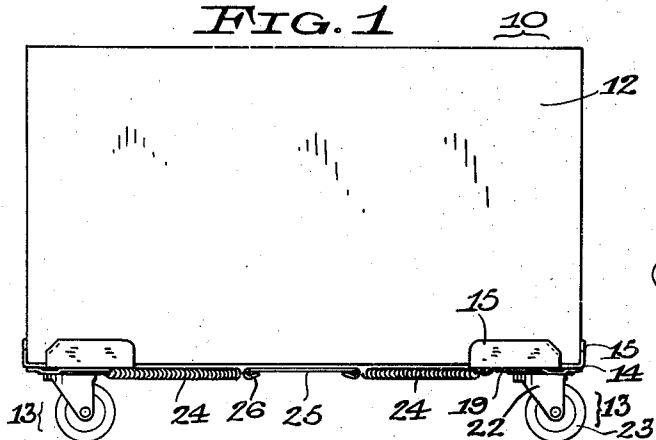


FIG. 3

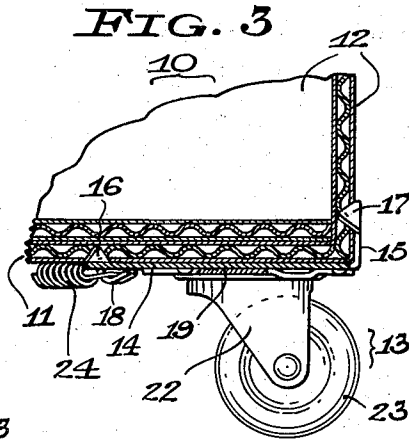


FIG. 2

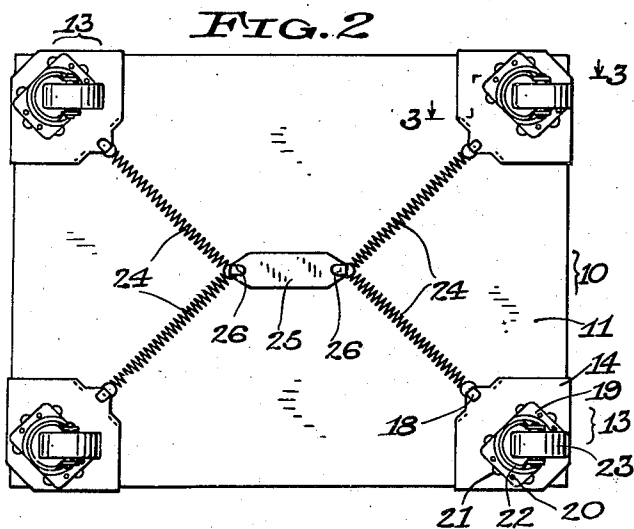


FIG. 4

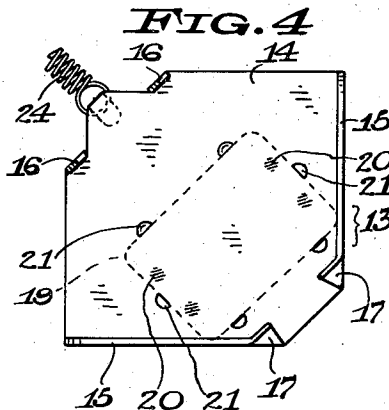


FIG. 5

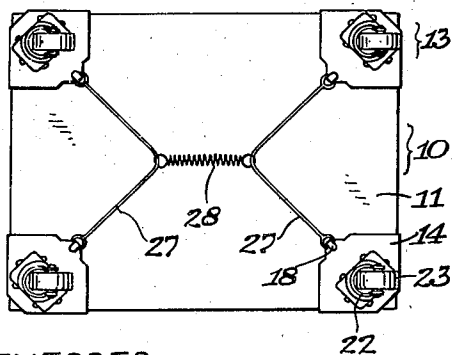
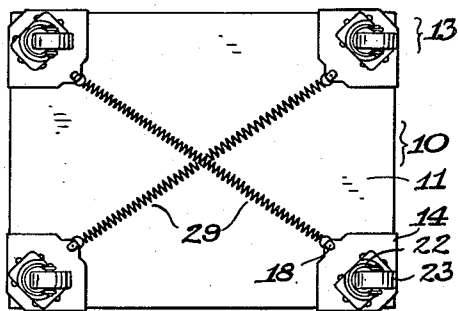


FIG. 6



WITNESSES

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CASTERED HARNESS

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7 Claims. (Cl. 280—61)

The invention relates to wheeled supporting means and more particularly to castered container-supporting means for displaying and moving merchandise and other articles.

Many types of merchandise are packed in containers such as cartons of corrugated cardboard and are frequently left in the containers for display on a sales floor. Certain locations on the floor are found to be more favorable than others, and these are best determined by shifting the containers about.

It is an object of the invention to provide castered supporting means of simple, durable, light-weight and inexpensive construction adapted for easy, quick and secure attachment to containers of various sizes, and especially to cartons of corrugated cardboard.

Another object of the invention is to provide supporting means in the form of a castered harness which can be conveniently handled and which when not in use can be packed and shipped in a relatively small package.

The invention further consists in the several features hereinafter described and claimed.

In the accompanying drawing, illustrating certain embodiments of the invention:

Fig. 1 is a side elevation of a container equipped with a castered harness constructed in accordance with the invention;

Fig. 2 is a bottom view of the container and attached castered harness;

Fig. 3 is a detail sectional view taken generally along the line 3—3 of Fig. 2;

Fig. 4 is a top plan view of one of the castered supports;

Fig. 5 is a bottom view of a container equipped with a modified form of castered harness; and

Fig. 6 is a bottom view of a container equipped with another modified form of castered harness.

In the drawing, 10 designates a container which is preferably a rectangular carton of corrugated cardboard having a flat bottom wall 11 and vertical side walls 12.

In each form of the invention, the container is carried on a plurality of castered supports 13 which are detachably secured to the container, as hereinafter described. The castered supports are preferably mounted at the corner portions of the container bottom and each includes a sheet metal plate or bracket 14 having upwardly bent flanges 15 at two adjacent sides, the flanges extending at right angles to each other and engaging the adjacent angularly related abutment-forming side walls of the container. The plate 14 has upstanding spurs or prongs 16 bent from

an edge thereof to pierce or penetrate the bottom wall of the container, and the flanges 15 have similar inturned spurs or prongs 17 to pierce or penetrate the side walls of the container. At its inner edge the plate 14 has a bendable ear 18 for attaching connecting means hereinafter described.

A caster bearing plate 19 is rigidly secured to the bottom face of each plate 14, as by spot-welding 20, being positioned by lugs 21 bent down from the plate 14. A caster 22 has a swivelled connection with the bearing plate 19 and is provided with a caster wheel 23. The caster and its bearing plate are of any well-known construction.

The castered supports are flexibly and resiliently connected to form a harness which will retain the supports on containers of various sizes, and which will permit compact packing of the supports when not in use.

In that form of the invention shown in Figs. 1 to 4, coiled tension springs 24 with looped ends are connected to the corresponding plates 14, the outer ends of the springs being secured by the bendable ears 18 of the plates. The inner ends of the springs are connected together, as by means of a sheet metal connector plate or strap 25, the opposite ends of which have bendable lugs or ears 26 each engaging the inner ends of two of the springs. In the case of a rectangular container, the plate 25 extends parallel to the long dimension of the container bottom wall. While the supporting plates are preferably spurred or pronged to interengage the container walls, the frictional engagement of these spring-urged plates with the container walls is sufficient in some instances to provide retention.

In the form of the invention shown in Fig. 5, each pair of adjacent castered supports are connected by a somewhat flexible or resilient wire bail 27 of angular shape having looped ends pivotally engaged by the attaching ears 18 on the castered plates 14. The opposed apices of the two bails are pivotally connected by a coiled tension spring 28 having looped ends engaging the bails.

In the form of the invention shown in Fig. 6, the two pairs of opposed castered supports are connected by a pair of coiled springs 29 with looped ends, the springs crossing each other at an angle. Each pair of opposed castered supports and their connecting spring are here indicated to form a separate assembly, but, if desired, the two springs may be joined at their intersection to form a single assembly.

When the device of Figs. 1 to 4 is to be placed in use, each castered support is hooked onto a bottom corner of the container and is pressed thereagainst to cause the struck up spurs 16 and 17 to penetrate the bottom and side walls of the container. The resilient connecting means for the castered supports permits each support during its application to the container to be swung or turned in various directions more or less independently of the other supports, so as to facilitate the hooking operation and to insure snug fitting of the supports on the corners of the container. The application of the several castered supports places the coiled springs 24 under tension. These springs serve to hold the caster units firmly on the container, and permit the device to readily be applied to containers of various sizes. The container may be lifted without dislodging the castered supports.

In use, the castered container, carrying articles to be displayed, is placed on a sales floor at a suitable location, and is readily wheeled about, as conditions require, to display the articles to best advantage. If desired, the container may be fitted with the castered harness in a stock room and then wheeled to the sales floor, so as to facilitate handling. The interengagement of the spurred castered supports with the container walls prevents dislodgment of these supports when striking obstructions on the floor.

When the container is empty and ready to be discarded, the castered harness can readily be removed from the container and transferred to another container.

The devices of Figs. 5 and 6 are applied and used in substantially the same manner as the device of Figs. 1 to 4.

The construction of the several devices permits them to be manufactured at a relatively low cost, and although they are of comparatively light weight, they are strong and durable and capable of sustaining relatively heavy loads.

When any of the devices of the invention is to be shipped or stored, it can be compactly arranged and placed in a relatively small package or carton.

What we claim as new and desire to secure by Letters Patent is:

1. Rollable container-supporting means, comprising a plurality of relatively shiftable castered supports each having a portion on which a container is adapted to rest and an upwardly projecting portion adapted to engage a side wall of

the container, and resilient connecting means including a spring member for urging the projecting portions of said supports against the container side walls.

2. Rollable container-supporting means, comprising a plurality of relatively shiftable castered supports on which the corner portions of a container are adapted to rest, each support having upwardly projecting portions adapted to engage angularly related side walls of the container, and resilient connecting means including a spring member for urging said projecting portions against said side walls.

3. Rollable container-supporting means, comprising a plurality of relatively shiftable castered supports on which a container is adapted to rest, each support including a sheet metal plate having an upstanding flange adapted to engage a side wall of the container, and resilient connecting means including a spring member for urging the flanges of said supports against the side walls of the container.

4. Rollable container-supporting means, comprising a plurality of castered supports on which a container is adapted to rest, each support having an upwardly projecting portion adapted to engage a side wall of the container, coiled tension springs connected to said supports, and a connector joining said springs.

5. Rollable container-supporting means, comprising a plurality of castered supports on which a container is adapted to rest, each support having an upwardly projecting portion adapted to engage a side wall of the container, connectors joining adjacent supports, and a coiled tension spring joining said connectors.

6. Rollable container-supporting means, comprising a plurality of castered supports on which a container is adapted to rest, said supports being arranged in opposed pairs and each support having an upwardly projecting portion adapted to engage a side wall of the container, and a plurality of coiled tension springs each joining a pair of opposed supports.

7. Rollable container supporting means comprising a plurality of relatively shiftable castered supports adapted to engage and sustain a container with lateral abutments thereon, and spring-tensioned retaining means connecting said supports and urging said supports laterally against said abutments.

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