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3,133,660

CONTAINER

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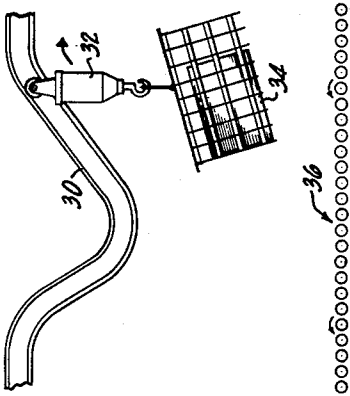


FIG. 3

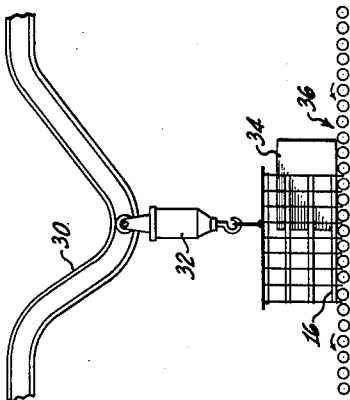


FIG. 4

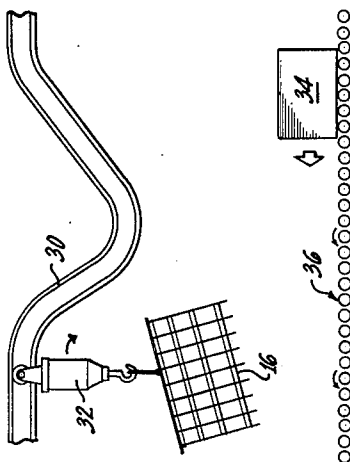


FIG. 5

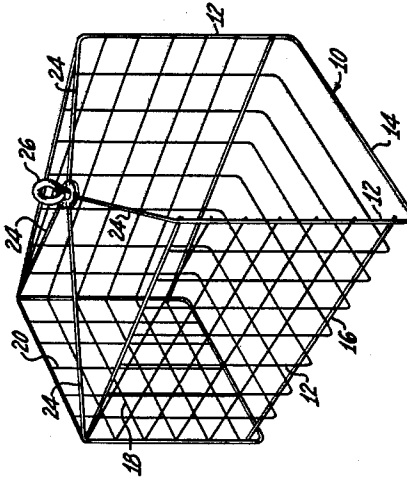


FIG. 2

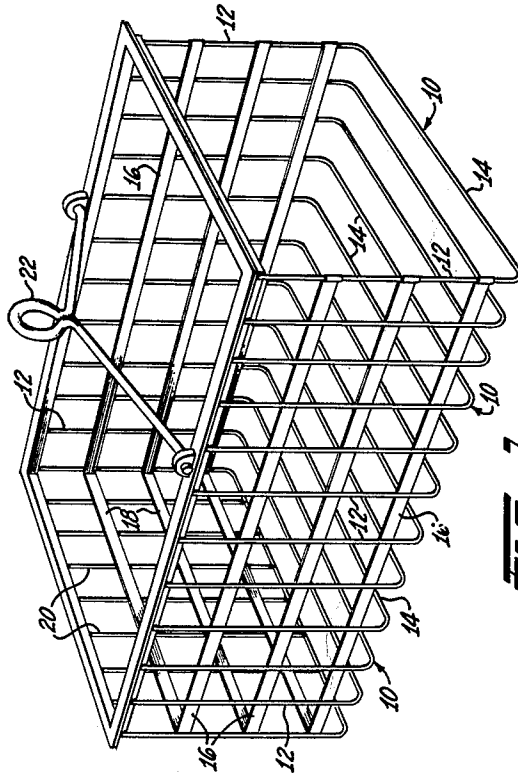


FIG. 1

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CONTAINER

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This invention relates in general to a container and its manner of use.

It is an object of this invention to provide a container adapted for use in warehouses.

It is a further object of this invention to provide a container especially suitable for use with a conveyor consisting of a plurality of spaced rollers, said container being capable of receiving articles carried by the rollers without any necessity for lifting the articles from the rollers.

Another object of this invention is to provide a method for using the aforementioned container so as to facilitate the loading and transportation of articles.

Other objects and advantages of this invention, if not set forth, will become apparent during the course of the description as follows.

Generally, this invention comprises a container suitable for use in receiving objects supported by a plurality of rollers, said container having opposed sides, at least one end and a bottom, the bottom consisting solely of narrow transverse members which are preferably of heavy wire.

In the drawings:

FIGURE 1 shows, in perspective, a preferred embodiment of this invention.

FIGURE 2 is a perspective view of a slightly modified embodiment of this invention.

FIGURES 3-5 are sequential diagrammatic representations of the method of using the container of this invention in conjunction with power rollers.

Referring now to the drawings wherein like characters refer to like parts throughout, there is shown in FIGURE 1 a preferred embodiment of the invention including a plurality of laterally spaced, U-shaped wires 10, each wire consisting of an upstanding leg 12 at either end of horizontal transverse base 14. The wires 10 are maintained in a spaced relationship by means of vertically spaced longitudinal wires or straps 16 which are preferably mounted internally of the legs 12 of the U-shaped members 10. As seen in FIGURE 1, the basket has one open end and one closed end, the latter consisting of horizontal and vertical members 18 and 20. Secured to either side near the uppermost edge of the basket is a support 22 by which the basket may be suspended, this support 22 preferably being positioned relatively near the mouth or open end of the basket so that when suspended therefrom, the basket will be caused to tilt with its open end uppermost.

A slightly modified form is shown in FIGURE 2 wherein there is seen a structure consisting of similar wire or strap elements 10, 16, 18 and 20, the bases 14 of the U-shaped members 10 being of continually decreasing length as the closed end is approached whereby to provide a tapered basket, several of which may be nested together. In this particular embodiment, the basket is supported by the four wires 24 which converge and have secured thereto a suitable loop 26 from which the basket may be suspended.

The manner of use of the basket is seen in diagrammatic FIGURES 3, 4 and 5 wherein there is shown a track 30 for an over-head traveling crane 32 from which the basket is suspended. An article 34 to be loaded is placed on power rollers 36 and the crane advanced to a point wherein the lowermost elements 16 of the basket rest upon the rollers with the transverse bottom elements 14 fitting between individual rollers and beneath the

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uppermost surface thereof. The rollers turn as indicated and the article 34 is advanced into the open mouth of the basket following which time the over-head crane continues to advance in its U-shaped track to lift the article from the surface of the rollers, as shown in FIGURE 5. If desired, the article 34 may be loaded onto a truck or elsewhere by reversing the operation described.

It is also possible to modify the basket somewhat and nevertheless achieve a structure which is capable of functioning as described. For example, the open end is not absolutely essential and a suitable pivoted gate or gates may be provided which may be secured shut temporarily so as to assure that the article 34 is not discharged prematurely. Also, the sides of the basket need not be a grid-work of wires, as shown, but may be solid panels, while the same may be true of the closed end. Finally, and most important, the basket may be sufficiently wide that the rollers fit entirely within the space defined by opposed upright legs 12 or, in the alternative, the rollers may be of a stepped structure with the lower portions thereof at either end, in which case opposed lowermost longitudinal elements 16 may be dropped to the level of transverse bottom elements 14; elements 16 would rest upon the lesser-diametered portions of the rollers when the point shown in FIGURE 4 is reached. However, it is still essential that no longitudinal ribs be provided linking each of the base elements 14, since this would prevent them from coming to rest beneath the upper surfaces of the rollers.

It is desirable that longitudinal side members 16 be positioned within U-shaped members 10 since otherwise a package entering or leaving the basket might be impeded by one of the legs 12.

Also, it is obvious that a basket having no support 22 may be manually placed upon a set of rollers, whether operated by power or otherwise, and an article advanced into the basket with certain of the advantages of this invention being obtained. It is the provision of means for dropping the bottom of the container below the surfaces of the rollers supporting the articles being loaded which constitutes the most essential inventive feature hereof.

Finally, it is apparent that the method of this invention (involving placing a basket upon rollers so that the basket bottom drops beneath the uppermost surfaces of the rollers whereby the article or articles to be loaded can be advanced into the basket through the open end thereof) may be practiced with conveyor rollers which are not continuous for the entire width of the conveyor structure, but, rather, are no wider than roller skate wheels. Such conveyors are in common use, a plurality of such wheels being spaced from one another on each axis running the width of the conveyor. With such a conveyor structure, it is possible to use a basket which has both spaced cross-ribs and spaced longitudinal ribs on the bottom thereof, the longitudinal ribs fitting between the narrow rollers. The top-most surfaces of the individual narrow rollers will still be positioned well above the grid work of the basket bottom when the basket is lowered into place and, hence, the basket grid work will not interfere with the articles being moved on the rollers. Thus, it is possible to practice the method of this invention using two alternative structural interrelationships of basket and rollers.

Obviously, many modifications and variations may be made without departing from the spirit and scope of this invention, and therefore only such limitations should be imposed as are indicated in the appended claims.

I claim:

1. A warehousing container suitable for use in receiving objects supported by a plurality of rollers, said container having two upright sides, an integral closed end,

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an open end, and a bottom, said sides and said bottom being integral and being solely of a plurality of spaced U-shaped members, each spaced from one another a distance sufficient to permit rollers to pass between the said U-shaped members and project into the said basket to contact articles therein, each of the said sides being provided with vertically spaced, longitudinal bracing members, the lowermost of each of the said longitudinal members of each of the said sides being vertically spaced from the bases of the said U-shaped members, said longitudinal members being secured to the arms of the said U-shaped members, the space between adjacent arms from the points of attachment thereof to the said lowermost longitudinal bracing members to the bases of the said U-shaped members being unobstructed, the base of each of the said U-shaped members being of decreasing length relative to the length of the base of the said U-shaped member immediately preceding, the U-shaped member having the shortest base being immediately adjacent the said integral closed end of the said basket, whereby to permit a plurality of the said baskets to be nested, the bases of each of said U-shaped transverse members lying entirely in a single plane.

2. A warehousing basket suitable for use in receiving objects supported by a plurality of rollers, said basket having one closed end, one open end, two sides and a bottom integral with the two sides, the bottom and closed end being formed of a grid work of vertical wires and horizontal braces therefor, said bottom being formed solely of a plurality of laterally spaced, U-shaped members, each having a horizontal base portion and two vertical legs, said members bridging the distance between each of the sides of the said basket, the spaced between the said U-shaped members being unobstructed and sufficiently wide to permit rollers to pass between the said members and project into the basket to contact articles in the said basket, longitudinal bracing members secured to the inner surfaces of the upright arms of the said U-shaped members, the base portions of the said U-shaped members being the sole elements constituting the bottom of the said basket, the longitudinal bracing members secured to said upright arms of the said U-shaped

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members being spaced vertically from the base portions of the said U-shaped members a distance sufficient to permit said rollers to extend into the said basket and to contact articles therein when the said rollers rest against the said longitudinal bracing members, the space between the base portions of the said U-shaped members and said longitudinal braces being unobstructed except for said legs of said U-shaped members.

3. A warehousing basket suitable for use in receiving objects supported by a plurality of rollers, said basket having one closed end, one open end, two sides and a bottom integral with the said sides, said bottom being formed solely of a plurality of laterally spaced, U-shaped members each having a horizontal base portion and two vertical legs, said members bridging the distance between each of the sides of the said basket, the space between the said U-shaped members being unobstructed and sufficiently wide to permit rollers to pass between the said members and project into the basket to contact articles in the said basket, longitudinal bracing members secured to the inner surfaces of the upright arms of the said U-shaped members, the base portions of the said U-shaped members being the sole elements constituting the bottom of the said basket, the longitudinal bracing members secured to said upright arms of the said U-shaped members being spaced vertically from the base portions of the said U-shaped member a distance sufficient to permit said rollers to extend into the said basket and to contact articles therein when the said rollers rest against the said longitudinal bracing members, the space between the base portions of said U-shaped members and said longitudinal braces being unobstructed except for said legs of said U-shaped members.

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