Dec. 15, 1953 W. C. STORER ET AL 2,662,638

CARTON

Filed Aug. 18, 1949

2 Sheets-Sheet 1

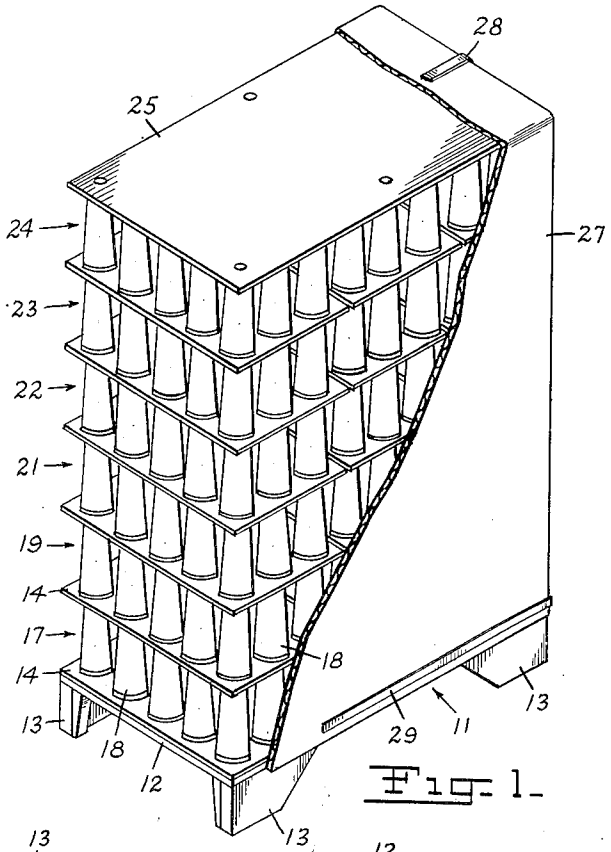


Fig. 1.

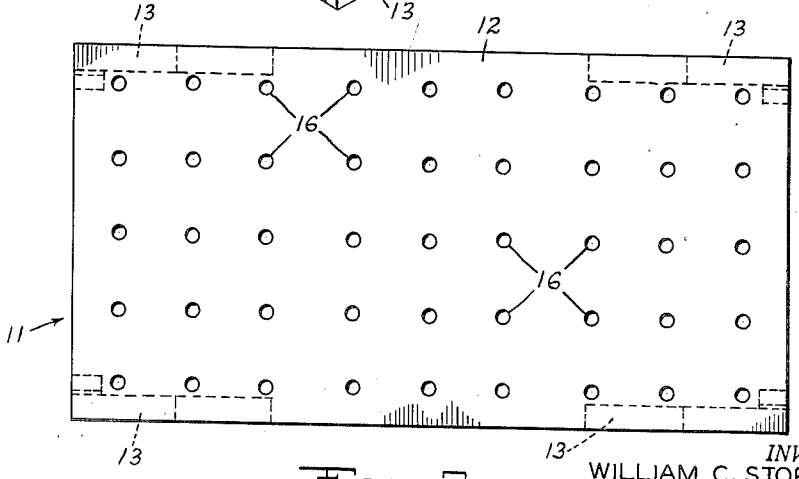


Fig. 2.

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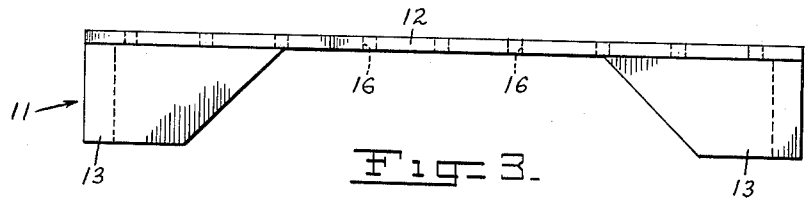


Fig. 3.

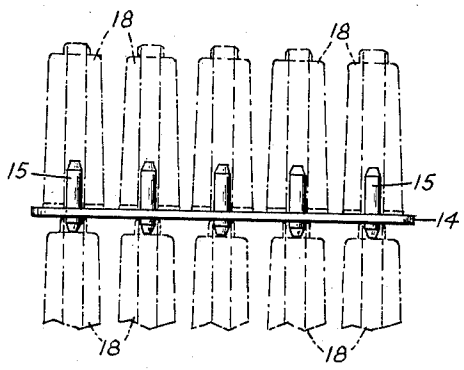


Fig. 4.

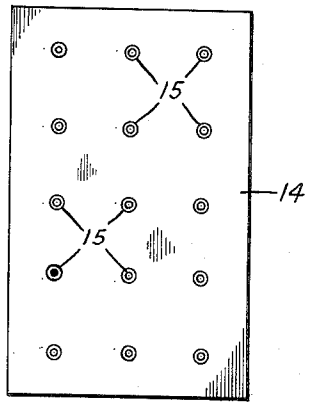


Fig. 5.

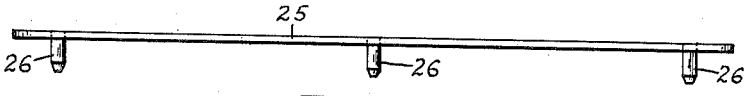


Fig. 6.

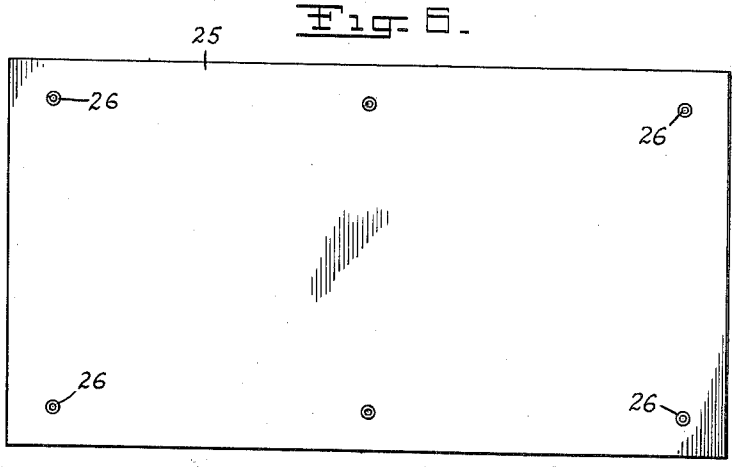


Fig. 7.

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2,662,638

CARTON

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3 Claims. (Cl. 206—65)

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This invention relates to cartons and relates more particularly to cartons for storing and shipping packages of yarn.

The bulk of the yarn produced in the textile industry is wound into packages, such as bobbins, cones, cheeses, pirns and the like. During the storing and shipping of these yarn packages they must be supported so as to prevent them from rubbing against each other or against the walls of the carton in which they are contained, since such rubbing would mar at least the outer layers of yarn on said packages. The cartons heretofore employed for storing and shipping yarn packages have included means, such as apertured inserts, for engaging the yarn packages so as to prevent movement thereof and damage to the yarn wound thereon. However, these cartons have been relatively expensive and have required a considerable amount of labor for their assembly and disassembly, thereby increasing the handling costs in storing and shipping the yarn packages. In addition, these cartons have failed to provide adequate support for the yarn packages, with the result that yarn damage frequently occurred, particularly when the loaded cartons were subjected to shocks during handling or shipping.

It is an important object of this invention to provide a carton for storing and shipping packages of yarn which will be free from the foregoing and other disadvantages of the cartons hitherto employed for this purpose, and which will be especially simple in construction and efficient in use.

A further object of this invention is the provision of a carton for storing and shipping packages of yarn which will engage and support said packages so as to avoid relative displacement thereof and damage to the yarn wound thereon.

Other objects of this invention, together with certain details of construction and combinations of parts, will be apparent from the following detailed description and claims.

A preferred embodiment of our invention of a carton for storing and shipping bobbins of yarn will now be described with particular reference to the accompanying drawings wherein

Fig. 1 is a perspective view of an assembled carton, partly broken away to show the arrangement of yarn packages therein,

Figs. 2 and 3 are detail views, on an enlarged scale, of a pallet forming a part of the carton shown in Fig. 1,

Figs. 4 and 5 are detail views, on an enlarged scale, of a yarn package shelf forming a part of the carton shown in Fig. 1, and

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Figs. 6 and 7 are detail views, on an enlarged scale, of a cap forming a part of the carton shown in Fig. 1.

Referring now to the drawings, the reference numeral 11 designates generally a pallet comprising a base 12 which is supported on legs 13, whereby access to the underside of the pallet 11 by the tongue or fork of a lift truck may be had. Yarn package shelves 14, having a plurality of regularly disposed pins 15 extending therethrough and projecting from both sides thereof are mounted on the pallet 11, with the pins 15 engaging a plurality of regularly disposed apertures 16 in the base 12 to secure the yarn package shelves 14 against accidental displacement. The yarn package shelves 14 carry a layer 17 of yarn packages, such as bobbins 18, which are held securely in place by engagement with the pins 15. Resting on the layer 17 are additional yarn package shelves 14 with the portion of the pins 15 projecting from the under surface of said shelves engaging the bobbins 18 in the layer 17, and with the portion of the pins 15 projecting from the upper surface of said shelves engaging the bobbins 18 in a layer 19. Additional layers 21, 22, 23 and 24 of bobbins 18, each supported on yarn package shelves 14, are superposed in similar manner on the layer 19. The upper layer 24 is covered with a cap 25 that is provided with a plurality of downwardly projecting pins 26 that engage the bobbins 18 in said layer. While only a few pins 26 are shown in the cap 25, it is of course possible to provide a sufficient number of pins 26 to engage each of the bobbins 18 in the layer 24. A protective cover 27 of corrugated board, cardboard or other suitable material is fitted over the several layers of bobbins 18 and the entire assembly is bound into a strong, unitary structure by means of steel straps 28 and 29.

In filling the carton of this invention, the bobbins 18 are mounted on the pins 15 of the yarn package shelves 14, and the yarn package shelves with the bobbins thereon are placed on the base 12 with the pins 15 engaging the apertures 16 to form the layer 17. Then, additional yarn package shelves 14 with bobbins 18 mounted thereon are placed on the layer 17 to form the layer 19. The layers 21, 22, 23 and 24 are formed in similar manner, after which the cap 25 is positioned on the layer 24 and the protective cover 27 fitted over the several layers of bobbins 18. Finally, the steel straps 28 and 29 are fastened in place to form a strong, unitary structure.

To permit the carton to be packed by a single operator, each yarn package shelf 14 is designed

to accommodate only fifteen bobbins 18 so that the total weight of the loaded shelf will not be excessive. With a base 12 of the size shown, three such yarn package shelves 14 are required to support each layer of the bobbins 18. However, it is possible, by varying the design, to provide for each layer of bobbins 18 to be supported by a larger or smaller number of yarn package shelves 14.

Further to assist in packing the carton, each of the pins 15 projects from the upper surface of the yarn package shelf 14 a greater distance than it does from the under surface of said shelf. This provides a firm engagement between the pins 15 and the bobbins 18 mounted thereon so that the loaded yarn package shelves 14 may be handled freely without fear of dropping any of the bobbins 18, yet permits the loaded shelves to be positioned readily on the base 12 or on a layer of the bobbins 18 without special precautions for engaging the pins 15 with the apertures 16 in said base or with the bobbins in said layer.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

Having described our invention, what we desire to secure by Letters Patent is:

1. In a carton for storing and shipping separate packages of yarn arranged in superposed layers, each of said packages being apertured at the top and bottom thereof, a plurality of intermediate shelves between said layers, each intermediate shelf being supported by the layer of packages beneath said intermediate shelf and supporting the layer of packages above said intermediate shelf, a bottom shelf supporting all of said layers, a pallet carrying said layers and said shelf and having a plurality of apertures therein, pins mounted in said intermediate shelves and projecting from both sides thereof, said pins engaging in the apertures of said yarn packages to prevent relative movement thereof, and pins mounted in said bottom shelf and projecting from both sides thereof, the upper portions of the latter pins engaging in the apertures of the yarn packages in said bottom layers to prevent relative movement thereof and the lower portions of the latter pins engaging in the apertures in said pallet to prevent relative horizontal movement of the bottom shelf and packages with respect to said pallet.

2. In a carton for storing and shipping separate packages of yarn arranged in superposed layers, each of said packages being apertured at the top and bottom thereof, a plurality of intermediate shelves between said layers, each intermediate shelf being supported by the layer of packages beneath said intermediate shelf and supporting the layer of packages above said intermediate shelf, a bottom shelf supporting all of said layers, a pallet carrying said layers and said shelf and having a plurality of apertures therein, pins mounted in said intermediate shelves and projecting from both sides thereof, said pins engaging in the apertures of said yarn packages to prevent relative movement thereof, and pins mounted in said bottom shelf and projecting from both sides thereof, the upper portions of the latter pins engaging in the apertures of the yarn packages in said bottom layers to prevent relative movement thereof and the lower portions of the latter pins engaging in the apertures in said pallet to prevent relative horizontal movement of the bottom shelf and packages with respect to said pallet, said pins projecting from the upper surfaces of said intermediate and bottom shelves a greater distance than from the under surfaces of said shelves.

3. In a carton for storing and shipping separate packages of yarn arranged in superposed layers, each of said packages being apertured at the top and bottom thereof, a plurality of intermediate shelves between said layers, each intermediate shelf being supported by the layer of packages beneath said intermediate shelf and supporting the layer of packages above said intermediate shelf, a bottom shelf supporting all of said layers, a pallet carrying said layers and said shelf and having a plurality of apertures therein, pins mounted in said intermediate shelves and projecting from both sides thereof, said pins engaging in the apertures of said yarn packages to prevent relative movement thereof, and pins mounted in said bottom shelf and projecting from both sides thereof, the upper portions of the latter pins engaging in the apertures of the yarn packages in said bottom layers to prevent relative movement thereof and the lower portions of the latter pins engaging in the apertures in said pallet to prevent relative horizontal movement of the bottom shelf and packages with respect to said pallet, said pins projecting from the upper surfaces of said shelves a greater distance than from the under surfaces of said shelves, a cap resting on the uppermost of said layers and having a plurality of pins extending downwardly therefrom for engaging the packages of yarn, and a protective cover fitting over said layers.

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