June 16, 1953 L. F. PROSSEN 2,642,183

CARTON

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FIG.1.

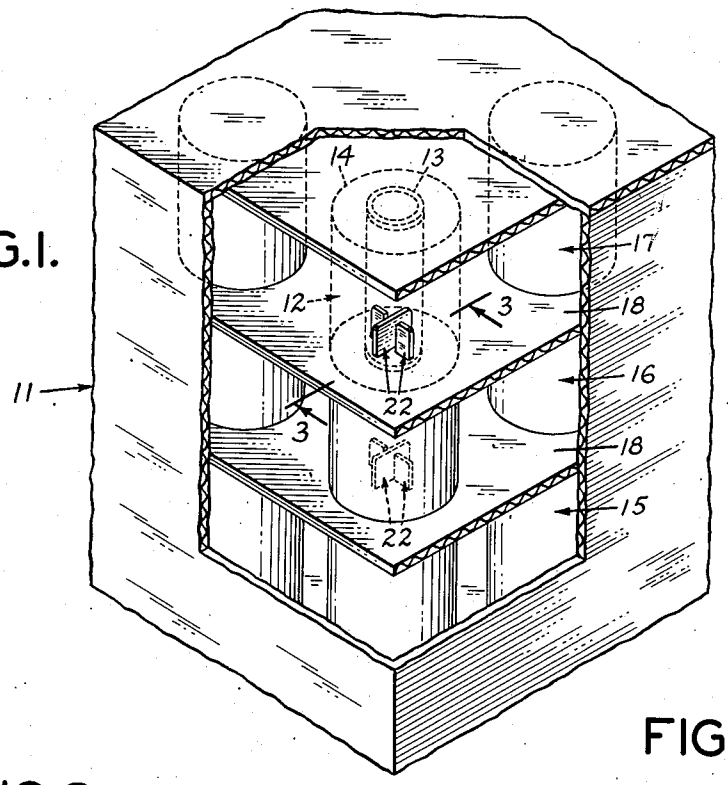


FIG.2.

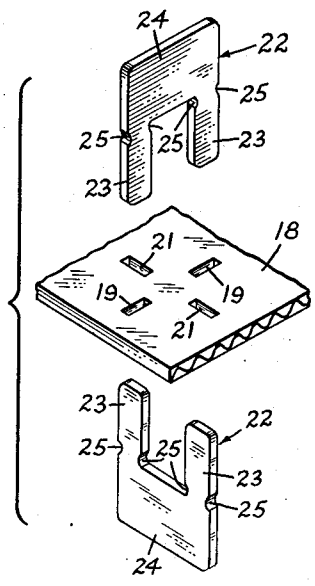


FIG.3.

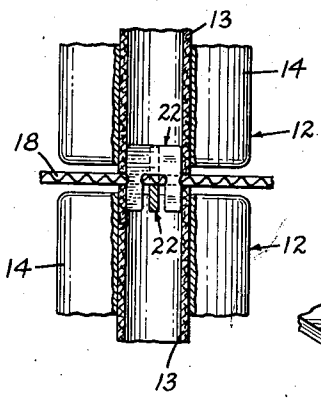
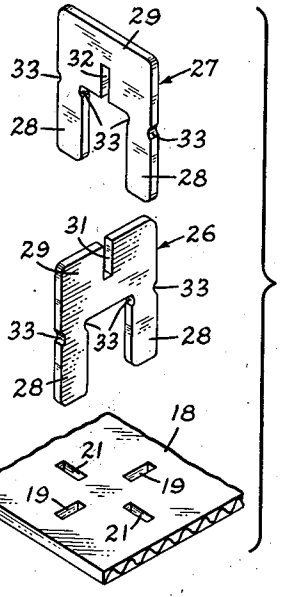


FIG.4.



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2,642,183

CARTON

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8 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 and the like. During the storing and shipping of these yarn packages, they must be prevented from rubbing against each other or against the walls of the carton in which they are contained, since such rubbing would damage at least the outer layers of yarn on said packages. It has been the practice, heretofore, to wrap the yarn packages individually in waxed paper and to store and ship the wrapped yarn packages in cartons including means, such as apertured inserts, for engaging the yarn packages so as to prevent movement thereof and damage to the yarn wound thereon. However, the wrapping of the individual yarn packages, and the cartons previously employed have been relatively expensive, thereby increasing the handling costs in storing and shipping the yarn packages. In addition, the 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 the 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 movement thereof and damage to the yarn wound thereon.

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

A preferred embodiment of this invention of a carton for storing and shipping cheeses of yarn will now be described with particular reference to the accompanying drawing wherein:

Fig. 1 is a fragmentary perspective view of the carton showing the arrangement of the packages of yarn therein,

Fig. 2 is an exploded perspective view of the fitting that engages the packages of yarn,

Fig. 3 is a cross-sectional view taken on the line 3—3 in Fig. 1 in the direction of the arrows showing the manner in which the packages of yarn are engaged, and

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Fig. 4 is an exploded perspective view of a fitting of modified construction.

Referring now to the drawing, the reference numeral 11 designates generally the protective cover of a carton which may be formed from corrugated board, cardboard or other suitable material and in which is contained a plurality of yarn packages, such as cheeses 12 comprising cores 13 of tubular shape having yarn 14 wound thereon. The cheeses 12 are arranged in superposed layers 15, 16 and 17, each of which layers is supported on a shelf 18. A plurality of regularly disposed pairs of elongated apertures 19 extend through the shelf 18 with the longer dimensions of the apertures being in line one with the other. Also extending through the shelf 18 are a plurality of regularly disposed pairs of apertures 21 that have their longer dimension in line one with the other and at an angle, preferably at a right angle, to the longer dimension of the apertures 19. The pairs of apertures 19 and 21 are arranged so that a line joining the apertures 19 would lie midway between the apertures 21 and a line joining the apertures 21 would lie midway between the apertures 19, and so that their outer edges are spaced apart a distance approximately equal to the internal diameter of the cores 13.

Positioned in the pairs of apertures 19 and 21 and projecting past both surfaces of the shelves 18 are flat, U-shaped fittings, indicated generally by reference numeral 22, each comprising a pair of legs 23 joined by a bridge 24. The legs 23 are somewhat wider than the longer dimension of the apertures 19 and 21 and are rounded at their forward ends for easy insertion into said apertures. The legs 23 are provided at their base with notches 25 to reduce their width to less than that of the apertures 19 and 21 so that the fittings will lock into place when they are positioned in said apertures. The fittings 22 are assembled on the shelves 18 with the legs 23 of the fitting in the apertures 19 extending in a direction opposite to that of the legs 23 of the fitting in the apertures 21. The shelves 18 and fittings 22 may be formed from cardboard, corrugated board, plastic or other suitable material.

Fittings 26 and 27 of modified construction are shown in Fig. 4 of the drawing, each comprising a pair of legs 28 joined by a bridge 29. The fittings 26 and 27 are assembled on the shelves 18 with the legs 28 all extending in the same di-

rection, the bridge 29 of the fitting 26 being provided with a slot 31 and the bridge 29 of the fitting 27 being provided with an intermeshing slot 32 to permit said bridges to abut firmly against the shelf 18 when the fittings are assembled therewith. The legs 28 of the fittings 26 and 27, like the legs 23 of the fittings 22, are somewhat wider than the longer dimension of the apertures 19 and 21 and are rounded at their forward ends for easy insertion into said apertures and are provided at their base with notches 33 to reduce their width to less than that of the apertures 19 and 21 so that the fittings will lock into place when they are positioned in said apertures.

In packing the carton of my invention, the cheeses 12 are arranged so that the fittings 22, or 26 and 27 enter into and engage snugly the cores 13 thereby to hold the cheeses against relative movement and damage to the yarn thereon. Because of the firmness with which the cheeses 12 are held against relative movement by the fittings 22, or 26 and 27, the individual wrapping of the cheeses may be dispensed with completely.

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 my invention.

Having described my invention, what I desire to secure by Letters Patent is:

1. A container for yarn comprising a carton, layers of yarn packages in said carton, a plurality of apertured shelves arranged in said carton in parallel relationship to each other and each supporting a layer of yarn packages, and a fitting received in the apertures of said shelves, said fitting comprising a plurality of unitary members received in the apertures of said shelves to form crisscross extensions protruding from both surfaces of said shelves engaging said yarn packages and preventing relative movement thereof.

2. A container for yarn comprising a carton, layers of yarn packages in said carton, a plurality of apertured shelves arranged in said carton in parallel relationship to each other and each supporting a layer of yarn packages, and a fitting received in the apertures of said shelves, said fitting comprising a plurality of U-shaped, flat unitary members received in the apertures of said shelves to form crisscross extensions protruding from both surfaces of said shelves engaging said yarn packages and preventing relative movement thereof.

3. A carton in accordance with claim 1 wherein the unitary members have means for locking the same in position on said shelves.

4. A carton in accordance with claim 1 wherein the unitary members have a plurality of notches for locking the same in position on said shelves.

5. A container for yarn comprising a carton, layers of yarn packages in said carton, a plurality of shelves arranged in said carton in parallel relationship to each other and supporting a layer of yarn packages, a plurality of regularly spaced apertures in said shelves, and a fitting received in the apertures of said shelves, said fitting comprising a plurality of unitary members received in the apertures of said shelves to form crisscross extensions protruding from both surfaces of said shelves engaging said yarn packages and preventing relative movement thereof.

6. A container for yarn comprising a carton, layers of yarn packages in said carton, a plurality of shelves arranged in said carton in parallel relationship to each other and each supporting a layer of yarn packages, a plurality of groups of regularly spaced apertures in said shelves, and a fitting received in each of the groups of apertures in said shelves, each of said fittings comprising a plurality of unitary members received in the apertures of said shelves to form crisscross-extensions protruding from both surfaces of said shelves engaging said yarn packages and preventing relative movement thereof.

7. A container for yarn comprising a carton, packages of yarn arranged in superposed layers in said carton, shelves supporting said layers, pairs of elongated regularly disposed apertures extending through said shelves, and fittings having a pair of legs positioned in said pairs of apertures and extending past both surfaces of said shelves and engaging said packages of yarn to prevent relative movement thereof, said legs being wider than the apertures in which they are positioned and being notched at their base to reduce their widths so that they will lock into place when they are positioned in said apertures.

8. A container for yarn comprising a carton, packages of yarn arranged in superposed layers in said carton, shelves supporting said layers, pairs of elongated regularly disposed apertures extending through said shelves having their longer dimensions in line one with the other, other pairs of elongated regularly disposed apertures extending through said shelves having their longer dimensions in line one with the other and having their longer dimensions at right angles to the longer dimensions of the first pairs of apertures, the pairs of apertures being arranged so that a line joining one pair of apertures lies midway between the other pair of apertures, and flat U-shaped fittings having pairs of legs positioned in said apertures and extending past both surfaces of said shelves and engaging said packages of yarn to prevent relative movement thereof, the legs of the fitting positioned in one pair of apertures extending in a direction opposite to the legs of the fitting positioned in the other pair of apertures, said legs being wider than the apertures in which they are positioned and being notched at their base to reduce their width so that they will lock into place when they are positioned in said pairs of apertures.

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