

Oct. 13, 1953

L. G. HARRAWAY

2,655,019

CONTAINER FOR YARN PACKAGES

Filed Aug. 28, 1950

2 Sheets-Sheet 1

Fig. 1.

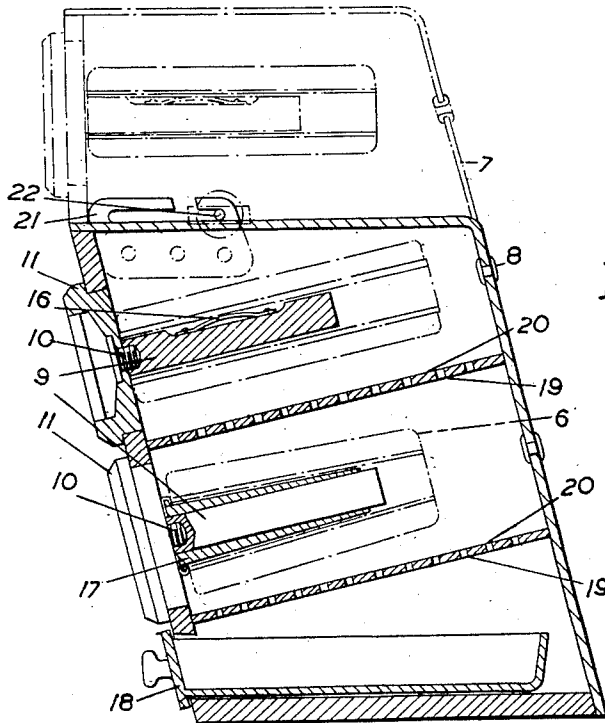
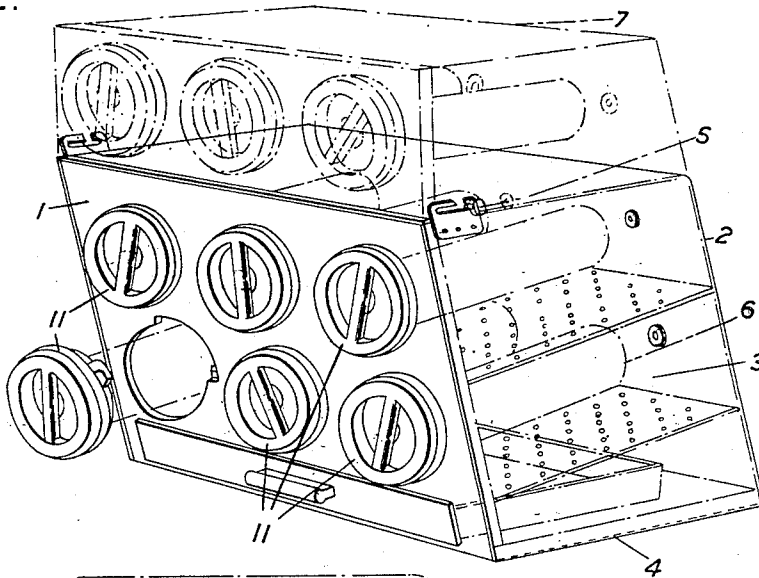


Fig. 2.

Inventor

Leonard George Harraway

Oct. 13, 1953

L. G. HARRAWAY
CONTAINER FOR YARN PACKAGES

2,655,019

Filed Aug. 28, 1950

2 Sheets-Sheet 2

Fig. 3.

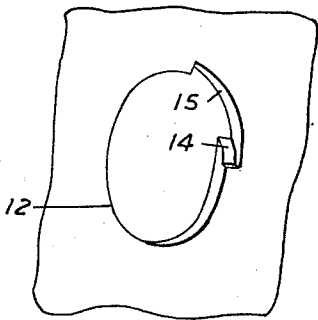


Fig. 4.

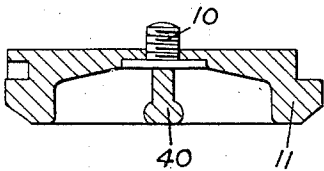
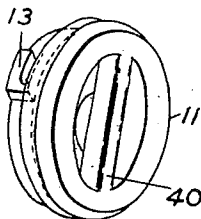


Fig. 5.

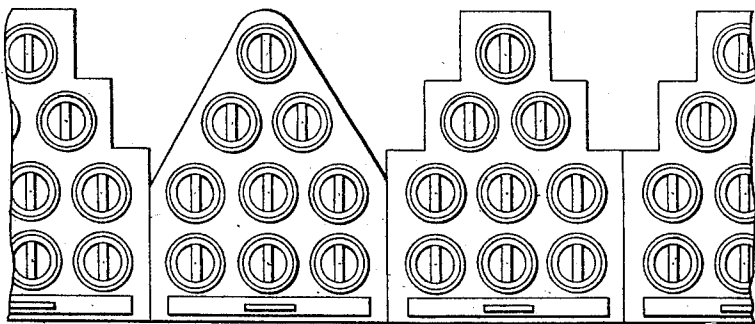


Fig. 6.

Inventor
Leonard George Harraway

UNITED STATES PATENT OFFICE

2,655,019

CONTAINER FOR YARN PACKAGES

Leonard George Harraway, Nottingham, England

Application August 28, 1950, Serial No. 181,767
In Great Britain April 22, 1949

10 Claims. (Cl. 66—125)

1

This invention concerns an improved container for yarn packages particularly suitable for a straight bar knitting machine adapted to produce ladies' fully fashioned stockings. In such machines yarn is usually supplied by a plurality of yarn packages each on a vertical axis, the yarn being drawn off intermittently with a rest period between successive courses. During the rest period lengths of the yarn may fall below the bases of the packages and in this event the disadvantage exists that the yarn may break when knitting is resumed thereby causing a "press-off" of the stocking.

An object of the invention is to overcome the above disadvantage and generally to provide an improved container for the yarn packages.

With this and other objects in view the invention provides a container for yarn packages, particularly one which is suitable for straight bar knitting machines adapted to produce ladies' fully fashioned stockings, having means for supporting at least one package in a horizontal or substantially horizontal attitude in the container, and means for guiding yarn from the package to the exterior of the container in such manner that the yarn is drawn from the package in a direction axially or substantially axially thereof. Conveniently a plurality of yarn packages are supported by one wall of the container in such manner that each packet projects substantially horizontally from said wall. Any suitable thread guiding means may be employed such for example as a thread guiding eyelet (one for each package) mounted in that wall of the container opposite the support wall and facing the free end of the associated package. The container may be made of any suitable material or materials and any or all of its walls may be transparent. There may be also provided means associated with the container for conditioning the thread or threads such for example as one or more trays containing a suitable liquid and/or a heating device located in the lower part of the container. The packages may be arranged in rows with partitions between the rows if desired which prevent the yarn from falling and being fouled by lower parts in the container. Partitions may be also provided between successive packages in the rows. There may be further provided an auxiliary container releasably connected to the main container and housing additional yarn packages.

With advantage, the support means for the yarn package (or each of them) is releasably connected to one of the walls of the container. According to a subsidiary feature of the inven-

2

tion, the support means consists of a device which is releasably attached to said wall and is of such nature as to close a hole in said wall and said hole being of sufficient size as to permit the passage of the yarn package therethrough. Specifically, the support means comprises a disc for closing the hole in the wall, releasable connecting means for fixing the disc in position, and a male support element (such for example as a spindle) for receiving the package, said male support element being fixed to the inner face of the disc.

The above and other features of the invention are set forth in the appended claims and are disclosed in the detailed description given by way of example of the particular embodiments illustrated in the accompanying drawings in which:

Figure 1 is a rear perspective view of a container according to this invention.

Figure 2 is a side sectional view of the container.

Figures 3 to 5 illustrate base supporting means in the container for a yarn package.

Figure 6 is a diagrammatic representation illustrating a modified arrangement.

Referring now to Figures 1 and 2 a container for yarn packages particularly suitable for a straight bar knitting machine adapted to produce ladies' fully fashioned stockings is provided, comprising a rear wall 1, front wall 2, side walls 3 and top 5 all conveniently made of transparent plastic material, and a base 4 made of any convenient material. A plurality of yarn package supports is provided attached to the said rear wall of the container and arranged to support the packages with their axes substantially horizontal; for example there may be eighteen of such supports in three horizontal rows of six so that the container may then carry eighteen packages and this is convenient for two divisions of the machine. Alternatively as shown the container may house six packages 6 and an auxiliary container 7 (housing three packages) may be also provided; this arrangement is suitable for one division of the machine.

In the front wall 2 there is provided one thread guiding eyelet 8 for each yarn package and each eyelet is so located that it directly faces the free end of the appropriate package.

Each package support conveniently consists of a spindle 9 (Figure 2) fixed by a screw 10 to a disc 11 which has a bearing in and which closes a comparatively large hole 12 in the rear wall 1 of the cabinet (see also Figure 3). Conveniently

3

the size of each hole 12 is such as to permit not only a package 6 to be passed through it but also the hand and arm of the operator for threading the yarn through the eyelet 8 in the front wall of the container. The spindle 9 and disc 11 may be fixed to the rear wall of the container by any suitable means such for example as by co-operating screw threads. Alternatively as shown in Figures 3 and 4 the disc may have a hook-like catch 13 for having a releasable locking engagement with a tapered lip 14 which is formed at the periphery of the hole 12, the wall being formed with a slot 15 adjacent said hole to permit the required movement of the catch (by turning the disc) into and out of engagement with the lip 14. The disc is conveniently turned by the aid of a rib 30 (Figures 4 and 5).

If the yarn package is cylindrical a friction applying leaf spring 16 may be fixed to the spindle 9 (Figure 2). If the package is a cone, a tapered sleeve 17 may be fitted on the spindle (Figure 2) the cone being received on the sleeve.

For conditioning the threads there is conveniently provided one or more trays 18 resting on the base 4 of the container in the interior thereof and containing a suitable liquid. There may also be provided partitions 19 which are conveniently perforated with holes 20 so that all the packages are affected by the liquid in the tray 18.

The auxiliary container 7 is provided primarily for the purpose of housing packages that do not need conditioning by the liquid and it is conveniently fitted on the top of the main container by releasable means such as the slotted brackets 21 and pegs 22.

In use the threads from the packages extend therefrom through the eyelets 8 in a substantially horizontal manner co-axial with the packages and it will therefore be appreciated that during the aforesaid rest periods the threads cannot be fouled by the bases of the packages. Consequently the employment of a container as above described permits yarns and particularly nylon yarns to be used in a considerably more satisfactory manner than heretofore.

It will be understood that a plurality of the containers are conveniently provided disposed side by side and for convenience in gaining access to both front and rear of the containers, particularly to the lower parts thereof, the auxiliary containers 7 (and the upper parts of the main containers if desired) may be stepped as shown in Figure 6; alternatively appropriate parts of the containers may be inclined as shown in broken lines in Figure 6.

Conveniently the containers are mounted on supports such for example as upright boards (fixed to the machine) at elevated locations such that the threads may extend from the cabinets directly into a yarn conditioning trough.

If desired as shown in Figures 1 and 2 the front and rear walls of the container, the partitions and the yarn package supports (and consequently the yarn packages) may be inclined to the horizontal.

I claim:

1. A container for yarn packages, particularly one which is suitable for straight bar knitting machines adapted to produce ladies' fully fashioned stockings, said container having a forward wall and a substantially vertical rear wall, means comprising said rear wall for releasably supporting a plurality of yarn packages from said rear wall in a horizontal or substantially horizontal position in the container, and means in said

4

forward wall for guiding yarn from the packages to the exterior of the container in such manner that the yarn is drawn from the packages in such direction substantially axially thereof.

2. A container for a plurality of yarn packages for a knitting machine, said container comprising a substantially vertical wall provided with a plurality of holes, each of the yarn packages being mounted on a device which is releasably attached to said substantially vertical wall and is of such nature as to close one of the holes in said wall and said holes are of sufficient size as to permit the passage of each yarn package therethrough.

3. A container for a plurality of yarn packages for a knitting machine comprising, in combination, a cabinet having a substantially vertical wall, one or more holes in said wall of a sufficient size to permit the insertion of the human hand, a disc for closing each hole, releasable connecting means for fixing the disc in position and a male support member for receiving a package, said support member projecting from the inner face of the disc and supporting a package in the interior of the cabinet.

4. A container for a plurality of yarn packages for a knitting machine comprising, in combination, a cabinet having a plurality of walls, the rear one of which is substantially vertical, one or more of said walls being wholly or partially transparent, one or more holes in said rear wall, a removable disc covering each hole, said rear wall having a slot adjacent each hole and each disc having a projection adapted to be engaged and disengaged with the slot by rotation of the disc, and a male supporting member for a yarn package projecting from the inner face of the disc into the interior.

5. A container according to claim 4 adapted to receive yarn packages of cylindrical construction, wherein the male element has a friction applying member associated with it for engagement with said yarn packages of cylindrical construction.

6. A container according to claim 4 adapted to receive yarn packages of conical construction, wherein the male element is in the form of a spindle and has mounted on it a tapered sleeve for receiving said yarn packages of conical construction.

7. A container according to claim 4 having means for conditioning the yarn disposed in the interior of the container.

8. A container for a plurality of yarn packages for a knitting machine comprising in combination a cabinet having a vertical wall, a plurality of holes in said vertical wall, a disc covering each hole, means for supporting one of said yarn packages on said disc in the interior of the cabinet, and an eyelet in the wall of the cabinet opposite the wall supporting the yarn package, said eyelets being located substantially in axial alignment with the yarn packages.

9. A container for a plurality of yarn packages for a knitting machine comprising in combination a cabinet having a vertical wall, a plurality of holes in said vertical wall, one or more of said holes being positioned above one or more of the other holes, a disc covering each hole, a supporting member from a package projecting from said disc into the interior of the cabinet, means for releasably securing said disc in position, a partition means positioned below the upper yarn packages to prevent the yarn from said upper packages fouling the yarn of the lower packages, eyelets in the wall of the cabinet opposite from that supporting the yarn packages, and said eye-

2,655,019

5

lets being in substantial axial alignment with the yarn packages.

10. A container according to claim 4 having releasably fixed thereto an auxiliary container of a construction substantially like that of the first-named container.

LEONARD GEORGE HARRAWAY.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,255,858	Colman	Feb. 12, 1918

Number
1,795,877
2,044,207
2,053,411
2,122,098
2,338,394
2,388,749

6

Name	Date
McKean	Mar. 10, 1931
Chaffin	June 16, 1936
Zarafu	Sept. 8, 1936
Janssen	June 28, 1938
Aurich	Jan. 4, 1944
LaPierre	Nov. 13, 1945

FOREIGN PATENTS

Country	Date
France	Mar. 14, 1936