Dec. 1, 1959 F. G. PARROTT 2,915,260

PACKAGE SUPPORT OR HOLDER FOR INDEFINITE LENGTH MATERIAL

Filed Jan. 9, 1956 2 Sheets-Sheet 1

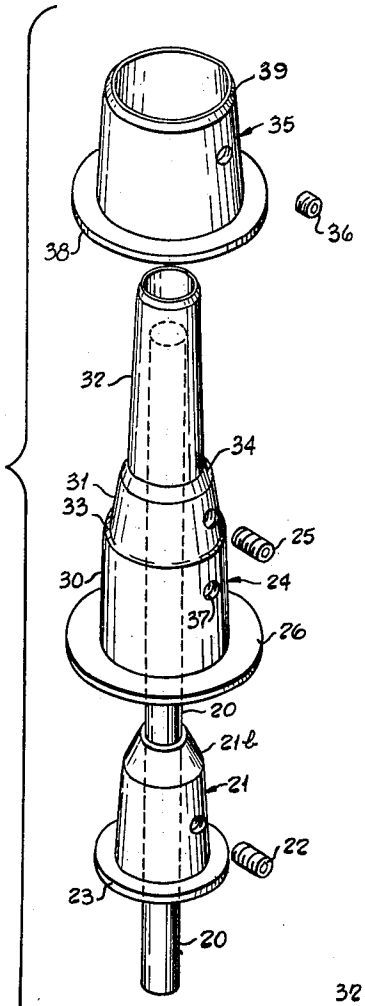

Fig-2

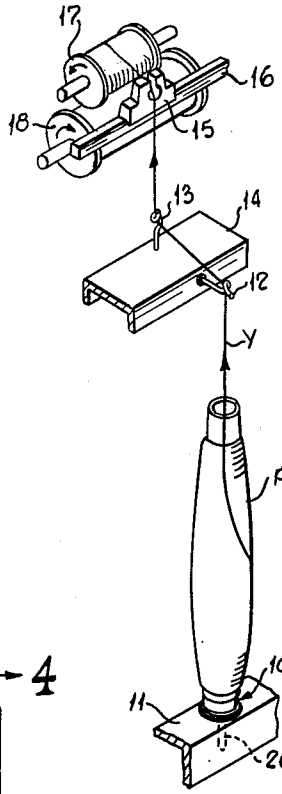

Fig-1

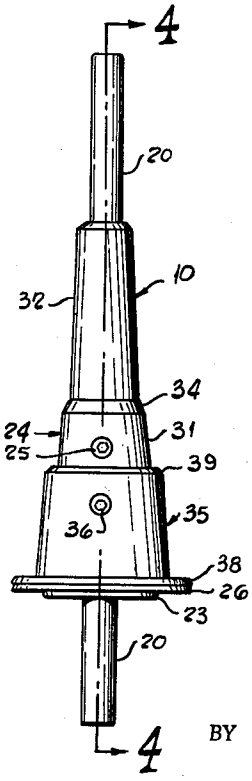

Fig-3

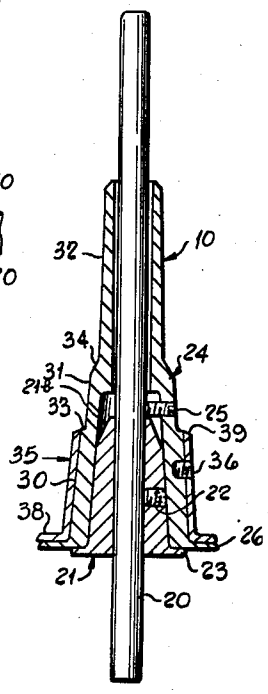

Fig-4

INVENTOR;
FRED G. PARROTT.

BY Eaton & Bell

ATTORNEYS

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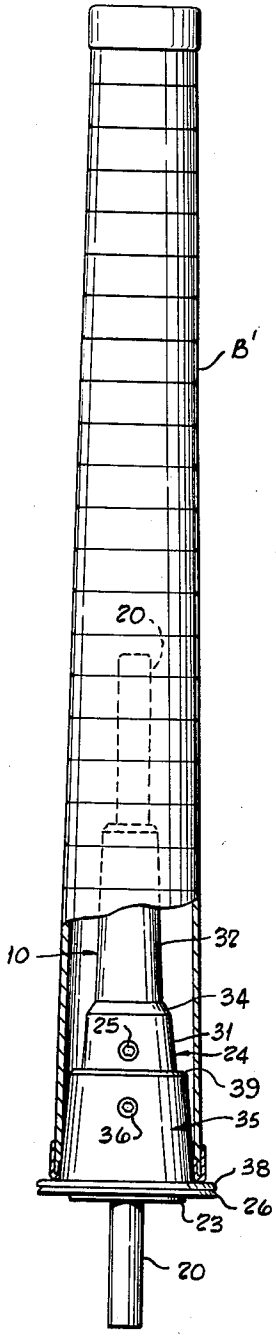
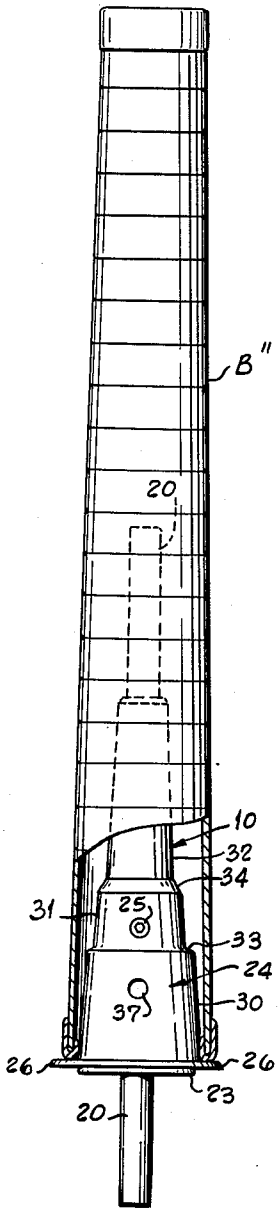
PACKAGE SUPPORT OR HOLDER FOR INDEFINITE LENGTH MATERIAL

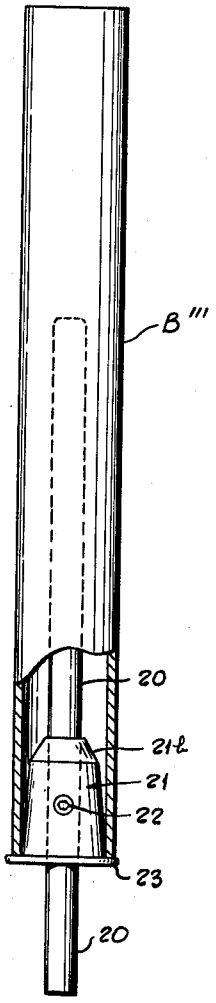
Filed Jan. 9, 1956 2 Sheets-Sheet 2



Fig=5



Fig=6



Fig=7

FREED G. PARROTT,
INVENTOR.

BY Eaton & Bell

ATTORNEYS

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PACKAGE SUPPORT OR HOLDER FOR INDEFINITE LENGTH MATERIAL

Fred G. Parrott, Gastonia, N.C.

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5 Claims. (Cl. 242—130)

This invention relates to a package support or holder and, more particularly, to a yarn package support or holder for supporting a package of yarn while the yarn thereon is being unwound as in a winding operation.

Heretofore, packages of yarn such as bobbins of yarn have been supported on a spindle or nail while the yarn on the package is being unwound therefrom. Such supports, although effective to prevent the bobbin from falling on the floor, do not support the bobbin in such a manner as to prevent the same from flopping around while the yarn is being taken therefrom. It has been observed that the movement of the yarn package or the flopping about of the same during the unwinding of the yarn therefrom causes entanglements in the yarn by the yarn "sluffing off" or being withdrawn several convolutions at once which greatly interferes with the winding operation. It has also been observed that the greater the difference in diameter between the inside diameter of the yarn package and the diameter of the package support, the greater the difficulties in evenly unwinding the yarn from the package since the amplitude or movement of the yarn package on the support is greater which increases the entanglement and unevenness of the yarn being wound therefrom.

It is a primary object of this invention to overcome the above-mentioned difficulties of supporting a package of yarn when the yarn on the same is being unwound in a winding operation by providing a yarn package support comprising a plurality of mating segments which are so dimensioned as to selectively and frictionally receive various size packages of yarn thereon to maintain the package in an immovable upright position at all times.

It is a more specific object of the invention to provide a yarn package support or holder wherein the same comprises a plurality of mating segments, each segment adapted to support at least one size of yarn package and wherein the segments are telescopically arranged and each of the segments are adapted to be selectively removed to change-over the yarn package support or holder to receive various size packages of yarn.

It is a further object of the invention to provide a yarn package support or holder for supporting a package of yarn during a winding operation which support or holder comprises a plurality of telescopically mating annular segments with each of the segments being provided with sloping or tapered walls to increase the frictional engagement with a package of yarn and to facilitate the positioning of a package of yarn thereon.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

Figure 1 is a fragmentary perspective view showing the yarn package support or holder supporting a package of yarn while the yarn thereon is being unwound as on a textile winder;

Figure 2 is an exploded view of the yarn package support or holder;

Figure 3 shows the yarn package support or holder in assembled position;

Figure 4 is a vertical section taken on line 4—4 of Figure 3;

Figure 5 shows the yarn package support or holder supporting a large size bobbin;

Figure 6 shows the yarn package support or holder with one of the mating segments removed and supporting an intermediate size bobbin;

Figure 7 shows the yarn package support or holder with two of the mating segments removed and shown supporting a smaller size bobbin.

Referring more specifically to the drawings, reference numeral **10** broadly indicates the yarn package support or holder, a plurality of which (only one is shown in Figure 1) are fixedly secured in spaced relation on a package holder supporting rail **11** of a textile winder machine. A package of yarn P is positioned on each of the holders **10** and the yarn Y is unwound therefrom while being guided by eyelets **12** and **13** positioned on an upper rail **14** to a traversing guide **15** mounted on a traversing rod **16** which lays the yarn Y in layers on a spool **17** being rotated as by frictional contact by a rotary drum **18**. The yarn Y being unwound from the package P will be withdrawn smoothly, free of any entanglements heretofore caused by the movement of the yarn package, since the package is frictionally engaged by the yarn package support **10** as more clearly seen in Figures 5, 6 and 7 wherein various size yarn bobbins are shown positioned on the support or holder.

Referring particularly to Figure 2, the yarn package support or holder **10** comprises a stationarily positioned spindle **20** to which is secured as by a set screw **22** a frusto-conically shaped inner or small size yarn package support segment **21**. The upper portion of the segment **21** has formed integral therewith another frusto-conically shaped portion **21***b* to act as a guide to facilitate the positioning of a package of yarn on the segment **21**. A flange **23** is formed integral with the segment **21** and serves to receive the lower edge of the package of yarn or bobbin when the same is positioned thereon as shown in Figure 7.

An intermediate support segment broadly indicated at **24** is telescopically received by the segment **21** and is secured in its proper position on the spindle **20** by a set screw **25** engaging the spindle as more clearly shown in Figure 4. A flange **26** is formed integral with the intermediate support segment **24** and extends outwardly from the lower edge thereof to provide a seat for an intermediate size bobbin such as bobbin B'' as shown in Figure 6. It will also be observed in Figure 6 that the flange **26** rests on the flange **23** of the inner segment **21**.

The intermediate support **24** is adapted to selectively carry three different size bobbins thereon and to accomplish this purpose, wall portions **30**, **31** and **32** are provided. As will be observed in Figure 2, these wall portions are of various size diameters to frictionally engage three different size bobbins or yarn packages. The walls **30**, **31** and **32** are sloped or tapered upwardly to facilitate the inserting of a yarn package or bobbin thereon. Shoulder portions **33** and **34** define the upper and lower limits of the wall section **31** and also define the upper and lower limits of the wall sections **30** and **32**, respectively. The shoulders **33**, **34** also act as seats or stops for the yarn packages frictionally engaging the wall portions **31**, **32**, respectively, in a similar manner as the flange **26** acts as a stop or seat for yarn packages positioned on wall **30**.

Telescopically received by the intermediate support segment **24** is the outer or large size support segment **35** which is secured to the intermediate segment **24** by a set screw **36** penetrating a threaded bore or aperture **37** (Figure 2) provided in the wall **30** of the segment **24**.

The large size segment 35 is provided with a flange 38 along its lower edge which flange rests on the flange 26 of the intermediate segment 24 as clearly shown in Figure 3. The upper edge of the large size segment 35 is tapered or sloped as at 39 to facilitate the inserting of a yarn package thereon. The wall or body portion of the holder 35 is similarly tapered as the other segments 24 and 21 to increase the frictional engagement with a yarn package positioned thereon to prevent the same from flopping about when yarn is being unwound therefrom.

In Figure 5 is illustrated the yarn package support 10 with the outer segment 35 frictionally engaging and maintaining a large size bobbin B' in upright position while yarn (not shown) is unwound from the same. In Figure 6 the large support segment 35 has been removed and the segment 24 is shown as supporting an intermediate size bobbin B'' in upright position while yarn (not shown) is being unwound from the same during a winding operation. In Figure 7 the holder device is shown with the outer or large size segment 35 and the intermediate size segment 24 removed and the inner or small segment supporting a small size bobbin B''' in upright position while yarn (not shown) is being unwound from the same. Although only three sizes of bobbins are illustrated in the drawings, the intermediate segment 24 is shaped to support two other sizes of bobbins in addition to the bobbin B'' shown in Figure 6, which bobbins would be frictionally engaged by the wall portions 31 or 32. Although the drawings do not show a bobbin smaller than bobbin B''' as being held in an upright position by the bobbin holder, it is, of course, apparent that a bobbin having an internal diameter substantially the same as the diameter of the spindle 20 may be positioned thereon.

Although the invention has been described as particularly adaptable for supporting a package of yarn during the unwinding of the yarn therefrom in a winding operation, it is to be distinctly understood that the invention is not restricted thereto but may be practiced in any type of operation for supporting any type of package containing an indefinite length of material such as wire, electrical conductors, etc., as well as yarn.

Accordingly, there has been provided a holder or support for a package of yarn for maintaining the package of yarn in an upright position while yarn is being removed therefrom during a winding operation and wherein the holder frictionally engages the package of yarn to prevent the same from flopping about or moving to permit the yarn to be withdrawn from the same in a smooth manner without interfering with the winding operation.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A holder for a package of yarn for maintaining the package of yarn in an immovable condition while the yarn is being withdrawn from the same during a winding operation comprising a spindle, a first yarn package receiving segment secured to said spindle, a second yarn package receiving segment secured to said spindle, said second segment surrounding the major portion of said first segment and resting thereon, a third yarn package supporting segment secured to said second segment and surrounding the lower portion of said second segment, each of said segments being positioned on a medial portion of said spindle with opposite ends of said spindle extending outwardly thereof and each of said segments being provided with tapered wall portions to facilitate the positioning of a package of yarn thereon and to increase the frictional engagement with the package of yarn.

2. A support for a package of yarn for maintaining the package of yarn in an immovable condition while the yarn is being withdrawn from the same during a winding operation comprising a spindle, an inner yarn package receiving segment secured to said spindle, an intermediate yarn package receiving segment secured to said spindle, said intermediate segment surrounding the major portion of said inner segment and resting thereon, an outer yarn package supporting segment secured to said intermediate segment and surrounding the lower portion of said intermediate segment, and each of said segments provided with tapered wall portions to facilitate the positioning of a package of yarn thereon and to increase the frictional engagement with the package of yarn.

3. A holder for a package of yarn for maintaining the package of yarn in an immovable condition while the yarn is being withdrawn from the same during a winding operation comprising a spindle, a first yarn package receiving segment secured to said spindle, a second yarn package receiving segment secured to said spindle, said second segment surrounding the major portion of said first segment and resting thereon, a third yarn package supporting segment secured to said second segment and surrounding the lower portion of said second segment, each of said segments being provided with an annular flange extending from its lower portion for engaging the lower edge of a package of yarn thereon, and each of said segments being annular and provided with tapered wall portions to facilitate positioning of a package of yarn thereon and to increase the frictional engagement with the package of yarn.

4. A holder for a package of yarn for maintaining the package of yarn in an immovable condition while the yarn is being withdrawn from the same during a winding operation comprising a spindle, at least two mating segments being positioned on said spindle with one segment surrounding the other segment, each of said segments being adapted to engage at least one different size package of yarn, each of said segments being provided with a flange for engaging the lower edge of a package of yarn, said flanges being in abutting relation with each other, and said one segment being supported on the flange of said other segment.

5. A holder for a package of yarn for maintaining the package of yarn in an immovable condition while the yarn is being withdrawn from the same during a winding operation comprising a spindle, at least two mating segments being positioned on said spindle with one segment surrounding the other segment, each of said segments being adapted to engage at least one different size package of yarn, and each of said segments being provided with tapered wall portions to facilitate the positioning of a package of yarn thereon and to increase the frictional engagement with the package of yarn, said tapered wall portions including outer ends, said ends being tapered toward the spindle to provide a guide surface for readily positioning a package of yarn in proper position.

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