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2,270,106

YARN CARRIER PACKAGE

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Fig. 1

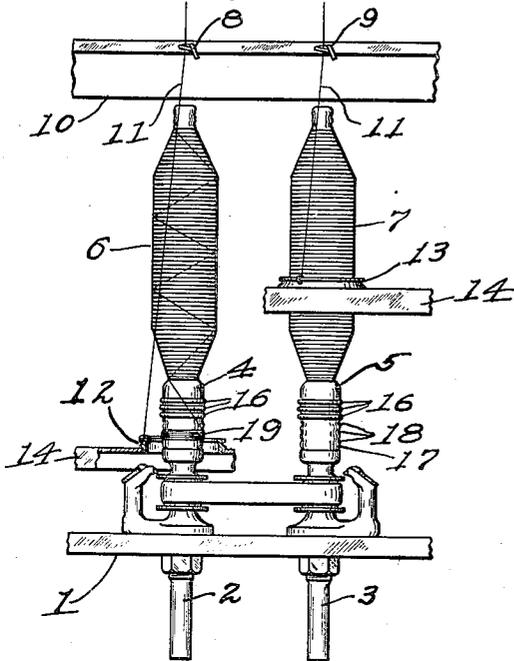


Fig. 2

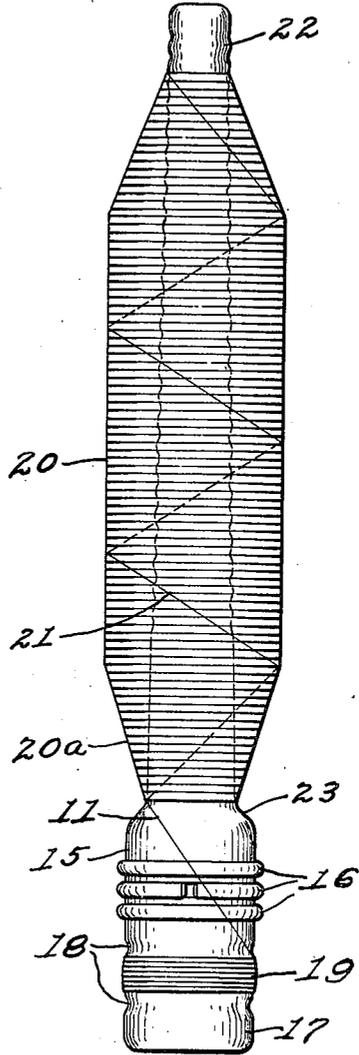
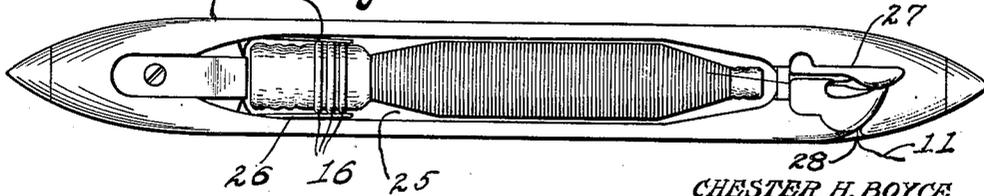


Fig. 3



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YARN CARRIER PACKAGE

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2 Claims. (Cl. 242-160)

This invention relates to a yarn carrier package. More particularly it has to do with means for holding the yarn end on a carrier or bobbin so that it will be readily accessible to an operator when the carrier is to be placed on a frame or inserted in a magazine or in a shuttle.

The invention may be employed with a bobbin carrying a warp yarn as well as one carrying a weft or filling yarn and the appended claims are to be deemed as covering both uses.

In the operation of weft replenishing looms the weft carriers, or bobbins, are placed in magazines for successive discharge into a loom shuttle, and it is highly important that the end of the weft thread on each carrier be attached to a weft holder in order that the thread may be held in position to be drawn into the thread eye of the shuttle on the first pick after transfer. In charging the magazine each bobbin must be inserted in position for transfer, and at the same time the thread end must be attached to the weft holder. In the case of wound bobbins generally heretofore employed, whether used in looms or in winding frames, the yarn end is left free and tends to cling closely to the wound surface. It may extend beyond the end of the bobbin or may lie at some point intermediate the ends of the wound portion. This free end is difficult to grasp quickly by reason of its usual closeness to the wind and particularly so by reason of the fact that the operator has to look carefully to locate its position longitudinally of the wind. As a result, portions of the wound threads are frequently broken or torn in detaching the free end by the operator.

One object of the present invention is to provide means for anchoring the yarn end on the bobbin at a place where it may be easily located by the operator, without taking time to examine each bobbin more or less carefully, and in such a manner as to enable the operator to disengage the same quickly for attachment to a holder.

Another object of the invention is to provide in addition to the usual single, widely spaced final wind of the yarn along the surface of the closely spaced winds a separated group of winds of the yarn to insure a sufficient length for attachment to the holder without any unwinding of the closely spaced windings on the bobbin.

Another object of the invention is the provision of a yarn carrier package in which anchoring means is provided for the yarn end at a place on the base of the bobbin or carrier in such a manner that the yarn end is drawn over the shouldered end of the base in position to be en-

gaged readily without interference with the normal winding on the carrier.

A further object of the invention is the provision of a yarn carrier or bobbin having the base so constructed as to provide a portion adapted to receive a terminal winding of the yarn end and to serve as an anchorage therefor.

A further object of the invention is the provision of an anchoring means for the yarn end on the base of the bobbin at an appreciable distance from the normal wind thus enabling the operator to detach the yarn end without the exercise of any particular care as regards to the wound portion, since the yarn end is sufficiently remote from the normal wind to avoid interference therewith in its detachment.

Other objects and advantages of the invention relate to various improved details of construction and novel arrangements of the parts, as will be more fully set forth in the detailed description to follow.

The best mode in which I have contemplated applying the principles of my invention is shown in the accompanying drawing but this is to be deemed illustrative for it is intended that the patent shall cover by suitable expression in the appended claims whatever features of patentable novelty exist in the invention disclosed.

In the accompanying drawing:

Figure 1 is an elevational view of a portion of a winding frame, showing the winding ring in a position in the formation of the usual wind and in another position where a terminal winding is made after the application of a spaced wind overlying the usual wound portion;

Figure 2 is an enlarged view of a wound carrier or bobbin of a type which may be employed in carrying out the present invention; and

Figure 3 is a view of a replenishing loom shuttle, showing the position of a weft carrier therein after transfer.

In the embodiment of the invention shown and described herein, 1 designates an element of a winding frame carrying spindles 2 and 3 upon which are mounted bobbins or carriers 4 and 5, supporting complete and partial windings 6 and 7 respectively. Guides 8 and 9 are mounted on a bar 10 in position to guide yarns 11 to ring travelers on winding rings 12 and 13 for application to the carriers 4 and 5 respectively. The position shown of the winding ring 13 is such as would occur during the normal and usual winding of the yarn upon the bobbin, while the position shown of the winding ring 12 is that which it assumes after the close wind of the yarn has

been completed, and a single widely spaced wind has been made and the terminal windings are being formed. These respective positions of the winding rings are purely illustrative and it is to be understood that actually the rings are mounted on a continuous bar 14 and all occupy like positions relative to the bobbin.

The invention resides in providing below the usual base 15 with the usual metal holding rings 16, an extended portion 17 having one or more grooves 18 thereon to receive the terminal yarn windings 19 after the application of the normal close windings 20 and the widely spaced return winding 21, which are made on the yarn carrying shaft portion 22 of the bobbin.

The base 15 of the bobbin or weft carrier is shown as of a diameter materially greater than that of the shaft portion 22, as well as somewhat larger in diameter than the reduced portion 20a of the normal winding 20 which tapers toward the base. At the transition from the shaft portion 22 to the full diametrical portion 15 there is provided in effect an outwardly projecting shoulder 23 over which the yarn 11 passes after forming the spaced return winding 21. The yarn then passes over the outstanding surfaces of the metal rings 16 thus positioning the yarn 11 in slightly raised relation with the usual base portion 15, so that the yarn 11 may be readily located and quickly broken at this point if desired. The breaking of the yarn where it passes over the shoulder and over the metal rings insures against injury to the normal winding 20.

To hold the yarn across the shoulder 23 and the metal rings 16, the invention provides that after crossing these rings the yarn will be wound several times about the extension 19 in one or more of the grooves 18. Such turns of the yarn in a groove hold it in place and it is contemplated that, if the operator prefers, these terminal windings may be readily slipped downward over the bottom end of the bobbin and used as a portion of the lead to the weft holder of a

magazine. But whether these terminal windings are so used or are broken off and thrown away, the yarn end is readily at hand and the rapid winding 21 may be easily unwound to provide the lead to the weft holder.

The replenishing loom shuttle 24 is provided with a bobbin receiving recess 25 and carries the usual transversely grooved spring arms 26 for gripping the metal rings 16. A thread block 27 is carried by the shuttle in position to receive the weft thread during or immediately after transfer and guide the same into the thread eye 28 on the first pick after transfer.

It will be seen that the present invention is capable of and adapted to facilitate greatly the operation of charging a loom magazine or a winding frame by rendering the yarn ends of the carrier packages easily accessible to the operator in such a manner as to permit their detachment without injury to the main winding.

I claim:

1. In a yarn carrier package, a carrier having a base with a shaft portion extending therefrom on which the yarn is normally wound, holding means carried by the base for supporting the carrier within a shuttle body, and a grooved surface on the base located beyond said holding means and opposite to said shaft portion, for receiving terminal yarn windings to form an anchorage for the yarn end.

2. In a yarn carrier package, a carrier having a shouldered base with a shaft portion extending therefrom in one direction upon which the yarn is normally wound, said base having a portion extending in the opposite direction with grooves on its surface remote from said shaft portion upon which said grooved surface terminal windings of the yarn are made to form an anchorage for the yarn end after the completion of the normal winding on the said shaft portion of the carrier.

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