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COP HOLDER OR SUPPORT.

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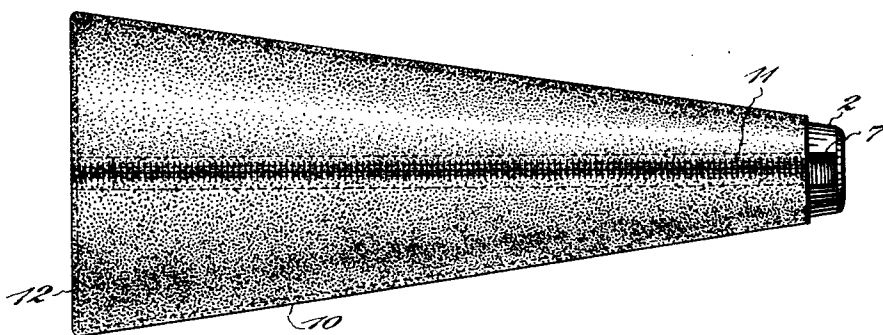


Fig. 1.

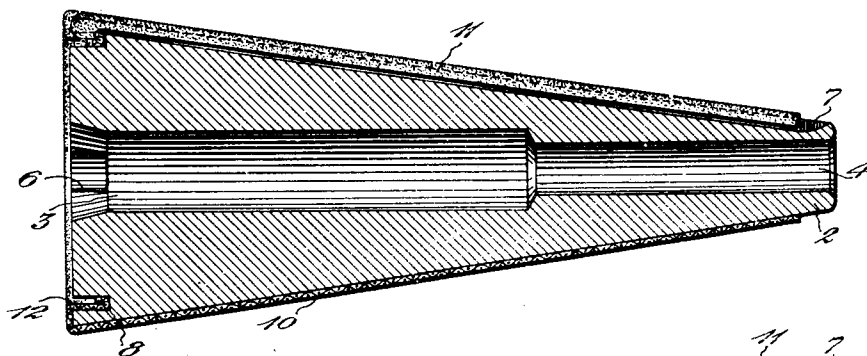


Fig. 2.

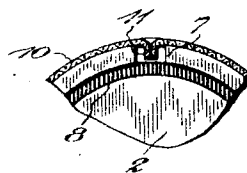


Fig. 4.

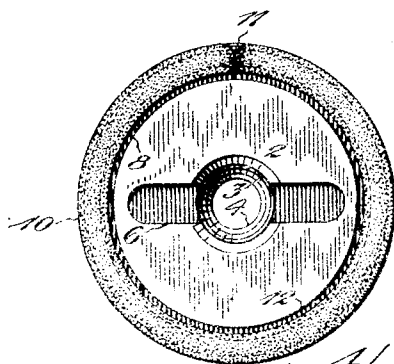


Fig. 3.

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UNITED STATES PATENT OFFICE.

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COP HOLDER OR SUPPORT.

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This invention relates to an improved cop-holder, carrier or support for receiving a mass of wound yarn, thread or other strand material in the form of a cop, cone or package. The invention is particularly adapted for use with conical cop-holders for supporting cones of silk, rayon, mohair and other glazed strand material of a wiry or slippery nature.

The principal object of the invention is to provide a cop-holder of the type described having an outer covering or cot on its periphery constituted by a layer of felt or similar rough-surfaced material capable of holding the coils of yarn or thread from slipping or sliding out of place.

A particular object of the present improvement is to provide means for securing or affixing the covering or cot on the periphery of the cop-holder without the use of glue, cement, tacks, or bands of wire or the like.

Another object of the improvement is to provide means for affixing the covering or cot to the cop-holder to secure an even, unbroken peripheral surface without projections, ridges or indentations thereon.

A further object of the improvement is to provide means for fastening or securing the covering or cot to the holder which may be applied to use with greater convenience and less labor to adapt the complete article for more economical manufacture.

Other objects of the improvement are set forth in the following specification which describes a preferred embodiment of the invention as illustrated in the accompanying drawings. In the drawings:

Fig. 1 is a view showing a conical form of cop-holder having a covering or cot of felt or like material applied to its periphery and fastened in place by the improved means;

Fig. 2 is a longitudinal sectional view of the cop-holder or support illustrating the means by which the outer covering or cot is fastened in place thereon;

Fig. 3 is an end view of the holder showing the fastening means for the covering or cot; and

Fig. 4 is a fragmentary view showing the manner in which the seam in the covering is held in a longitudinal groove on the face of the holder.

In winding silk, rayon, mohair, mercerized, glazed or polished yarn and thread into cops and packages considerable difficulty

is experienced in holding the first coils of the winding from slipping and sliding out of place on the cop-tube, holder or other support which constitutes the central core for the package. This is especially true in the case of conical cops in which the strand material is wound on an inclined surface so that the coils or turns in the winding have a greater tendency to slide and slip out of place. Various methods have been adopted for grooving or roughening the surface of the tube or holder on which the material is wound and a most practical device is a covering or cot of felt or like rough-surfaced material applied to the periphery of the holder. Heretofore where such coverings have been used the felt or other fabric is glued or cemented to the periphery of the holder, while in other cases it is drawn over the ends and tacked in place, and in still other instances it is held by wire straps or bands extending circumferentially of the holder and received in grooves in the face thereof.

None of these previous methods of fastening the covering or cot in place has been entirely satisfactory, however, owing to the various deficiencies therein. Cementing or gluing the covering to the holder is not practical because the cement or binder is affected by heat and moisture and soon deteriorates to such an extent that the covering becomes loose. Tacking the covering in place requires considerable labor and the tacks or nails are unsightly in appearance and apt to pull out or have their heads broken off, while also being liable to catch in the material wound on the holder. The use of wire bands or straps leaves the edges of the fabric unsecured and further presents projections where the ends of the wire are twisted or looped together on the surface of the holder.

To avoid these defects in existing means for affixing the covering or cot in place on the holder I have devised an extremely simple and efficient method of securing the covering in place at the end of the holder without the use of tacks, nails or other separate fastening devices, while providing a neat and finished appearance and an even, unbroken surface on the periphery of the holder.

Referring to the drawings, I have preferred to herein illustrate the invention as

applied to use on a cop-holder of conical form, such as the wooden or fiber cones now generally employed in the winding art. The cone or mandrel 2 may be turned up from
 5 hard wood or molded from composition material and is provided with an axial bore 3 extending throughout its length to adapt it to be received on the winding spindle. As illustrated in Fig. 2 the bore 3 is of maximum diameter toward the base end of the
 10 cone or holder and is continued in a smaller bore 4 at its apex end. The bore 3 is chamfered where it enters the base of the holder 2 and extending across the base is a cross-slot or recess 6 for receiving a key or spline
 15 provided on the winding spindle to connect the holder rotatively therewith.

Extending longitudinally of the inclined periphery of the core or holder 2 is a rectangular slot or groove 7 which serves for a
 20 purpose as later explained. Adjacent the peripheral edge of the base end of the core or holder 2 is a somewhat narrower circumferential groove 8 which may be molded or
 25 formed in the material of the holder when the latter is constructed.

The outer covering or sleeve 10 for the holder 2 may consist of any suitable fabric such as felt, or it may be of leather or fiber
 30 composition. It is to be understood, therefore, that wherever the term fabric is used in the present specification it shall be understood to apply to a flexible material of any suitable nature. A strip of the material is cut to proper shape to adapt its longitudinal edges to be joined in a seam 11
 35 whereby to form it in the shape of a truncated cone adapted to fit snugly over the periphery of the core or holder 2. The edges of the seam may be stitched together while the covering or sleeve 10 is turned inside
 40 out so that when it is reversed the edges of the seam will extend inwardly to adapt them to be received in the longitudinal groove 7 on the surface of the core or
 45 holder 2.

After the fabric has been stitched together in the manner described to form the sleeve or cot 10 it is drawn snugly over the periphery of the core or holder 2 with the apex end of the core projecting through its smaller orifice. The length of the sleeve or cot is
 50 proportioned to provide a loose end overhanging the base of the core or holder 2, and this marginal portion of the fabric is then inserted in the circumferential groove 8 in the manner illustrated in Figs. 2 and 3 of the drawings. To perform this operation while drawing the cot or sleeve 10 snugly
 55 into place I have found it convenient to make use of a suitable tool consisting of a metal ring of a thickness slightly less than the width of the groove 8. To draw the sleeve into place and secure its marginal
 60 portion 12 in the groove 8 the ring is pressed

against the fabric overhanging the base of the core or holder 2 and then driven into the groove 8 to force the edge of the strip thereinto. It will be understood that the elastic
 70 nature of the fabric causes it to draw inwardly where it overhangs the base of the core 2 and as the marginal portion of the sleeve is crowded into the relatively deep groove 8 it will be compressed to bind against the sides thereof to secure it firmly in place.
 75

If desired, tacks or nails may be driven through the fabric and into the groove 8, but it has been demonstrated that such additional fastening means are not usually required. That is to say, the crowding of the
 80 marginal edge of the fabric tightly in place between the sides of the groove 8 serves to stretch the sleeve 10 over the edge of the core or holder 2 and to attach it firmly in place. In fact, it has been demonstrated that
 85 holders of the present type having the fabric sleeve or cot secured in place in the manner as above described may be used over long periods without the sleeve becoming loose or slipping out of place.
 90

It will thus be seen that through the ingenious and novel means as above described the fabric sleeve or cot is held securely in place on the exterior of the core or holder 2 with the seam in its side received in
 95 the longitudinal groove 7. The holder thus presents an even, unbroken surface without ridges or projections on its periphery and its base end has a particularly neat and finished appearance without showing tacks
 100 or other extraneous fastening means.

In use, the cop-holder or support may be roughly handled and thrown about without loosening or releasing its covering or cot, the felt or other fabric often wearing out
 105 before it becomes detached from its holding or fastening means. The rough outer surface of the fabric provides an ideal exterior for the holder or support to insure that the first coils or turns of yarn or thread
 110 wound thereon will not slide or slip out of place, but that the innermost layers of the winding will be held securely to prevent the whole mass from collapsing or sloughing off at the apex end of the core.
 115

The improvement provides a most efficient device for the purpose intended and further adapts the complete article to be manufactured at relatively low cost, a most important consideration in view of the large
 120 number of such holders which are used in the textile industry.

While I have herein described and illustrated a preferred form of construction of the invention it is to be noted that modifications may be made in the structure and arrangement of the device without departing from the spirit or scope of the invention. Therefore, without limitation in this respect,
 125 I claim:

1. In a support for cops and packages of yarn, thread and other strand material, the combination of a core having a circumferential groove in its end, and a covering of flexible material stretched over the periphery of the core with its marginal edge forced into the groove in the end thereof to secure the covering in place on the core.
2. In a support for cops or packages of yarn, thread and other textiles, the combination of a core having a longitudinal groove in its periphery and a circumferential groove in its end, and a flexible covering constituted by a strip of material having its edges fastened together in an inturned seam, said covering stretched over the periphery of the core with the edges of its seam received within the longitudinal groove therein and its marginal portion drawn over the end of the core and compressed in the circumferential groove to secure the covering in place on the core.
3. An improved support for cones of yarn, thread and like material comprising a conical core formed with a circumferential groove in its base end, and a sleeve of flexible material stretched over the peripheral surface of the core with its marginal portion drawn over the edge thereof and forced into the circumferential groove in its end.
4. An improved cop-holder or support for conical cops of yarn, thread and the like comprising a conical core having a groove extending longitudinally of its periphery and a circumferential groove in its base end, and a sleeve comprising a strip of flexible material joined together in a seam, said sleeve stretched over the surface of the core with the inturned edges of the seam received in the longitudinal groove thereof and its marginal edge portion forced into the circumferential groove in the base of the core to secure the sleeve permanently in place thereon.
- In testimony whereof I hereunto affix my signature.

HARRY R. BLAIR.