Oct. 8, 1929. W. A. CARPENTER 1,730,357

TEXTILE ROLL

Original Filed March 11, 1927

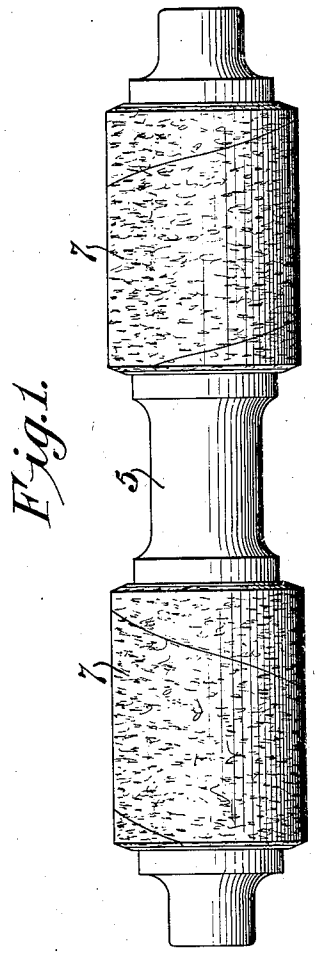


Fig. 1.

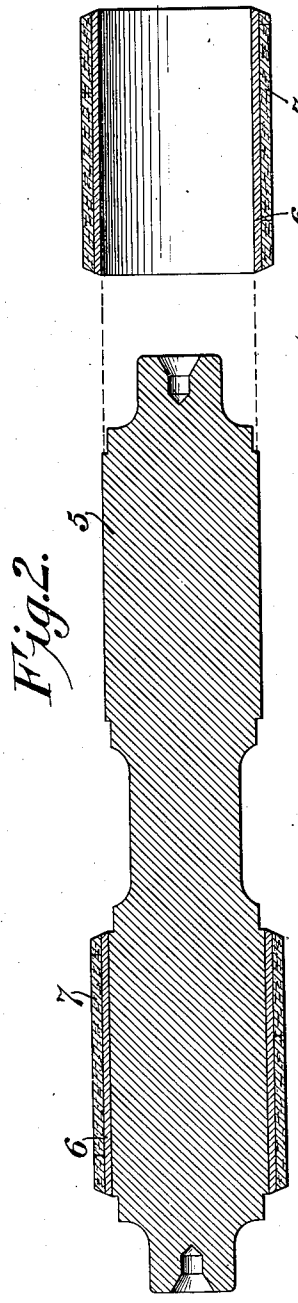


Fig. 2.

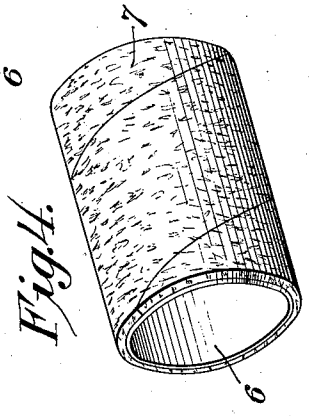


Fig. 4.

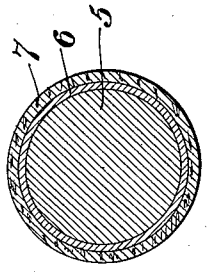


Fig. 3.

Witnesses
C. L. McDonald
E. N. Lovewell

Inventor
William A. Carpenter
By E. G. Siggers
and Philip E. Siggers,
Attorneys

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UNITED STATES PATENT OFFICE

WILLIAM A. CARPENTER, OF HARTSVILLE, SOUTH CAROLINA, ASSIGNOR OF ONE-HALF TO C. H. CAMPBELL, OF HARTSVILLE, SOUTH CAROLINA

TEXTILE ROLL

Application filed March 11, 1927, Serial No. 174,585. Renewed February 14, 1929.

This invention relates to an improved textile roll, which has been devised with especial reference to its use as a drawing roll for spinning machines. Such rolls usually have a steel core covered by a cot composed of felt, cork, or other soft or yieldable material, and sometimes having an outer covering of sheep skin.

In some rolls, as at present constructed, the metal core is first covered by a sheet of woolen felt, which is cut to the proper shape, and glued to the core. A strip of sheep skin is then cut and the edges glued together, making it into a cot or tube. This is then forced on over the woolen felt. The felt furnishes the cushion effect that is necessary for the surface of the roll. The chief objection to this construction is that in continued use, the felt becomes packed down, and does not have sufficient resilience for proper service. In renewing the cover, the roll must be soaked in hot water to remove the felt and glue, and the new felt must be glued on and covered with sheep skin. These covers are quite expensive, and their frequent replacement also requires considerable time and labor.

It has also been proposed to cover the rolls with cork. A cork cover is much less expensive, and provides a very satisfactory cushion. It is, however, extremely difficult, if not impossible, to glue cork, or any other suitable material to the metal, so that it will hold for the length of time these rolls are required to run. The expansion and contraction of metal, due to changing temperatures, upsets the adhesive, and causes the cover to become loose or peel off. Some cots or covers are composed of such material that they may be made slightly smaller than the surface to which they are applied, and may be forced on and secured without gluing, but cork does not, in itself, have sufficient strength to permit this mode of application.

An object of the present invention is to provide a roll having a cot of inexpensive material, which embodies all the desirable properties of rolls as heretofore constructed, and which is adapted to be firmly secured to the roll. The cots, adapted to be used on the rolls, may be made and sold as a separate article of manufacture, and whenever it is necessary to renew the covering of the roll, it may be easily removed merely by slitting it from end to end, and the new cover may be forced onto the roll with very little difficulty.

The preferred embodiment of my improved roll cots or covers and the method by which they are manufactured and applied to the roll will be fully explained in connection with the accompanying drawing, in which

Figure 1 is a front elevation of the completed roll.

Figure 2 is a longitudinal section, illustrating the manner of applying the cot thereto.

Figure 3 is a transverse section of the completed roll.

Figure 4 is a perspective view of one of the cots before it is applied.

In carrying out the invention, the steel core or spindle 5 is constructed in the usual manner, and the cot is composed of an inner layer or tube 6 of fiber, or similar material, to the outer surface of which a covering 7 of cork or the like is adhesively secured as by glue.

The tube 6 is made of a strip of fiber, or the like of proper size and texture, which after the edges are skived, is wrapped around a mandrel or spindle that is slightly smaller in diameter than the spindle 5. The outer covering 7 is made of a cork strip wrapped spirally around the tube 6 and glued thereto. I find that the spiral wrapper is easier to apply than an ordinary wrapper having a straight longitudinal seam or joint. Further, it makes a better joint that is easy to dress, and is less likely to tear away from the tube 6.

The surface of the cork cover is then ground to a true diameter, and it may then be pulled onto the core 5 by the same means which is used for pulling on sheep skin cots. The cork also may be covered with sheep skin, if desired, in which case the surface of the cork is ground to a smaller diameter to allow for the thickness of the sheep skin.

By using a covering constructed according to my invention, the cots may be carried as stock articles and may quickly be applied as no glue is used in attaching them to the spindles. There is no tendency for the cork to

become unglued from the fiber. The fiber tube supports the cork, and prevents it from splitting when the covering is forced onto the rolls, and after this is done, there is no possibility of the cover turning on the metal. Extra covers may be bought and kept on hand, and when it is necessary to renew the cover on the roll, the old cover may be slit with a knife and easily removed, leaving the surface of the metal clean, after which the new cover may be drawn on as above explained.

While in describing the manufacture of my improved roll, I have referred particularly to fiber and cork as the materials to be used, it is to be understood that these terms are used in the broadest sense, including any materials which have equivalent properties. It is also to be understood that the invention includes all modified constructions which fall within the scope of the appended claims.

What is claimed is:

1. A textile roll comprising a metallic core with a cover stretched over the same and held by its tensile strength in fixed relation thereto, said covering including an inner layer of fiber, and a layer of cork glued to the outer surface of the fiber.

2. A cover for textile rolls comprising a fiber tube, with a layer of cork covering its outer surface and secured thereto.

3. A cover for textile rolls comprising a fiber tube adapted to be stretched over the roll, and having an internal diameter slightly less than that of the surface to which it is to be applied, said cover comprising an inner cylindrical layer of fiber, with a layer of cork covering the outer surface of the fiber and glued thereto.

4. A cover or cot for textile rolls comprising a pre-formed fiber inner bushing having an outside surface of resilient material cemented thereto to form a unit adapted to be drawn on to the roll.

5. A pre-formed cover or cot for textile rolls, comprising a fiber tube with an internal diameter slightly less than the outside diameter of the roll having a sheet cork covering spirally wound thereon and secured thereto.

6. A textile roll comprising, in combination, a metal core; a fiber tube secured to the core; and a cork covering secured to the tube and presenting a smooth outer surface.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature.

WILLIAM ANDREW CARPENTER.