END PROTECTOR FOR ROLLED STRIP MATERIAL

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INVENTOR

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BY

ATTORNEYS
This invention relates to end protectors for rolls of strip material, and more especially it relates to protectors for excluding moisture and water from the ends of rolls of material.

The invention is of especial utility for protecting rolls of tire-building fabric during shipment thereof under conditions where moisture is present, such as in the holds of ships during transportation to overseas factories. Wetting of portions of the fabric results in localized shrinkage thereof, thereby resulting in non-uniformity of stretch characteristics and rendering the fabric unsuitable for its intended use. The fabric rolls consist of long lengths of the fabric wound or rolled upon rigid, cylindrical, axial spools or cores, usually composed of wood. Said cores are of greater length than the width of the fabric strips and project from opposite ends of the rolls. The extent to which the cores project may differ in different rolls, and also may differ at opposite ends of the same roll. The rolls are protected during shipment by packaging them in waterproof paper. Enclosing the periphery of the rolled fabric is a relatively simple matter.

Due to the non-uniformity of the roll-ends as the result of the cores aforementioned, the enclosing of the roll-ends in a waterproof covering herebefore has been a difficult matter, and it is to the relief of this condition that this invention primarily is directed.

Accordingly, the chief objects of the invention are to provide an improved waterproof protector for the ends of rolled strip material; to provide a protector of the character mentioned that is easily and readily applied to a roll; and to provide a protector that is applicable to rolls of which the cores project different distances from the ends thereof. Other objects will be manifest as the description proceeds.

Of the accompanying drawings:

Fig. 1 is a fragmentary perspective view of a roll of strip material for which the improved protector is provided;

Fig. 2 is a perspective view of the respective parts of one of the elements of the end protector, shown in separated relation;

Fig. 3 is a similar view of the respective parts of the other element of the end protector; and

Fig. 4 is a fragmentary side elevation of a roll of strip material, and the improved end protector in diametric section, operatively associated therewith:

Referring first to Fig. 1 of the drawing, there is shown a roll 16 of strip material, such as fabric, that requires protection from moisture during shipment, and for which the improved roll-end protector is provided. The roll comprises an axial core 11 of wood or other suitable material, which core, as shown, projects from the end of the roll, it being understood that the core projects from the opposite end of the roll (not shown) in like manner, but usually to a slightly different extent.

When the roll 16 is prepared for shipment, as shown in Fig. 4, it is enclosed in a package comprising a pair of roll-end protectors such as the protector A, a pair of core-caps such as the core-cap B, and a peripheral wrapper C, the said package components all composed of waterproof disc-like structure that abuts an end of the roll paper. Each package element A is a composite, 16 with its perimeter flush or substantially flush with the periphery of the roll, and the wrapper C, which is somewhat wider than the length of the roll 16, has its marginal portions folded over onto the exposed face of the respective end protectors A, as shown at 16, Fig. 4, and adhered thereto by waterproof glue or cement. Each end protector A is formed with an axial opening having a collar 16 circumscribing the same, the projecting end portions of the core 11 being received within said collars. The latter fits snugly about the core 11, and may extend to the ends of the core or slightly beyond, although the collar shown in Fig. 4 terminates somewhat short of the end of the core. Each core-cap B is a composite structure that fits over an end of the core 11 and telescopes over the end portion of the collar 16 thereon, said cap being adhesively secured to said collar, in the region where cap and collar overlap, by waterproof glue or cement.

The constituent parts of the respective protector elements A are shown in Fig. 2; they consist of two identical axially apertured discs 15, a tubular collar 16, and an axially apertured disc 17 of smaller outside diameter than the discs 15, all of which parts are composed of waterproof paper. The tubular collar 16 is longitudinally slit for about half its length at a plurality of points to provide a plurality of finger-like strips 16, 17, said strips being bent at right angles to the tubular wall of the collar so as to extend radially outwardly from one end thereof. The respective parts 15, 16 and 17 are assembled in co-axial relation with the collar 16 extending through the axially apertured one of the discs 15, the finger-like strips 16 being fanned out between the discs 15, said parts being adhesively united with waterproof glue or cement. The disc 17 is adhered to the exposed face of one of the discs 15 in cir-
cumracing relation to the collar 16 that projects therethrough.  

The constituent parts of the respective core-caps B are best shown in Fig. 3; they consist of an inner disc 20 of waterproof paper, a substantially similar outer disc 21 of the same material, and a sleeve-like annular member 22 that is of slightly larger diameter than collar 16 hereinbefore described so as to be capable of telescoping thereover, said member 22 also composed of waterproof paper. The member 22, like member 16 of element A, is longitudinally slit to provide a plurality of finger-like strips 23, which strips are folded radially inwardly so as to be disposed in marginally overlapping relation. The parts 20, 21, and 22 are assembled in coaxial relation with the disc 20 located within the member 22 and the disc 21 located on the exterior thereof, the strips 23 of member 22 being confined between said discs. The respective parts of the core-cap are retained in assembled relation by waterproof glue or cement.

From the foregoing it will be apparent that the roll-end protector is of simple construction, is readily applied to a roll of material to be protected, can compensate for non-uniformity in the length of the projecting portions of the roll-core, and achieves the other advantages set out in the foregoing statement of objects.

It will be understood that the several elements of the roll-package are not drawn to scale, but are shown of exaggerated thickness for clarity of illustration.

Modification may be resorted to without departing from the spirit of the invention, or the scope thereof as defined by the appended claims.

What is claimed is:

1. A waterproof package for a roll of strip material wound upon a core, said package comprising a pair of disc-like elements abutting the respective end faces of the roll and formed with axially collars within which the projecting end portions of the core are received, a pair of end-caps mounted upon the respective end portions of said core and telescoping over the collars of the first-mentioned package element thereon, and a peripheral wrapper around the roll, the marginal portions of said wrapper folded over the ends of the roll onto the respective disc-like elements thereof, said package elements being united to each other in waterproof relation.

2. An end protector for strip material wound upon a core, said protector comprising a composite structure having a pair of axially apertured discs positionable against the end face of the rolled material and a sleeve in which the projecting end portion of the core is receivable, said sleeve having an end portion slitted and fanned radially outwardly, said sleeve extending through the axial aperture in one of said discs, the latter being bonded to each other with the fanned out portion of the sleeve confined therewithin, and a cap-like member mountable upon the projecting end portion of the core in telescoping relation with said sleeve, and bonded to the latter.

3. An end protector for strip material wound upon a core, said protector comprising a composite structure having a disc-like portion positionable against the end face of the rolled material and an axial sleeve-like portion in which the projecting end portion of the core is receivable, and a cap-like member mountable upon the projecting end portion of the core in telescoping relation with the sleeve-like portion of the first mentioned structure and bonded to the latter, said cap-like member comprising a tubular structure having an end portion slitted and folded radially inwardly, and a pair of discs, one of which is located interiorly of the tubular structure and the other exteriorly thereof, said discs being bonded to each other and confining the inwardly folded portion of the tubular structure therebetween.

4. An end protector for strip material wound upon a core, said protector comprising a composite structure having a pair of axially apertured discs positionable against the end face of the rolled material and a sleeve in which the projecting end portion of the core is receivable, said sleeve having an end portion slitted and fanned radially outwardly, said sleeve extending through the axial aperture in one of said discs, the latter being bonded to each other with the fanned out portion of the sleeve confined therewithin, and a cap-like member mountable upon the projecting end portion of the core in telescoping relation with the sleeve-like portion of the first mentioned structure and bonded to the latter, said cap-like member comprising a tubular structure having an end portion slitted and folded radially inwardly, and a pair of discs, one of which is located interiorly of the tubular structure and the other exteriorly thereof, said discs being bonded to each other and confining the inwardly folded portion of the tubular structure therebetween.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

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<tr>
<th>Number</th>
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Certificate of Correction


PHILIP G. SALEM

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows:

Column 2, line 15, strike out “disc-like structure that abuts an end of the roll” and insert the same after the word and comma “composite,” in line 16;

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of August, A. D. 1949.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.