

[54] **TEARABLE INSULATION SHEATH FOR CABLES**
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[52] **U.S. Cl.**..... **174/68 C, 174/10, 174/70 R, 174/113 R**
[51] **Int. Cl.**..... **H01b 7/00, H02g 1/12**
[58] **Field of Search**..... **174/10, 15 C, 47, 68 C, 174/70 R, 104, 113 AS, 117 AS, 136, 68 R, 113 R, 115, 117 R, 117 F**

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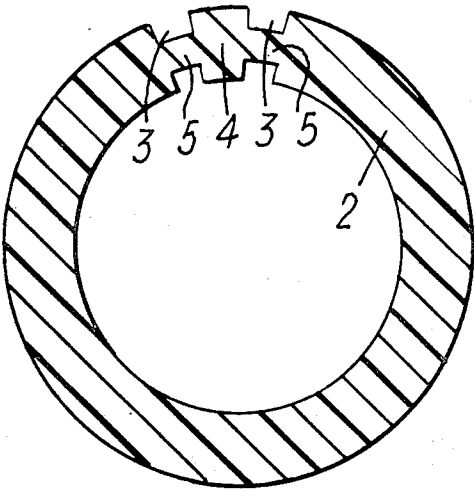
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[57] **ABSTRACT**
A cable sheath includes a pair of parallel longitudinal depressions and a rim therebetween to provide a simplified accessible cutting web for manually splitting open the cable. The depressions can be on the inner or outer surfaces or both and the rim may include a wire thread and a raised outer surface to facilitate the tearing.

4 Claims, 5 Drawing Figures



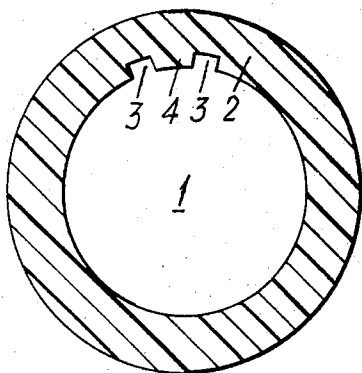


Fig. 1.

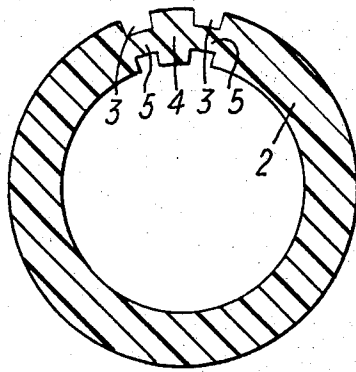


Fig. 2.

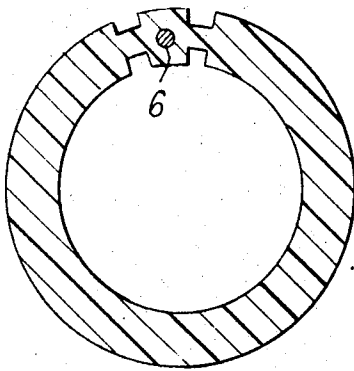


Fig. 3.

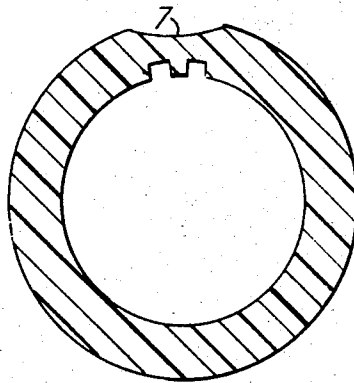


Fig. 4.

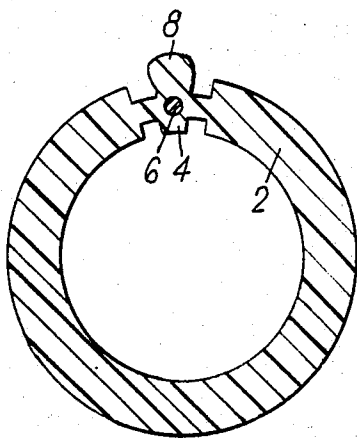


Fig. 5.

TEARABLE INSULATION SHEATH FOR CABLES

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention refers to a cable having a tearable sheath which protects and encloses one or more conductors. In particular, a novel structure is provided which facilitates tearing of the sheath.

2. Description of the Prior Art

For many types of cable an important part of the cable sheath has to be removed during installation. In previously known constructions a cutting thread has been enclosed within the sheath for this purpose. In order to cut the sheath open, the cutting thread must be accessible and is then utilized as a cutting device to tear the sheath and remove a desired length. In addition, to facilitate cutting of the cable sheath, weakened sections have been included in the sheath. The cutting thread is then arranged within the sheath so that the cutting can take place along the weakened sections.

In the known cable cutting arrangements, however, it has proven difficult to rapidly locate the cutting thread positioned under the sheath. In order to gain access to the thread it has often been necessary to cut open a length of the cable sheath by use of special cutting tools or knives. When the used cable is very short there is also a risk that the cutting thread will slide relative to the sheath and the conductors of the cable and this cancels the desired cutting effect.

SUMMARY OF THE INVENTION

These drawbacks associated with the known tearable cable sheath constructions are eliminated in the present invention by utilizing a cutting rim integral with the cable sheath along the length thereof. The tearing of the sheath along the cutting rim is facilitated by applying strain from the center line of the cable and by the use of longitudinal grooves on each side of the rim. The invention will be described more in detail with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1-5 show, in section, different embodiments of a cable having a tearable sheath in accordance with the present invention.

The same reference numerals are used in all the Figures to designate similar details. The relative dimensions of the parts illustrated in the Figures do not necessarily correspond with actual dimensions.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The cable disclosed in the Figures includes an enclosed inner area 1 which may include one or more conductors. In case several conductors are utilized, each conductor is enclosed in a separate insulation layer. The inner portion 1 of the cable including the conductors, is enclosed in an outer protecting cable sheath 2.

As shown in FIG. 1, the inside of the cable sheath 2 facing the inner portion 1 includes two depressions or grooves 3 in the surface running parallel and extending along the whole length of sheath 2. The distance between the depressions 3 is relatively small and the portion 4 formed therebetween constitutes a cutting rim. When tearing the cable sheath 2, it is normally very

simple to gain access to the cutting rim 4 from the open cut end of the cable and to tear the sheath along the depressions 3. If, due to the shape of the depression, it is difficult to directly grip and lift the cutting rim 4 by hand, the operation can be facilitated by use of a tool which is inserted into one or both of the depressions adjacent the rim.

In FIG. 2 the cable sheath is so designed that there are also depressions 3 in the outside surface of the sheath. The outer depressions 3 are positioned just opposite the inner depressions such that the cutting rim 4 is bounded on respective sides by two webs 5. This structure permits very easy tearing, due to the distinct notches in the sheath. The cutting rim 4 can also be reinforced by a metal wire 6, a synthetic yarn or some other suitable material which is enclosed in the rim. Such a design is shown in FIG. 3.

In a modified design of the invention there is a longitudinal relatively wide outer notch 7 opposite the inner cutting rim 4. An arrangement including such a notch is shown in FIG. 4.

In order to further facilitate access to the cutting rim 4 shown in FIG. 2, the rim may include a widened extension 8 on the outside of the sheath 2, as shown in FIG. 5. This arrangement also makes it possible to grip the cutting rim 4 from the outside of the sheath 2. The cutting rim 4 of FIG. 5 also includes a reinforcing wire such as shown in FIG. 3. Many other variations are possible. For example, the cutting rim arrangement disclosed in FIG. 4 may be reversed such that the narrow depressions are positioned on the outside of the sheath and the wider notch on the inside thereof.

While only a limited number of embodiments have been illustrated and described, it is apparent that many other variations may be made in the novel design and configuration without departing from the scope of the invention as set forth in the appended claims.

What is claimed is:

1. A tubular sheath of insulation for cables comprising an inner tubular surface of insulating material surrounding a central coaxial area adapted to accommodate a plurality of insulated conductors, an exposed outer tubular surface of said insulating material, a pair of closely spaced parallel longitudinal grooves along one of said surfaces, a raised longitudinal surface portion disposed between said grooves, and a further longitudinal groove along the other of said surfaces opposite said parallel grooves, the portions of said insulating material between said grooves on opposite surfaces being of reduced thickness with respect to other portions of said material, said reduced thickness material between said opposite grooves being sufficiently thin to permit the tearing of the tubular insulation sheath along said pair of grooves and provide access to said insulated conductors.

2. The device of claim 1 including a second pair of closely spaced parallel grooves along said other surface opposite the first said pair of grooves, said second pair including said further groove, said opposite pairs of grooves forming a pair of thin webs between said inner and outer surfaces and a thick raised portion between said webs.

3. The device of claim 2 including a non-conducting longitudinal thread enclosed within said thick raised portion, said thread being for facilitating the manual tearing of said insulation sheath along said grooves.

4. The device of claim 3 wherein said thick raised portion includes a rim portion extending outwardly beyond said outer surface.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,812,282 Dated May 21, 1974

Inventor(s) Johan A. E. Johansson

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

On the Title page, insert --

[32] Priority January 17, 1972

[33] Sweden

[31] 476/1972

Signed and sealed this 8th day of October 1974.

(SEAL)
Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents

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