(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 960 580 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
01.12.1999 Bulletin 1999/48

(51) Int Cl.[6]: **A43D 99/00**, A43C 9/04

(21) Application number: **99303967.6**

(22) Date of filing: **21.05.1999**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **28.05.1998 GB 9811339**
26.06.1998 GB 9813750
26.06.1998 GB 9813751

(71) Applicant: **Orsi, Joseph John**
Halesworth, Suffolk IP19 0AE (GB)

(72) Inventor: **Orsi, Joseph John**
Halesworth, Suffolk IP19 0AE (GB)

(74) Representative: **Stone, Patrick**
28 Edenside Drive
Attleborough Norfolk NR17 2EL (GB)

(54) Manufacture and packing of shoe laces and the like

(57) A method of manufacture of shoe laces wherein the shoe lace material is produced in a continuous length colleted at regular intervals (13a), and the colleted material is reeled for later cutting at a point of sale.

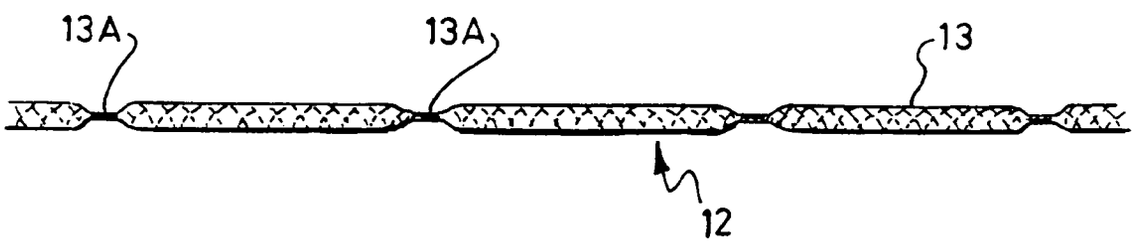

Fig. 2

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Description

[0001] This invention relates to the manufacture and packaging of shoe laces and more generally to the manufacture of lengths of elongate flexible material such as cord, braid, ribbon, string, rope or any other kind of cordage.

[0002] Shoe laces are conventionally packaged and sold in pairs of a predetermined length. Such laces are manufactured on a machine which draws out a predetermined length of premanufactured cord or braid from a reel thereof, applies a tag or tip to the leading end, and applies a collet to the cord or braid a predetermined length behind the tip. The machine then cuts the collet at its midpoint, creating a tip or tag at the trailing end of a first length of cord or braid and a tip or tag at the leading end of the next predetermined length, which is then drawn out from the reel ready to be colleted, and so on. The laces thus produced are then packaged in pairs and distributed for sale to shoe manufacturers and to shops. The consequences of packaging and distribution of pairs of shoe laces in this way greatly increases their sale cost over their manufacturing cost.

[0003] According to one aspect of the invention, there is provided a method of manufacture of elongate flexible material according to which the elongate material is colleted at regular intervals along its length and packaged for later cutting of the collets to enable preselected lengths of said material to be produced.

[0004] According to another aspect of the invention there is provided packaged elongate flexible material colleted at regular intervals along its length to enable predetermined lengths of said material to be drawn from the package and cut at the collets. The form in which the colleted material is packaged will generally be a reel.

[0005] According to a further aspect of the present invention, there is provided a method of manufacture of elongate flexible material according to which the elongate material is loose colleted at intervals along its length and packaged for later crimping of the collets and cutting at the crimped collets to enable preselected tagged lengths of said material to be produced.

[0006] According to a further aspect of the invention, there is provided packaged elongate flexible material loosely colleted at intervals along its length to enable a selected length of said material to be drawn from the package, the collets crimped at both ends of the selected length and the selected length cut at the trailing collet.

[0007] The concept behind the first aspect of the invention is that a reel of colleted shoe (or other outer footwear) lace material should be distributed and sold, especially to shops, and individual shoe laces drawn out and cut from the reel, by cutting the collets, at the point of sale. In this way the cost of shoe laces to the final purchaser can be substantially reduced.

[0008] The concept behind the second aspect of the invention is that a package of loose colleted shoe (or other footwear) lace material should be distributed for sale, especially to shops, at the point of sale to enable an individual shoe lace (or pair thereof) to be drawn out, two collets (initially friction held loosely in place) to be moved respectively to the leading end of the material and to a position which will constitute the trailing end of a selected length of said material, the said two collets crimped, and the selected length of material cut off at the trailing collet.

[0009] It is envisaged that shops will store the reels on pronged stands, with rows of shoe lace material, with collets spaced by differing lengths in different rows, and each row containing shoe lace material of various colours and/or types, e.g. braid, round cord, etc.

[0010] A customer can then request a pair of laces of given length and colour, which can be cut on site from the appropriate reel. The collets used on shoe lace material can readily be cut with a pair of scissors. A double or multiple length of the colleted material can be cut from the reel if a customer requires it for any special purpose. The collets should not create a point of weakness in such a multiple length. Moreover, the collets can be formed with a line of weakness or be marked in order to make clear the procedure at the point of sale.

[0011] In accordance with the second aspect of the invention, unwanted collets can be discarded as the reel of material is used up. The collets may initially be friction held at regular or irregular intervals along the shoe lace material and, as the possible use of crimpable metal collets is envisaged, the material will be cut at the ends of two remotely separated crimped collets in order to produce end tags or tips on a shoe lace. It may therefore be desirable initially to locate the collets in closely spaced pairs along the shoe lace material, the pairs being spaced by the length of a typical shoe lace. However, if collets cuttable at their centres after crimping are employed, single collets at regular intervals may be initially provided along the length of the packaged shoe lace material. Collets to be cut may be provided with a point of weakness, generally at the centre of the length of the collet, to facilitate the cutting procedure. The facility initially to slide the collets along the shoe lace material and to discard unwanted collets can enable shoe laces of different lengths to be drawn out and cut from the same package, typically a reel.

[0012] The invention is not limited to shoe (or other footwear) lace material. It can be applied to string or cord where predetermined lengths are required for a special packaging purpose, to ribbon, and even to rope. In the case of climbing rope, for example, a particular length can be cut off from a reel, according to a particular customer's requirements, using a pair of shears, e.g. a 10 metre, 20 metre or 30 metre length from a reel of rope having collets spaced 10 metres apart.

[0013] From the foregoing, it will be understood that the invention also concerns packaging of shoe laces and the like.

[0014] According to still another aspect of the present invention, therefore, there is provided a method of packaging lengths of elongate material such as shoe laces according to which retaining means is applied to hold together a succession of tagged lengths of the elongate material following one another in line, and the thus retained succession of said lengths of material is packaged in a manner which enables one or more such lengths of material to be drawn from the package and separated at the retaining means to produce one or more separate such lengths.

[0015] According to another aspect of the invention, there is provided a packaged succession of tagged lengths of elongate material such as shoe laces, from which one or more such lengths of material can be drawn from the package and separated at retaining means which connects the leading end of each length of material in the succession to the trailing end of each following length.

[0016] Preferably, two successions of lengths of the elongate material in parallel aligned relationship are held together by the retaining means and packaged together, whereby one or more pairs of lengths of the elongate material can be drawn from the package and cut at the retaining means.

[0017] The concept behind the invention is that shoe laces or the like are produced by the manufacturer, preferably in side-by-side pairs, in a long line in which the laces are held end to end by retaining means such as self-adhesive labels, the manufacturer then packaging the line of shoe laces or the like on a reel which is supplied to the point of sale, where the shop keeper or a customer can draw out and cut or tear off a single shoe lace, or more preferably a pair of single shoe laces, in order to effect a purchase.

[0018] The retaining means, e.g. self-adhesive labels, may bear information, possibly including a barcode, detailing information relevant to the product.

[0019] Self-adhesive labels represent only one option for the retaining means; breakaway plastic clips, for example, are another possible option.

[0020] The invention is further described with reference to the accompanying drawings, in which:-

Figure 1 shows a braid shoe lace;

Figure 2 shows an intermediate stage in production of a package of shoe lace material in accordance with the first aspect of the invention;

Figure 3 shows a finished shoe lace package;

Figure 4 shows a portion of a length of braid shoe lace material in accordance with the second aspect of the invention;

Figure 5 shows a collet for use in production of the shoe lace material of Figure 4;

Figure 6 shows part of a succession of pairs of tagged shoe laces held in line by retaining means; and

Figure 7 shows a point of sale reel from which a pair of retained laces can be drawn out and the retaining means severed to produce an individual pair of laces to be purchased.

[0021] A shoe lace 10 as shown in Figure 1 is conventionally produced in the manner hitherto described. The lace 11 has tips 11A at both ends formed by cutting collets in half. The individual tipped shoe laces are produced sequentially on a colleting and cutting machine.

[0022] Figure 2 shows a length of shoe lace material 12 in course of production in accordance with the first aspect of the invention. In a colleting machine, a length of braid 13 is first drawn out, tipped at its leading end, and then progressively colleted, as indicated at 13A, at regular distances (shoe lace lengths) back from the tip.

[0023] In contrast to the conventional method of manufacture, the collets 13B are not successively cut for packaging of laces in pairs. Instead, the entire colleted length, eventually tipped at its trailing end, is wound on to a reel 14 to produce the product 15 shown in Figure 3.

[0024] At a point of sale of shoe laces, a length corresponding to the spacing between two collets is drawn from the reel, and the first collet behind the tip is cut at its centre to produce a single shoe lace. This step is repeated to produce a second shoe lace, to provide a pair of laces for sale to a customer. The remainder of the lace material on the reel remains ready tipped at its front end.

[0025] The collets can be applied to the shoe lace material in one of a number of conventional ways, e.g. acetate strip wrapped round and sealed with acetone, crimping of metal strip, etc. All such collets can readily be cut, as by a pair of scissors, at the point of sale of the shoe laces.

[0026] Referring now to the second aspect of the invention, the braid shoe lace material 110 of Figure 4 is produced by threading on to the material an appropriate number of loose metal collets 112 of the form shown in Figure 5. The collets 112 are spaced at intervals, not necessarily regular intervals, along the material, and initially held loosely in place by friction.

[0027] The complete length of shoe lace material, of which only a portion is shown in Figure 4, is packaged, as into a reel, and supplied to shops, e.g. shoe repair shops, in that packaged from.

[0028] When a customer requires a pair of shoe laces, the shop keeper cuts these to a selected length, preferably one at a time, by drawing out the loosely colleted material from the package, moving the collets to appropriate positions along the drawn out material, crimping the collets tightly to the lace material to form leading and trailing tagged or tipped ends on the required laces, and cutting the shoe lace material at the appropriate ends of

the collets. Having due regard to the lengths of shoe laces required, unwanted collets can be discarded prior to crimping the wanted collets which, after the shoe lace material has been cut, form tags or tips on the ends of the laces.

[0029] In accordance with the third aspect of the invention, making reference to Figure 6, the manufacturer produces and supplies pair of shoe laces 210, 210A, 212, 212A, 214, 214A etc. held side-by-side in alignment by self-adhesive retaining labels 216. The manufacturer reels the line of retained laces and the reel 218 (Figure 7) is supplied to the point of sale, where a length 220 can be drawn from the reel by the shop keeper or a customer and the retaining labels 216 cut or torn away, possibly at a line of weakening 216A or the like, to provide one or more pairs of laces 222, 224 etc. to be purchased. Information relevant to the laces may be printed on the labels, including a barcode for example.

[0030] As made clear hereinbefore, the invention is not restricted to production of shoe lace or other footwear lace material. It can equally be applied to all other kinds of cordage, including rope.

Claims

1. A method of manufacture of elongate flexible material according to which the elongate material is colleted at regular intervals along its length and packaged for later cutting of the collets to enable preselected lengths of said material to be produced.

2. A method according to claim 1, wherein the collets are applied by wrapping with acetate strip and sealing with acetone.

3. A method of manufacture of elongate flexible material according to which the elongate material is loose colleted at intervals along its length and packaged for later crimping of the collets and cutting at the crimped collets to enable preselected tagged lengths of said material to be produced.

4. A method according to claim 1 or claim 3, wherein the collets are formed of crimped metal strip.

5. A method according to any of claims 1 to 4, wherein the collets are cuttable by scissors.

6. A method according to any of claims 1 to 5, when completed at the point of sale by cutting collets.

7. A method of packaging lengths of elongate material such as shoe laces according to which retaining means is applied to hold together a succession of tagged lengths of elongate material following one another in line, and the thus retained succession of lengths of material is packaged in a manner which enables one or more such lengths of material to be drawn from the package and separated at the retaining means to produce one or more separate such lengths.

8. A method according to any of claims 1 to 7, wherein the material is packaged by winding on to a reel.

9. Packaged elongate shoe lace material colleted at regular intervals along its length to enable predetermined lengths of said material to be drawn from the package and cut at the collets.

10. Packaged material according to claim 9, wherein the material is loose colleted and the collets are crimped in position before cutting.

11. Packaged shoe lace material comprising a succession of tagged lengths of said material held together end to end in the package by retaining means.

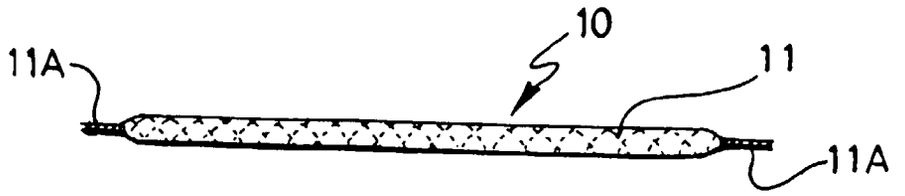


Fig. 1

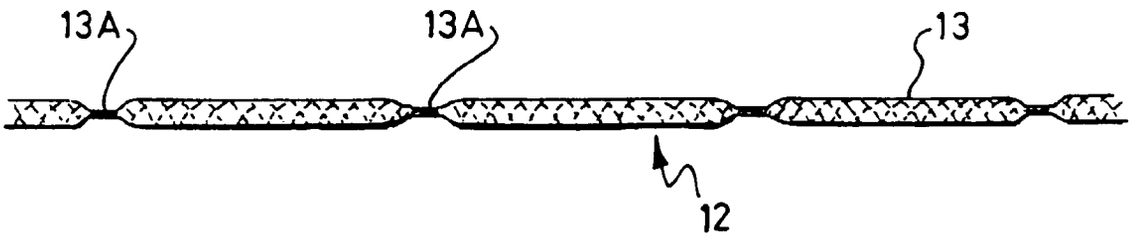


Fig. 2

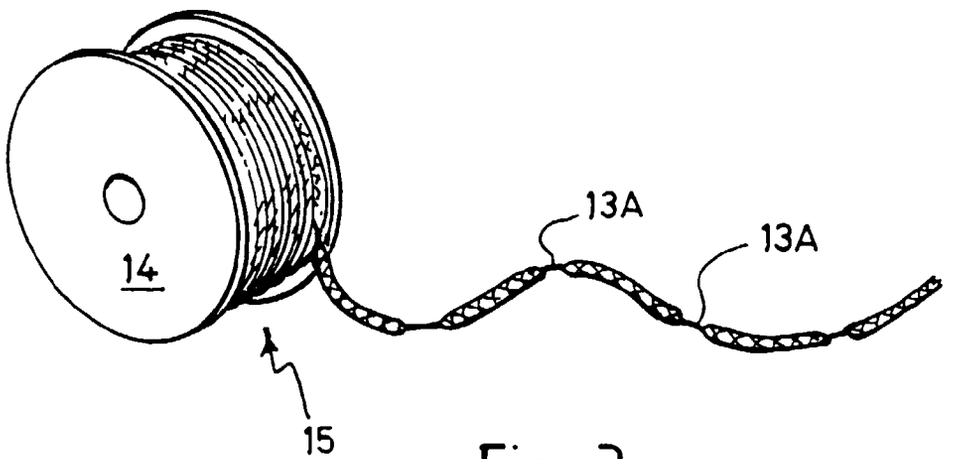


Fig. 3

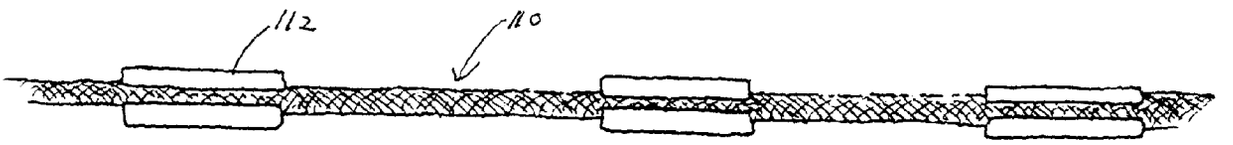


Fig. 4

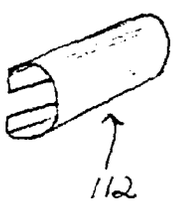
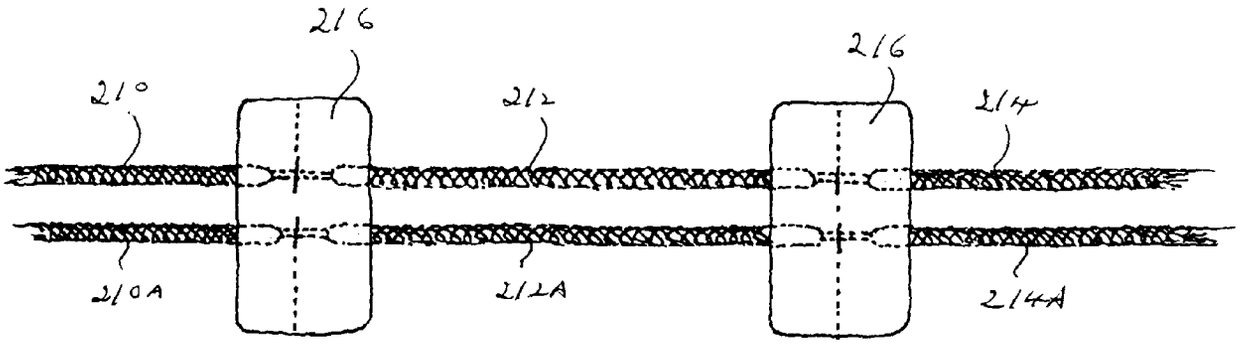


Fig. 5


216
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214A

Fig. 6.

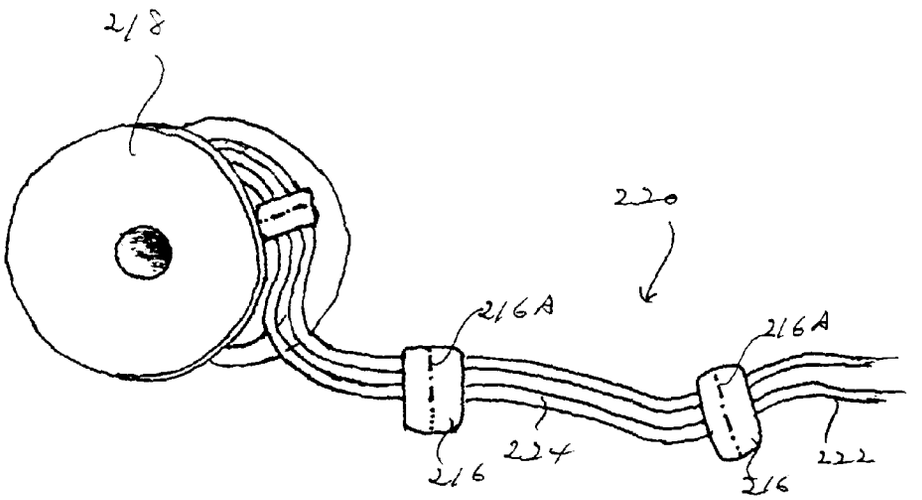
218
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Fig. 7