

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 752 219 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

08.01.1997 Bulletin 1997/02

(51) Int Cl.⁶: **A44B 1/28**, G09F 3/12

(21) Application number: **96850121.3**

(22) Date of filing: **26.06.1996**

(84) Designated Contracting States:

**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**

(72) Inventor: **Engelbert, Trygve**

117 69 Stockholm (SE)

(30) Priority: **07.07.1995 SE 9502495**

(74) Representative: **Örtenblad, Bertil Tore et al**

Noréns Patentbyrå AB

P.O. Box 10198

100 55 Stockholm (SE)

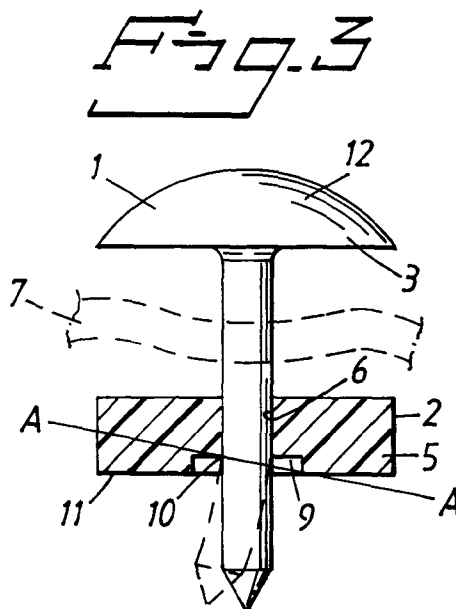
(71) Applicant: **Engelbert, Trygve**

117 69 Stockholm (SE)

(54) **A labelling or marking device**

(57) A labelling or marking device for attachment to thin material that can be pierced by a needle-shaped element, wherein the device includes a first part (1) in the form of a first plate (3) from which a pin (4) projects out essentially in the normal direction of the plate, and a second part (2) in the form of a second plate provided

with a through-penetrating hole (6,15) for coaction with the pin, **characterized** in that when inserted through the hole (6;15), the pin is held therein by friction such as to require a predetermined force to separate the first part (1) from the second part (2); and in that at least the pin (4) is made of a plastic material that can be broken by hand.



EP 0 752 219 A1

Description

The present invention relates to a labelling or marking device for labelling or marking garments, textiles and other materials or articles through which can be pierced by a needle-like object.

Various types of labels are used in the trade. These labels are intended to be provided with text and thereafter, e.g., sewn to an article of clothing or the like, so as to identify the garment or the article on which the label has been sewn. Also used commercially is a tape-like product which is provided with desired text, such as the name, telephone number, etc., of the customer/purchaser, this information being repeated along the tape. The intention is to cut the tape into appropriate lengths and sew these lengths to respective garments or like articles, for instance.

There is a great deal of resistance to the use of such products, precisely because it is necessary to sew the tape securely to a garment, for instance. Consequently, labelling or marking of garments is often excluded, despite the persons concerned having access to both sewing accessories and labelling tape.

There is a very great need for labelling of this kind, particularly with regard to children's clothing and other accessories.

This problem is solved by the present invention, which relates to a labelling or marking device that can be applied very easily and which also carries a labelling tape of the aforescribed kind, for instance.

The present invention thus relates to a labelling or marking device which can be fastened to thin material by inserting a needle-like element therethrough, wherein the labelling device includes a first part in the form of a first plate from which a pin projects essentially in the normal direction of the plate, and a second part in the form of a second plate which includes a through-penetrating hole for coaction with said pin, wherein the labelling device is characterized in that when inserted through the hole the pin is retained in the hole by friction of such strength as to require the exertion of a predetermined force to separate the first part from the second part; and in that at least the pin is made of a manually breakable plastic.

The invention will now be described in more detail with reference to an exemplifying embodiment of the invention and also with reference to the accompanying drawings, in which

- Figures 1a and 1b illustrate a first part of the inventive device as seen from above and from one side respectively;
- Figure 2 illustrates a second part of the inventive device from above;
- Figure 3 illustrates the first and the second parts when assembled, with the second part being shown in section; and
- Figures 4a and 4b illustrate a modified second part,

wherein Figure 4a shows said part from above and Figure 4b is a sectional view through said second part.

Figure 3 illustrates a marking or labelling device which is intended to be fastened to thin material that can be pierced by a needle-like element. As before mentioned, this material may be any one of a number of different cloths, fabrics, or other textiles, although it may also be a plastic material or some other material that can be pierced by a needle-like element.

The marking device includes a first part 1 in the form of a first plate 3 from which a pin 4 projects, essentially in the normal direction of the plate, and a second part 2 in the form of a second plate 5 provided with a through-penetrating hole 6 for coaction with the pin 4, as shown in Figure 3.

According to the invention, subsequent to having inserted the pin through the hole 6, the pin is held in the hole by friction, such that a predetermined force is required to separate the first part from the second part. At least the pin 4 is made from a manually breakable plastic material.

The first part of the device includes, e.g., a round plate 3, when seen from above, which has a flat under-surface from which the pin projects out. The free end of the pin 4 has a point 8 to facilitate penetration of material 7. The second part 2 of the device is preferably a round plate having the same diameter as or a smaller diameter than the first plate 3.

The aforesaid predetermined force is suitably a force which makes it difficult to separate the parts by hand, and at least sufficient to prevent the parts being separated by a child. The force required will, however, not be so great as to require the use of a tool, since such use may damage the garment.

The inner diameter of the hole 6 is essentially the same as the outer diameter of the pin.

The first part of the device is constructed from a plastic material that is softer than the pin.

One of normal skill in this art is quite capable of choosing a diameter and a plastic material that will ensure that appropriate friction is obtained between the pin and the second plate 5. In order to achieve effective locking between the first and the second parts of the device, these parts are conveniently made of mutually different materials, or materials that have mutually different mechanical characteristics with regard to E-modules, ultimate elongation, hardness, etc.

The first part 1 is preferably made from a plastic material, such as polystyrene, and the second part 2 made from a different plastic material, such as polypropylene.

According to a much preferred embodiment of the invention, the length of the pin 4 will exceed the combined thickness of the second plate 5 and the material through which the pin is intended to penetrate by an extent which will enable the pin to be bent with the thumb or a finger so as to break-off the pin, subsequent to the

pin having penetrated the material and the second plate and with both plates lying against the material.

Figure 3 illustrates a piece of material 7 that has been penetrated by the pin 4. However, in the described position of use the material shall lie against the under-surface of the first plate 3 and the upper surface of the second plate.

According to one important embodiment, the second part 2 is provided on the side thereof which is intended to lie distal from the plate 3 of the first part 1 with a recess 9 which extends around and adjacent the hole 6, so that the hole need only extend through part of the thickness of the second plate 5. The largest diameter of the recess 9 will preferably be greater than the diameter of the hole 6, wherein the junction 10 between the hole 6 and the recess 9 forms a break-off edge against which the pin 4 can be broken-off when bent to one side with the thumb or with a finger, as illustrated in broken lines in Figure 3. The pin 4 will break-off essentially along the line A-A in Figure 3, as it is bent.

As the pin is broken-off, there is formed a small barb which projects partially out radially from the remaining surface of the break, due to plastic deformation of the pin prior to the pin breaking. This barb contributes towards locking the second plate to the pin.

An important feature is that the recess has a depth which is sufficient for the pin-breaking surface remaining after breaking-off the pin 4 to lie beneath the surface 11 of the second plate provided with said recess. This will prevent the pin-breaking surface or edge from rubbing against the skin of a person wearing a garment to which the device has been attached, or against another article of clothing.

Because the pin can be broken-off against the pin-breaking edge, the pin can be made relatively long and therewith enable the marking or labelling device to be adapted for use with textiles that range from thin textiles to thick textiles.

The pin will conveniently have a length of from 10 to 25 millimeters.

Naturally, the pin may be made even longer, for instance 50 millimeters. The upper limit of the length of the pin is determined by the fact that the textile and the second plate must be capable of withstanding the breaking forces to which the pin is subjected as it is inserted through the textile and said second plate. The lower limit of the pin length is determined by the fact that the pin must project from the second part 5 to an extent which will enable the pin to be readily bent so as to break-off the pin.

According to one preferred embodiment, at least one of the first plate or the second plate 5 has a sufficiently large surface 12 on the side opposite the pin to enable a name and/or a telephone number and/or an address to be printed on said surface in a manner visible to the naked eye. Naturally, the text may be written onto the surface instead of being printed thereon. A suitable size in this regard is a diameter of 20 to 40 millimeters,

or a corresponding size surface of some other shape.

Naturally, as an alternative to printing or writing text on the first plate, text may be printed or written on the second plate or on both plates.

According to another embodiment, the first plate 3 may be given a smaller diameter and therewith a smaller surface. The marking or labelling device according to this embodiment is primarily intended to hold a labelling tape of the aforesaid kind to a garment, for instance. In this case, the pin is pushed through the tape and the garment prior to passing the pin through the second part 2 of the device. The first plate may have a diameter of about 10 millimeters in the case of this embodiment.

According to a modified embodiment shown in Figures 4a and 4b, the recess 13 is essentially conical. This embodiment also includes, however, a pin-breaking point 14 at the junction between the hole 15 and the pin-accommodating recess 13. It will be understood that the shape of the recess is not important, the important thing being that a defined pin-breaking point is obtained.

Figure 4 also illustrates that the second plate 16 may have a shape other than circular.

It will be evident that the invention solves the problems mentioned in the introduction. The inventive labelling device is easy to use and provides very effective means for attaching labelling tapes and the like to garments and other materials. Because the device is made of a plastic material, it can be washed with no problem.

Although the invention has been described in the foregoing with reference to a number of exemplifying embodiments thereof, it will be understood that the inventive labelling device may have a form and size other than that mentioned and that it can be made from other materials suitable for the purpose intended.

Consequently, the present invention shall not be considered to be restricted to the aforescribed and illustrated embodiments, since modifications and variations can be made within the scope of the following Claims.

Claims

1. A labelling or marking device for attachment to thin material that can be pierced by a needle-shaped element, wherein the device includes a first part in the form of a first plate from which a pin projects out essentially in a direction normal to the plate, and a second part in the form of a second plate provided with a through-penetrating hole for coaction with the pin, **characterized** in that when inserted through the hole (6; 15), the pin (4) is held therein by friction of such strength as to require a predetermined force to separate the first part (1) from the second part (2); and in that at least the pin (4) is made of a plastic material that can be broken by hand.
2. A device according to Claim 1, **characterized** in

that the inner diameter of the hole (6; 15) coincides essentially with the outer diameter of the pin (4).

3. A device according to Claim 1 or 2, **characterized** in that the first part (1) is made of a softer plastic material than the pin (4). 5
4. A device according to Claim 1, 2 or 3, **characterized** in that the length of the pin (4) exceeds the combined thickness of the second plate (5) and the thickness of the material to be penetrated by the pin by an extent sufficient to enable the pin to be bent with the thumb or a finger so as to break-off the pin, when the labelling device is in its position of use with the pin (4) penetrating the material and the second plate (5) and with the two plates (3, 5) lying against said material. 10 15
5. A device according to Claim 1, 2, 3 or 4, **characterized** in that the second part (2) is provided on one side thereof with a recess (9; 13) which surrounds the hole (6; 15) and is located adjacent said hole such that the hole will extend solely through a part of the thickness of the second plate (5; 16); in that the largest diameter of the recess exceeds the diameter of the hole, wherein the junction (10; 14) between the hole and the recess forms a pin-breaking edge against which the pin (4) can be broken-off. 20 25
6. A device according to Claim 5, **characterized** in that the depth of the recess (9; 13) is sufficient to ensure that the broken surface of the pin will lie beneath the surface (11) of the second plate (5; 16) in which the recess is provided. 30 35
7. A device according to any one of the preceding Claims, **characterized** in that at least the first plate (3) or the second plate (5) has on an opposite side to the pin (4) a surface of sufficient size to enable to name and/or a telephone number and/or an address to be printed thereon in a manner visible to the naked eye. 40 45 50 55

Fig. 1a

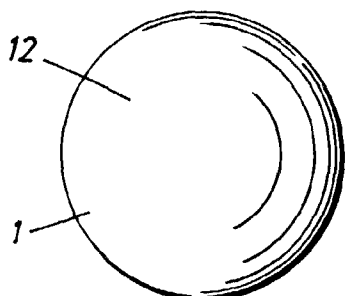


Fig. 2

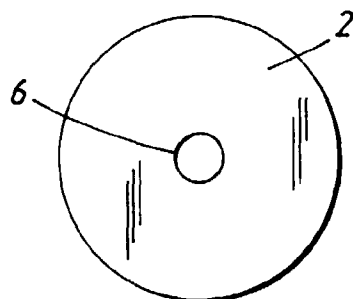


Fig. 1b

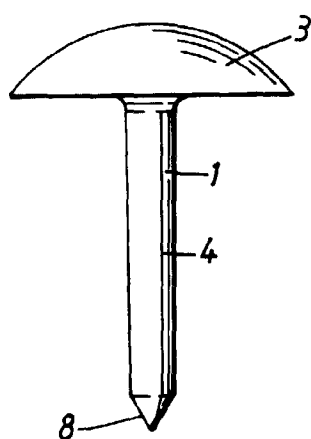


Fig. 3

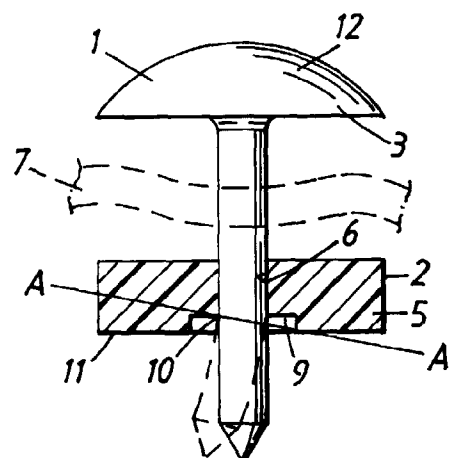


Fig. 4a

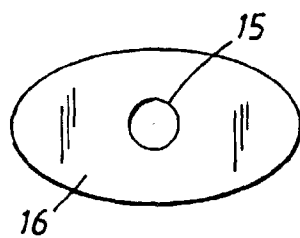
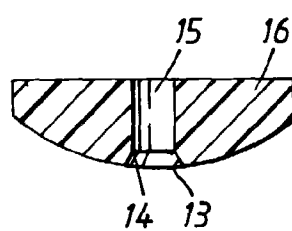


Fig. 4b





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 96 85 0121

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US-A-4 970 766 (HSIAU ET AL.) * column 2, line 36 - line 56; figures 3,4 *	1-3,7	A44B1/28 G09F3/12
X	FR-A-2 562 397 (PIC-PRESS SARL) * page 1, line 14 - line 23; figure 1 *	1-3,7	
X	US-A-3 623 192 (PAPAZIAN) * column 2, line 7 - line 42; figures *	1-3,7	
A	EP-A-0 517 151 (SSM PATENTVERWERTUNGS GMBH)		
A	US-A-5 016 368 (CASSATA)		
A	US-A-3 656 679 (MINASY)		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A44B G09F B65C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 15 October 1996	Examiner J.-P. Deutsch
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)