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(12) # EUROPEAN PATENT SPECIFICATION

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(54) **Dispenser for liquid adhesives.**

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Description

The present invention relates to dispensers for liquid adhesives.

Liquid adhesives are customarily packaged in collapsible aluminium tubes from which the adhesive is dispensed through a nozzle by squeezing and collapsing the tubes. These tubes have the disadvantage that they are liable to burst through accidental application of pressure whilst the nozzle is closed and/or to leak due to fatigue-cracking of the aluminium. In addition, partially emptied tubes are difficult to handle cleanly and may be unsightly.

European Published Application No. 0055954 discloses a liquid dispenser in which the body comprises two rigid parts located between two resilient parts and separated by folds in the body to permit compression of the resilient parts to dispense liquid.

German Patent No. 422383 discloses a liquid dispenser of the type indicated in the first part of claim 1. Such a dispenser is in the form of a pen for dispensing coloured liquid, which includes a cylindrical body containing the liquid and a tightly sealed rubber casing surrounding oval openings in the body near the pen outlet. Liquid can be dispensed by manually squeezing the rubber casing.

According to the present invention there is provided a hand holdable dispenser for liquid comprising a rigid elongate tubular container with a dispenser nozzle at one end thereof, and resilient means for dispensing liquid by manually squeezing the means, characterised in that said dispenser is used for dispensing liquid adhesives and that the resilient means comprises a one piece plastics moulding which includes the nozzle and, adjacent the nozzle, a pair of diametrically opposed zones of flexible, resilient material separated by rigid non-flexible zones, the flexible zones being compressible between a user's finger and thumb to expel adhesive through the nozzle.

The flexible zones may be constructed so as to be flush with the remaining part of the container, or may be formed slightly proud of the container, or slightly depressed into the container.

The rigid body of the container may be constructed from plastics material or aluminium.

Preferably, the ratio of the length of the dispenser to its width is greater than 5 to 1, more preferably greater than 10 to 1.

The invention will now be described by way of example with reference to the accompanying drawings, in which:

Fig. 1(a) shows an elevation of a circular cylindrical adhesive dispenser according to the invention;

Fig. 1(b) shows a partial section on A—B of Fig. 1(a);

Fig. 1(c) shows a section on C—D of Fig. 1(a);

Fig. 2(a) shows an elevation of an alternative dispenser;

Fig. 2(b) shows a partial section on A—B of Fig. 2(a);

Fig. 2(c) shows a section on C—D of Fig. 2(a);

Fig. 3(a) shows an elevation of a further dispenser;

Fig. 3(b) shows a section on A—B of Fig. 3(a);

Fig. 3(c) shows a section on C—D of Fig. 3(a);

Referring to Fig. 1 of the drawings, an adhesive dispenser comprises a rigid aluminium tube 1 closed at one end 2 and having an upper part 5 connected to a nozzle 3 via a shoulder 4. The nozzle 3, the shoulder 4 and the upper part 5 of the dispenser are formed from a plastics material and are rigid with the exception of two opposed zones 6 which are flexible and resilient.

By squeezing the two zones 6 together between finger and thumb the user can expel a controlled amount of adhesive from the dispenser through the nozzle 3 for application to a work surface. On release of the pressure, the two zones 6 are restored to their original position.

Fig. 2 shows a second embodiment of the invention. In this embodiment the aluminium tube 1 extends to the junction 7 with the shoulder 4 and has two apertures 8 through which two upraised flexible zones 6 protrude.

Fig. 3 shows a further embodiment wherein the entire tube 1 and nozzle 3 are of plastics material with integral flexible resilient zones 6 formed as thinner areas in the plastics moulding.

Suitably the dispenser is 10 to 18 cm long and 1 to 2 cm wide, preferably it is 15 cm long and 1.5 cm wide.

The skilled person will readily conceive various modifications of the above, all of which are encompassed by the present invention. Suitable plastics materials and alternatives to the aluminium tubes will be readily apparent.

Suitable adhesives for use in the present dispensers include those having sufficiently low viscosity to flow through the tube and nozzle under manual pressure, such as solvent adhesives.

Claims

1. A hand holdable dispenser for liquid comprising a rigid elongated tubular container (1) with a dispenser nozzle (3) at one end thereof, and resilient means (3, 6) for dispensing liquid by manually squeezing the means (3, 6), characterised in that said dispenser is used for dispensing liquid adhesives and that the resilient means (3, 6) comprises a one piece plastics moulding (3, 6) which includes the nozzle (3) and, adjacent the nozzle (3), a pair of diametrically opposed zones (6) of flexible resilient material separated by rigid non-flexible zones (5), the flexible zones (6) being compressible between a user's finger and thumb to expel adhesive through the nozzle (3).

2. A dispenser as claimed in claim 1, characterised in that it is in the form of a pen.

3. A dispenser as claimed in claim 1 or 2, characterised in that the ratio of the length of the dispenser to its width is greater than 5 to 1.

4. A dispenser as claimed in any one of claims 1

to 3, characterised in that the tubular container (1) comprises aluminium.

5. A dispenser as claimed in any one of claims 1 to 3 characterised in that the tubular container (1) comprises plastics material.

Patentansprüche

1. In einer Hand haltbarer Spender für flüssige Klebstoffe, umfassend einen starren langgestreckten rohrförmigen Behälter (1) mit einer Abgabedüse (3) an einem Ende von ihm, une eine federnde Einrichtung (3, 6) zum Abgeben von Klebstoff durch Zusammendrücken der Einrichtung (3, 6) von Hand, dadurch gekennzeichnet, daß die federnde Einrichtung (3, 6) ein einteiliges Kunststofformstück (3, 6) aufweist, welches die Düse (3) und, neben der Düse (3) ein Paar von diametral gegenüberliegenden Zonen (6) aus biegsamem, federndem Material, die durch starre nichtbiegsame Zonen (5) getrennt sind, aufweist, von denen die biegsamen Zonen (6) zwischen dem Finger und dem Daumen eines Benutzers zusammendrückbar sind, um Klebstoff durch die Düse (3) hindurch auszustoßen.

2. Spender nach Anspruch 1, dadurch gekennzeichnet, daß er die Form eines Federhalters (bzw. einer Feder) hat.

3. Spender nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß das Verhältnis zwischen der Länge des Spenders und seiner Breite größer als 5:1 ist.

4. Spender nach irgendeinem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß der rohrförmige Behälter (1) Aluminium aufweist.

5. Spender nach irgendeinem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß der rohrförmige Behälter (1) Kunststoffmaterial aufweist.

Revendications

1. Distributeur manuel pour colles liquides, comprenant un récipient tubulaire allongé rigide (1), muni à une de ses extrémités d'un ajutage de distribution (3), et des moyens élastiques (3, 6) pour la distribution de colle par pression manuelle desdits moyens (3, 6), caractérisé en ce que les moyens élastiques (3, 6) comprennent une pièce moulée monobloc en matière plastique (3, 6) qui comporte l'ajutage (3) et, près de l'ajutage (3), deux zones diamètralement opposées (6) de matière élastique flexible séparées par des zones rigides non flexibles (5), les zones flexibles (6) étant compressibles entre un doigt et le pouce d'un utilisateur de manière à expulser la colle à travers l'ajutage (3).

2. Distributeur suivant la revendication 1, caractérisé en ce qu'il est sous la forme d'un stylo.

3. Distributeur suivant la revendication 1 ou 2, caractérisé en ce que le rapport de la longueur du distributeur à sa largeur est supérieur à 5 sur 1.

4. Distributeur suivant l'une quelconque des revendications 1 à 3, caractérisé en ce que le récipient tubulaire (1) est en aluminium.

5. Distributeur suivant l'une quelconque des revendications 1 à 3, caractérisé en ce que le récipient tubulaire (1) est en matière plastique.

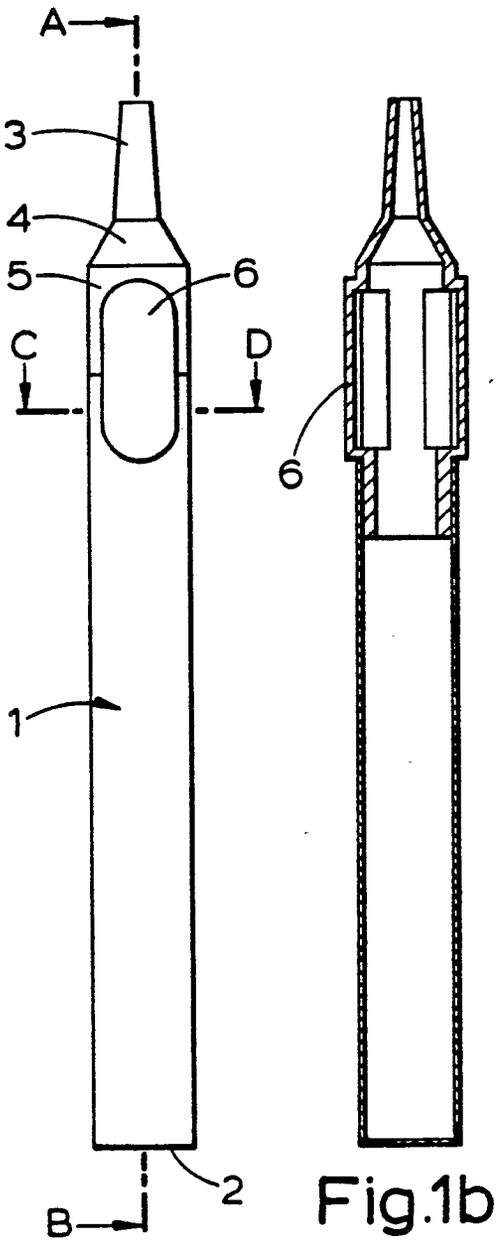

Fig.1a

Fig.1b

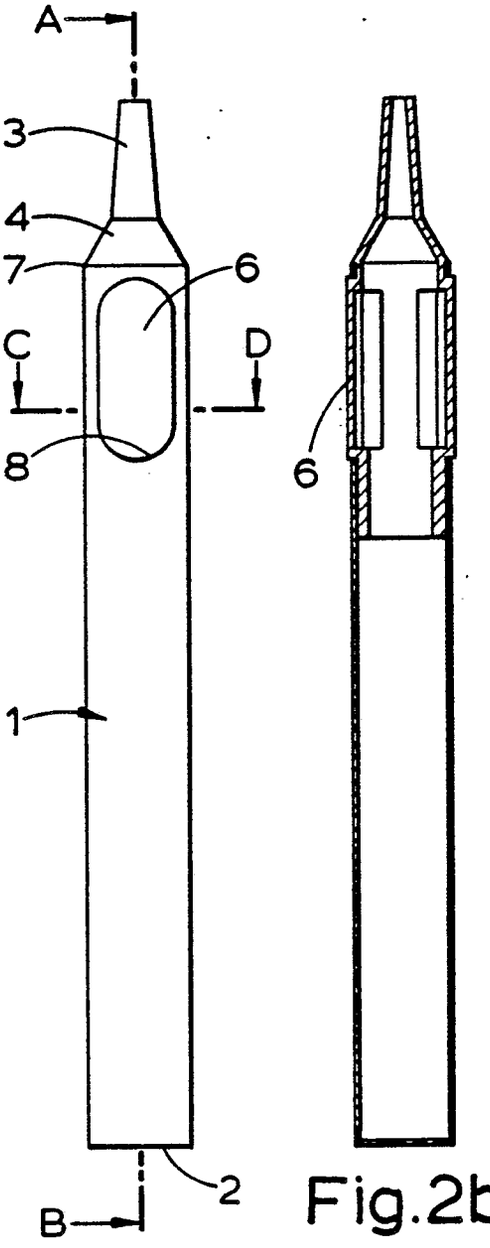

Fig.2a

Fig.2b

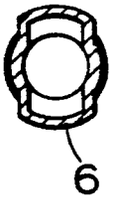

Fig.1c

Fig.2c

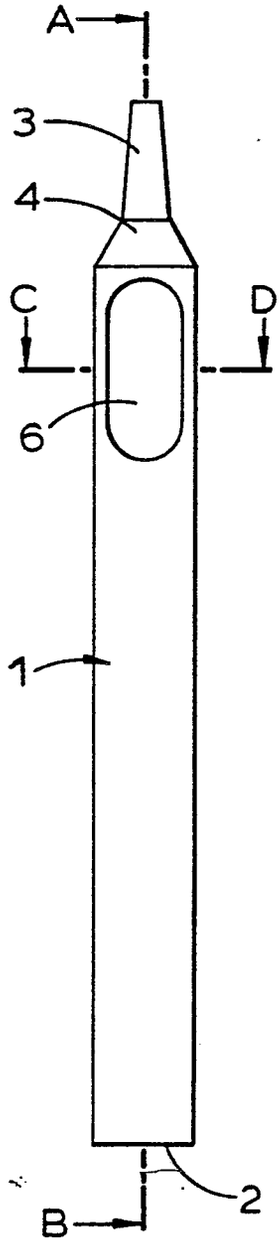

Fig.3a

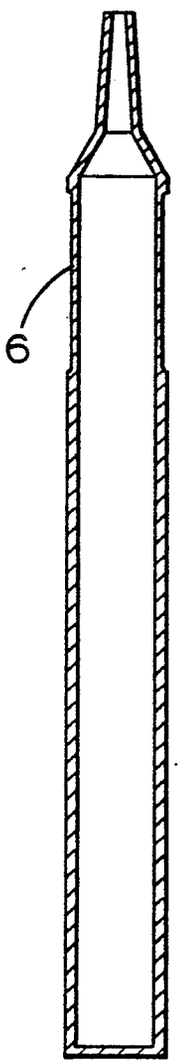

Fig 3 b

Fig 3 c